

**SCIENTIFIC CONFERENCE
OF DOCTORAL SCHOOLS**

**BOOK OF
ABSTRACT**

2023

**SCDS-UDJG 2023
The Eleventh Edition,
GALAȚI, 8th-9th of June 2023**

**Universitatea "Dunărea de Jos"
din Galați**

“DUNĂREA DE JOS”

UNIVERSITY OF GALATI

DOCTORAL SCHOOL OF MECHANICAL AND INDUSTRIAL ENGINEERING

DOCTORAL SCHOOL OF FUNDAMENTAL SCIENCES AND ENGINEERING

DOCTORAL SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

DOCTORAL SCHOOL OF BIOMEDICAL SCIENCES

BOOK of ABSTRACTS
Scientific Conference
of Doctoral Schools

SCDS-UDJG 2023

The Eleventh Edition

GALAȚI, 8th-9th of June 2023

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Edited by
Mădălina Rus and Silvia Vereșiu

CONFERENCE PROGRAMME

THURSDAY – 8th of June 2023

Invited plenary lectures (All sections - recording)	
Maria Luz Rodriguez-Mendez	Using nanoscience to enhance the capabilities of e-tongues dedicated to food analysis
Manuela Romano	New social and cognitive frames for new feminisms. A critical, socio-cognitive approach
Liana Razmerita	Human-AI collaboration: The changing mature of academic work
Hakan Kar	Social media related sexual assault
Anna Barbaro	Advances in forensic DNA typing
Nicolas Kluger	Tattoo pigments and their undesired effects
Montserrat Meneses Benitez	Environmental assessment of wastewater treatment plant operation

10:00 - 19:00 Invited lectures/Oral presentations in concurrent sections

FRIDAY - 9th of June 2023

9:00 - 13:00 Oral presentations/Poster session in concurrent sections

11:00 - 13:00 Workshop

13:00 - 14:00 Awarding Ceremony. Closing ceremony

14:00 - 15:00 Lunch

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PLENARY LECTURES (all sections)

PERSPECTIVES AND CHALLENGES IN DOCTORAL

PL.1

Using nanoscience to enhance the capabilities of e-tongues dedicated to food analysis

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Abstract

In the last years electronic tongues (ET) have been developed and applied to the analysis of a variety of foods. In many cases, it is necessary to develop instruments dedicated to a specific application. This requires the search of sensors dedicated to a particular application, using the appropriate sensing materials and transduction methods adapted to a specific problem.

Important advances in the field have been carried out by incorporating nanomaterials in the sensing units that enhance the sensitivity thanks to their excellent electrocatalytic properties. Furthermore, the development of bioelectronic tongues (bio-ETs) combining in the same array unspecific sensors and biosensors, has been an important innovation: bio-ETs provide simultaneously overall information about the sample (as classical ETs do) plus information about specific compounds provided by the biosensors included in the array Here, the new strategies in bioETs applied to the analysis of milk and wine will be presented, paying special attention to the new developments based on nanobiosensors and the combinations of enzymes with nanomaterials.

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PL.2

New social and cognitive frames for new feminisms. A critical, socio-cognitive approach

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Abstract

Drawing on critical and socio-cognitive approaches to discourse analysis (CharterisBlack, 2005, 2013; Chilton, 2004; Dirven et al., 2007; Hart, 2014, 2019; Hart & Cap 2014; Musolff & Zinken, 2009; Romano 2021, 2022, in press; Romano & Porto, 2016, 2018; Soares da Silva et al., 2017; Steen, 2014; van Dijk, 2014; among others), this talk shows the discursive creativity deployed by feminists in the

production of protest slogans for the 8M (International Women’s Day) rallies (2018 to 2023) in Spain. First, the most productive strategies used in feminist protest banners (e.g. humour and irony, paradox and incoherence, recontextualization and multimodal metaphor) are explained. And second, an example of discursive and social (re)appropriation, La Manada (‘The Wolfpack’), is analysed in detail in order to understand how the traditional discourse of violence and fear is being replaced by a new one of optimism and empowerment when addressing gender violence; a highly polarized discourse that is also helping to change the cognitive and social frames of Spanish society.

PL.3

Human-AI Collaboration: The Changing Nature of Academic Work

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Abstract

The presentation focuses on the changing nature of academic work due to the rise of artificial intelligence (AI). AI chatbots relying on large language models, such as ChatGPT or Bing, are technologies that disrupt traditional ways of working and the academic work. They play a multifaceted role in shaping new forms of teaching and learning practices. AI can be used to assist, innovate or shortcut learning processes. Human-AI collaboration includes new emerging forms of human-AI relationships that include AI-based assistants (such as Viva by Microsoft) or AI chatbots. Human-AI collaboration provides new forms of feedback, knowledge creation and synergetic articulation of personal into collective knowledge. AI brings new opportunities to innovate teaching and learning but it is unclear what the long-term consequences will be. This talk discusses ongoing research on how AI is changing universities practices and how faculty and students adapt to the new digital world increasingly “dominated” by AI.

PL.4

Social media related sexual assault

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Abstract

The aims of our study are sociodemographic characteristics of victims of online and direct sexual assault mediated by social media who applied to Mersin University Forensic Medicine Department outpatient clinic and perpetrators of sexual assault, social media platforms mediating sexual assault, characteristics related to online and direct sexual assault, and examination findings is compared it with similar studies in our country and in the world, to reveal the risk factors of social media use in terms of sexual assault and the precautions that can be taken.

All forensic documents and forensic reports related to the incident in the hospital files of 71 cases whose sexual assault act was mediated by social media, who applied to the Mersin University Forensic Medicine Department polyclinic between 01.01.2016 and 31.12.2020 were examined retrospectively.

It was observed that 68 (95.8%) of the victims were female and 3 (4.2%) were male. The cases were between the ages of 11-26 and 94.4% (n=67) were between the ages of 12-19. It was determined that the most frequently used platform for online dating was Instagram, and the most frequently used platform for online sexual violence was Whatsapp. It was found that the first face-to-face meeting was mostly in the public place (60%), the sexual assault occurred mostly in the private residence (76.5%), and the high rate of face-to-face meeting (80%) and sexual assault that after meeting online (57.8%) occurred within the first three months. It has been seen that the most common types of online violence are sending/sharing nude photos and/or videos and sexually explicit conversations and the most common type of sexual assault is penetrating sexual assaults. Pregnancy was found in 1 (1.5%) of the victim cases who were consulted to the Obstetrics and Gynecology outpatient clinic, and Posttraumatic Stress Disorder (PTSD) was the most common in the victim cases who were consulted to the Child/Adult Psychiatry Outpatient Clinic. It was determined that all of the perpetrators were male, 94.4% were between the ages of 14-32 and most of them (84.2%) were primary school graduates.

Keywords: Social Media, Sexual Violence, Online Violence, Cyber Violence, Internet

PL.5

Advances in forensic DNA typing

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Abstract

DNA typing represents the most popular and powerful technique in criminal investigations.

In the last decades, new technologies (i.e. Next Generation Systems, rapid DNA systems) have been developed that enable increasing the effectiveness and reducing analysis time and costs.

New methods go beyond standard forensic DNA profiling since they allow, for example, to obtaining from crime scene samples, useful information about phenotypical characteristics (i.e. eye, hair, skin color), age and biogeography ancestry of the sample donor or analyzing non-human DNA. This greatly helps the investigations when there are no suspects or matches with profiles in DNA national databases.

PL.6

Tattoo pigments and their undesired effects

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Abstract

Tattooing has been growing in popularity for almost more than 20 years now. Currently about 18% of adults worldwide do have one tattoo or more on the body. However, the introduction of pigments or exogenous dyes is not without risk and exposes to various skin complications. Tattoo inks have been primarily intended for other uses (paint, varnish...) and their harmlessness has never been established

for tattoos. Tattoo dyes are soluble organic molecules, often mixed with small amounts of a stabilizing agents. Tattoo pigments are insoluble, usually metal salts or organic molecules, used more in traditional tattooing because of their stability and chemical resistance. Other additive substances are found in tattoo inks to modify the properties of the solution as well as preservatives (anti-infectives), solvents (ethanol, isopropanol). The composition of inks has clearly changed over the last 15-25 years. Today, inks are a complex mixture of dyes, metal salts and solvents. Since 2022, thousands of hazardous chemicals found in tattoo inks and permanent make-up are restricted in the EU under the REACH Regulation from January 2022. Through this presentation, the current research regarding tattoo pigments.

PL.7

Environmental assessment of wastewater treatment plant operation

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Abstract

A Wastewater treatment plants (WWTP) is designed to minimize the environmental impact of discharging untreated water into natural water systems. Different WWTP options have different performance characteristics and different direct impacts on the environment. If one of the main functions of wastewater treatment systems is to minimize the impact on the environment, they should be designed accordingly.

A Wastewater Treatment Plant is a complex structure (that encompass, biological, transport and hydraulic phenomena, among others) developed to treat domestic, agricultural influent or often a combination of all three. The operation of a WWTP often has the primary objective of ensuring that discharged effluent complies with the local regulations in term of water quality, despite changing influent conditions.

However, despite the advances made in recent decades, a large percentage of wastewater treatment plants are still being operated below the optimal performance achievable. This low performance becomes evident in the form of both treated water discharges that do not meet water quality standards and low efficiencies in terms of energy consumption. Additionally, many existing urban treatment plants face more stringent criteria for their wastewater effluent that needs to be treated.

Additionally, in recent years, WWTP operators have experienced increased pressure not only to meet effluent standards, but also to increase energy efficiency, perform resource recovery, and monitor and mitigate greenhouse gas (GHG) emissions. Recent studies have identified WWTPs as potential sources of anthropogenic GHG emissions that contribute to climate change and air pollution, such as methane (CH₄) and nitrous oxide (N₂O). WWTPs also emit carbon dioxide (CO₂) during the production of the energy required for the plant operation.

This presentation emphasizes the importance and usefulness of using multiple evaluation criteria (that included environmental aspects) to compare and evaluate control strategies in a WWTP for more informed operational decision-making. Multiple evaluation criteria of WWTP control strategies includes an additional dimension within the evaluation procedure, thereby increasing the chance of success for the strategies studied.

I. INVITED LECTURES

SECTION 1

ADVANCED RESEARCH IN MECHANICAL AND INDUSTRIAL ENGINEERING

IL.1.1

An evaluation of the expected wind climate in the european coastal environment

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Abstract

An obvious dynamics of the climate is noticed in the last decades and the marine environment is very sensitive to these changes. In this context, the objective of the present work is to provide a more comprehensive picture concerning the past and future expected dynamics of the wind climate in the European coastal environment. For the 40-year past period, the ERA5 reanalysis wind data have been process and analysed. Regarding the expected future wind conditions, data provided by regional climate models under the most representatives RCP scenarios have been analysed until the end of the 21st century. In a first approach, the coastal areas targeted are the North and the Baltic Seas. These are very resourceful in relationship with the wind power potential and more than sixty wind projects are currently operational there. Furthermore, some other very ambitious projects are also foreseen to be implemented. The emphasis was put on the analysis of the average wind power and of the maximum wind speed values. The climate projections indicate that the average wind power is not expected to decrease in the future, and this may slightly increase in some geographical areas. Regarding the maximum wind speeds, higher values are expected, especially in the North Sea. Going from the north of Europe to the south, the next analysis is focused on the Mediterranean and Black Seas. Similar trends as in the northern seas have been noticed in these coastal environments. Some energy hot spots have been also identified in these areas. The most significant are the Gulf of Lion in the Mediterranean Sea and the western side of the Black Sea, where the intensity of the maximum wind speeds is also expected to increase in the future. The last part of the presentation is focused on the western side of the European nearshore, where the wind data are analysed together with other renewables identifying the locations with the highest joint renewable energy potential and evaluating the efficiency of the future marine energy farms, which combine various resources.

The work is still ongoing and an important research direction is related to the evaluation of the climate scenarios based on the SSP concept. SSP stands for Shared Socioeconomic Pathway and provides a holistic vision on the climate evolution, which is considered directly related to the general development of the human society. Another important research direction considered is related to the technological advance associated to the extraction of offshore renewable energy. From this perspective, it can be noticed a clear tendency of size enhancement for the offshore wind turbines, at this moment the biggest wind turbine under construction (of 18MW built by China State Shipbuilding

Corporation) has a 260-meter diameter on its three-bladed rotor, and the race to the 20MW turbines still continues.

Keywords: climate change, wind power, European coastal environment, renewable energy, 21st century

Acknowledgment: This work was carried out in the framework of the research project CLIMEWAR (CLimate change IMPact Evaluation on future WAVE conditions at Regional scale for the Black and Mediterranean seas marine system), supported by a grant of the Ministry of Research, Innovation and Digitization, CNCS - UEFISCDI, project number PN-III-P4-PCE-2021-0015, within PNCDI III.

Section 2

ADVANCED INVESTIGATION METHODS IN ENVIRONMENT AND BIOHEALTH

IL.2.1

AI for improving efficiency and accuracy of medical diagnostics

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Abstract

The practice of health care is strongly influenced by new Artificial Intelligence (AI) methods of machine learning (ML). Nowadays, both technologies have a major impact on addressing challenges that healthcare systems face and already there are reported improved results regarding the accuracy of diagnosis and treatment across various specialisations. Apart from these aspects, AI and ML-based systems expand and improve clinical capacity and augments physicians to provide superior health care services by automating repetitive tasks to free up time from clinicians. AI systems have an increased capability to handle large amounts of data and repetitive work processes, can make prediction on the risk of developing a disease condition based on epidemiological data/risk of recurrence and can provide another approach of decision support to mitigate errors. AI techniques ranging from machine learning to deep learning. ML is a set of models able to learn from past data to make predictions. ML models can be either supervised learning and unsupervised learning depending of the existence of labelled data. ML asks for set of features to be directly measured from the data. A deep neural network (DNN) is a neural network model with a number of hidden layers to perform an improved predictions from data. DNNs work on large datasets that are not necessarily just numerical data. They can be images as well. A subcategory of DNNs called convolution neural networks (CNNs) are used for image segmentation and classification. Nowadays, the AI systems could become a routine part of medical practitioners daily lives to improve patient care.

Keyword: Artificial Intelligence, machine learning, convolution neural networks

SECTION 5

ADVANCED RESEARCH IN ELECTRICAL / ELECTRONIC ENGINEERING, SYSTEM ENGINEERING AND INFORMATION TECHNOLOGIES

IL.5.1.

Development of the monitoring and communication system for mine integration

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Abstract

The harsh environment conditions of the mines are a real challenges for safety equipment integration. The equipment should comply with the ATEX (ATmosphères Explosives) zone standard. The mining process data availability is essential for safety operation. Using the cloud as the key digital transformation the high operational performances of the mine projects could be attained. In this way, the scalability, availability, and global presence of the operational data are ensured. In this paper, the modern communication infrastructure is proposed. The mesh wireless sensor network transfer the operational data in real-time between the different mine machines and control room. The use of the cloud technology allow the real time visualization of the environmental condition from the monitoring sensors, and send the allowable references to the industrial controllers and relevant analog I/O systems, power electronics and battery systems. Each module is different and designed for a specific purpose. A wide variety of sensors such as methane sensor, temperature and humidity sensors, oxygen and carbon monoxide sensors, as discussed in the earlier sections are available in the access point to continuously monitor the environmental conditions. The system also consists of an external wired communication facility such as MODBUS. The wired MODBUS communication is used to communicate with the wired power system to monitor its operational conditions. The communication system can operate in the absence of the power supply as the enclosure houses have an onboard ATEX certified DC battery. The research has been conducted under EU-funded project “Innovative High Efficiency Power System for Machines and Devices, Increasing the Level of Work Safety in Underground Mining Excavations (HEETII)”

Keywords: ATEX, monitor system, Wireless Sensor Networks, wired network, Access Point, Gateway

Section 6

FUTURE OF ECO-NANOTECHNOLOGIES, FUNCTIONAL MATERIALS AND COATINGS

IL.6.1

Surface modification of Zinc Oxide nanoparticles with organosilanes

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Abstract

Surface modification of zinc oxide nanoparticles (ZnO NPs) with organosilanes has become an indispensable strategy for the preparation of very fine particles with controllable surface features, even to the quantum dots (QDs) level. The main advantages of the modification of ZnO NPs with organosilanes are the rapid formation of stable covalent bonds between the hydroxylated surface and the alkoxy anchoring groups, and the adjustability of the physico-chemical properties that emerge from such bonds. For potential clinical applications, surface modification with organosilanes plays a crucial role in the biocompatibility of ZnO NPs. Using organosilane modifying agents, highly dispersed particles can be achieved conferring hydrophobicity, and the dispersion of ZnO NPs can be improved. The present work is showing the results of the surface modification of ZnO NPs with agents of the organosilane class, whose use in increasing concentrations leads to obtaining nanoparticles with very small sizes, even at the level of quantum dots (below 5 nm), simultaneously with the increase of photoemission intensities in the visible range and an inverse variation of the bandgap energy values. In certain samples of ZnO NPs modified with organosilanes, remarkable antibacterial and antitumor activities, dependent on their size, are also highlighted.

Keywords: zinc oxide, surface modification, organosilanes, optical and biological properties

IL.6.2

3D printing and the future of composites in radioprotection

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Abstract

Nowadays the most spread disease is the cancer and that is why all the achievements in life sciences, sciences, and technology are oriented toward getting better solutions to remove tumors from inside the patients' bodies. Teletherapy is, probably, the most used technique, at this moment (together of course with the immunity approaches), and it supposes the use of direct or indirect ionizing radiation to destroy the affected cells of the tumor. *Tele* means that the radiation flux is transmitted into the patient body from distance unlike brachytherapy which is implying the introduction of the source of radiation inside the patient's body. All the internet sites that are presenting teletherapy approaches (of course for some institutions) contain, somewhere at the end, a phrase containing a warning regarding the risk

of cancer occurrence after a number of years after the treatment. Of course, there are many techniques that are reducing the irradiation of healthy parts of a patient but none of them is infallible. It is my opinion that it is possible to get better protection by using well designed structures of nano-composites.

Keywords: 3D printing, nano-composites, radioprotection, quality assurance in teletherapy

SECTION 10

ADVANCED RESEARCH IN PHARMACEUTICAL SCIENCES

IL.10.1

Pharmaceutical practice development - moving from drug distributors to pharmaceutical services providers

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Abstract

This paper aims to present the evolution and development of pharmaceutical practice over time. In the past centuries there was a competition between doctors and pharmacists, the practice of pharmacy being considered at the border between health and chemistry. Meanwhile, pharmaceutical practice has undergone great changes with clinical, humanistic, behavioral and economic implications for health systems. Contemporary pharmaceutical practice reflects the modern needs of patients and health systems around the world. Thus, pharmacists provide public health services alongside multidisciplinary healthcare teams, providing expertise in the safe and effective use of medicines. However, pharmaceutical practice is different in each country of the world, due to the laws, there are both quantitative (number of pharmacists) and qualitative (professional development) gaps. Pharmacy practice research focuses on the evaluation of pharmaceutical services with the aim of improving their quality. The quantitative assessment of pharmaceutical services refers to the range and volume of services provided to the population. The qualitative evaluation of pharmaceutical services is associated with the benefits brought to patients and with the maintenance of the health status of the population. Quality indicators are tools for improving pharmaceutical practice, being used to assess the quality of pharmaceutical care and pharmaceutical services in many countries around the world.

Keywords: pharmaceutical practice, public health services, quality indicators.

IL.10.2

Advances in the research of new antibiotic molecules

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Abstract

As a result of the fact that nowadays bacteria are more and more resistant to antibiotics (some even pandemic drug resistant), there is an urgent need for the discovery of new antibiotic molecules

(natural, semi-synthetic or synthetic), new therapeutic approaches (vaccines, bacteriophages), but as well for a continuous optimization of the use of antibacterial agents in the community and hospitals. Unfortunately, after an explosion in the number of new antibiotics between 1970-2000, research in this field has regressed a lot in the past 3 decades. The main cause of this regression is the investment reorientation of the big Research & Development (R&D) pharmaceutical companies towards the discovery of new molecules intended for the treatment of certain diseases such as cancer or chronic diseases with very high morbidity (diabetes, obesity, mental disorders, etc.).

In the present paper, the main objectives and strategies of the worldwide research for new antibiotics and their action potentiators are presented. The discovery of new *hit* and *leader* molecules, active against MDR, XDR or PDR bacteria, must again become a priority of the pharmaceutical and medical research at a global level, university researchers having an increasingly important role in this regard.

Modern research for new antibacterial compounds must increasingly rely on the advances made in the fields of computational chemistry, combinatorial chemistry and HTS testing, which, along with the discovery of new molecular targets for antibiotics, can contribute to reducing the risk of increasing bacterial resistance in the next 2-3 decades, a threat that could lead humanity to a situation close to that of the pre-antibiotic era.

This paper also presents the successes achieved in this research field between 2017 and 2023, that consist in the authorization of 14 new molecules or antibiotic-potentiator combinations, as well as in the main molecules in clinical development phase, many of which have a original structural profile and a new mechanism of action.

Keywords: new antibiotics, antibiotic potentiator

SECTION 12

CONTEMPORARY CRITICAL APPROACHES ON ROMANIAN LITERATURE

IL.12.1

Ana Blandiana's interviews- from Self-spectral projection to literature

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Abstract

Ana Blandiana's interviews focus the spectral function of the writing which mirrors a double-faceted perspective: the identity profile is rendered through a mirror-like type of writing sharing its aesthetic values to the reader.

Keywords: identity, literature, interview

IL.12.2

The critic's facets in his mirror type writing – Mircea A. Diaconu, Cernăuți. Obiecte pierdute

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Abstract

The critical discourse is to function as a mirror-type writing which focuses on the critic's profile rendered by his aesthetic options and strategies of reading texts. Mircea A. Diaconu's book is to be considered such type of text which depicts in detail the author's critical background and his operational critique.

Keywords: Mircea A. Diaconu, critical discourse, mirror-type writing.

SECTION 13

CULTURAL SPACES: RETROSPECTIVE AND PROSPECTIVE VIEWS

13.1. English Literature and Translation Studies

IL.13.1.1

Improving academic reading skills for better writing

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Abstract

Many ESL learners find reading in HIE much more difficult than they expected. This difficulty comes from the learners lack of knowledge and practice with academic tasks—especially tasks related to synthesizing, summarizing, and critically analyzing—before they arrive on campus. In addition to this lack of knowledge and experience, many learners struggle with lack of metacognitive awareness, limited or low reading fluency, limited vocabulary, and difficulty understanding text organization. Academic reading is the most essential tool for academic learning. It requires learners to not only understand the text, but to also use it. Learners must be aware of their reading purpose, comprehension, fluency, proficiency level, and text interpretations in order to effectively use the text. Therefore, presented lecture will show effective techniques for Improving Academic Reading Skills in English which is a springboard for academic writing.

Keywords: academic reading, ESL, HIE, academic practice, efficiency

IL13.1.2

The persuasion function of metaphors in financial discourse. A contrastive study: English and Romanian

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Abstract

The present study is aimed at presenting a set of criteria for identifying those metaphors which have a highly strong persuasive force in the financial texts dealing with money as a source of liquidity both in English and in Romanian. The main aim of the analysis is to compare the metaphor according to which MONEY IS A LIQUID as realised linguistically in English and Romanian economic terminology. An attempt will be made (1) to establish whether the two languages share the same conceptualisations of some important financial concepts based on the LIQUID metaphor, or alternatively, whether they exhibit any cross-cultural differences and (2) to establish the persuasive force of this metaphor in both languages. Due to the vague and open-ended character of metaphors as well as to possible subjectivity in determining what is really metaphorical, the method for metaphor identification (Pragglejaz Group 2007) was used to check the metaphoricity of the terms. In terms of the persuasion power of metaphors, I used the theoretical framework on the pragma-dialectics of argumentative discourse, following Frans Van Eemeren's discussion on strategic manoeuvring in argumentation. The corpus of texts derives from a set of special language articles and dictionaries (both in English and Romanian) which served as a documentary source of conceptual and linguistic metaphors in the present analysis.

Keywords: conceptual metaphor, linguistic metaphor, economic terminology, persuasive force, strategic manoeuvring.

IL.13.1.3

The effect of linguistic knowledge on meaning inference: Language of anonymous reviews

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Abstract

In the theoretical framework, the talk focuses on *The Sense of Style: The Thinking Person's Guide to Writing in the 21st Century* (Pinker, 2015) followed by examples of the researcher's own corpora of anonymous reviews. The aim of this talk is to emphasize the importance of coherence and cohesion in written text, as well as how to overcome difficulties that may arise when the author and the reviewer (as both a "generic" and a "specific" reader) negotiate on the final version of a domain-specific text prior to its publication in the English language. In this process, the reviewer, who is anonymous, and the author—also anonymous to the reviewer—participate in a specific kind of written discourse that resembles a conversation founded on critical thinking. However, authors may be discouraged or

reluctant to work further on the text after the peer-review process, which will be illustrated to provide essential guidelines to young scholars on how to interpret the reviewers' suggestions and comments.

Keywords: meaning inference, anonymous reviews, coherence, cohesion, English language

IL.13.1.4

Translation and tradition

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Abstract

The history of languages can be traced by two methods, an etymological and a so-called textual one. This latter is based on comparisons between different cultural developments. While the early attempt in this line have been carried by historical linguists studying Indo-European traditions, in more recent times, since the end of XIX century, a promising field of cultural research has been the study of popular songs and traditions, and collections of them have been started in many different countries. Some popular songs have circulated large areas in Europe and have been sung into the different languages of the areas where they were sung. This is the case of a song narrating an event about three drummers, which has versions in Italian, French, Occitan, Catalan etc. In other cases the music of a country has been taken in adopted to sing completely different situations; this is the case of a song of the Tuscan charcoal producers who adopted a Corse music to sing something completely different. Translation is not the only way followed by migrating cultural facts, and some examples will be discussed.

Keywords: culture, music, metaphor, translation.

13.2. French Language and Literature

IL.13.2.1

Les futurs dévastés de la littérature postapocalyptique québécoise d'expression française

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Résumé

Cette conférence trace l'histoire de la production apocalyptique au Québec, du XIXe siècle à nos jours. On portera un regard rapide sur les contours de ce genre littéraire et les éventuelles caractéristiques des œuvres franco-québécoises. Des extraits littéraires ou culturels accompagnent la présentation.

Mots-clés: Québec, diachronie, littérature, postapocalypse, critique

IL.13.2.2

Seuil de vie, seuil de mort: la parole

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Résumé

Comme les mythes, les contes interpellent notre esprit et une vision du monde historiquement basée sur le matérialisme, sur la philosophie du tiers exclu, sur la temporalité linéaire et la soumission aux lois de la causalité. Les contes de fées, et le conte roumain en particulier - Jeunesse sans vieillesse et vie sans mort -, nous offrent une issue à notre réductionnisme habituel, permettant une approche holistique et métaphysique au sens le plus large. Ce qui fait l'originalité, sinon la singularité de ce conte, c'est que l'on a affaire à un triple seuil, ou plutôt à trois seuils.

Mots-clés: conte, seuil, mort, temps, paradoxe, discours

IL.13.2.3

Littérature et agentivités: qui fait quoi en littérature?

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Résumé

L'auteur projette et écrit (saisit) le texte littéraire; les personnages sont des humains qui agissent; animaux et objets sont des entités passives; les lecteurs s'amuse ou se laissent entraîner par la lecture. Tous ces présupposés sont désormais remis en question à partir d'une conception de la pratique littéraire, sur les deux versants, production et réception, qui abandonne l'opposition entre les «sujets» intentionnels, actifs et les «objets» passifs qu'ils surplombent. Nous allons prendre pour exemple le roman de Jonathan Littell, *Les Bienveillantes* (dont le narrateur raconte des expériences qu'il aurait eues comme s'il était un somnambule), la nouvelle *Connaissance des singes* (dans le recueil intitulé *Zoo*) et le récit du travail anthropologique de Jean Rolin, *Le Pont de Bezons*.

Mots-clés: agentivité, voix moyenne, réflexivité, Bruno Latour, pensée écologique

IL.13.2.4

Theodor Cazaban face à la culture de masse

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Résumé

Théodore / Theodor Cazaban, écrivain roumain exilé à Paris, rédige au début des années 1960 ses principales œuvres: *Parages* (roman, Gallimard, 1963) et *Bramboura* ou *L'Esprit puni* (pièce de théâtre composée en 1964 et parue, à titre posthume, en 2020). Dans cette communication, je voudrais me pencher sur le reflet dans ces textes cazabaniens de la «culture de masse», réalité frémissante de l'époque mais aussi concept qui avait commencé de préoccuper les chercheurs, y compris en France (Edgar Morin, *L'esprit du temps*, 1962). Du culte de la jeunesse à la promotion des valeurs féminines, de la réalité du loisir à l'obsession du bonheur, pour ne pas tout citer, les textes de Cazaban enregistrent ces nouvelles tendances dominantes de la société française, parfois avec humour, souvent de façon critique, mais dans des expressions littéraires toujours fines et séduisantes.

Mots-clés: littérature, francophonie roumaine, esprit du temps, progrès, modernité

II. ORAL PRESENTATIONS

SECTION 1

ADVANCED RESEARCH IN MECHANICAL AND INDUSTRIAL ENGINEERING

OP.1.1

Evaluation and validation using measured data of the global solar radiation model for a site in Romania

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Abstract

One of the few resources that are both scalable and technologically advanced enough to supply the rising need for power globally is solar energy, which is also a sustainable, low-carbon resource. Solar photovoltaics (PV) is the most frequently used solar power technology, and its role in the production of electricity is constantly growing. High temporal and geographical resolution input data are needed for the study of the energy system. However, only certain regions may access the measurements made in meteorological stations. Data from satellite observations and other reanalysis are now used in an increasing number of studies on small and large-scale power systems. Even though numerous studies have attempted to compare different data sources on solar radiation, there isn't much research that evaluates both resources concurrently in one place. As a result, it's possible that many studies that solely depend on satellite/reanalysis data aren't representative. In this study, solar radiation accuracy for a site in Romania close to Galati is evaluated using the reanalysis database ECMWF-ERA5 in comparison to values obtained from actual records.

Keywords: PV panel, ERA5, solar radiation, renewable energy.

Acknowledgements: This work was carried out in the framework of the research project DREAM (Dynamics of the REsources and technological Advance in harvesting Marine renewable energy), supported by the Romanian Executive Agency for Higher Education, Research, Development and Innovation Funding – UEFISCDI, grant number PN-III-P4-ID-PCE-2020-0008.

OP.1.2

Tooth contact analysis of curvilinear cylindrical gears models obtained by solid modeling

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Abstract

Nowadays, gears geometries and investigations on their performances are mostly developed within virtual environment, using different approaches, each of them requiring basic knowledge of gear theory and CAD abilities. Not a popular gear is the curvilinear cylindrical gear whose teeth are following a circular pattern along the gear facewidth. Depending on gears generation method and tools geometry, a variable tooth profile is achieved, and specific meshing is further developed. Since most of the latest approaches on curvilinear cylindrical gears performances are based on gears computerized generation and the results are influenced by the complexity of the analytical calculus and/or by the CAD application facilities, a pertinent question refers to the results truthfulness and accuracy. Therefore, the aim of the paper is to simulate the curvilinear cylindrical gears behaviour while meshing, analysing the contact pattern in both ideal meshing and with induced gears' misalignment. On this purpose, the curvilinear cylindrical gear solid will be modelled by directly manipulating specific instruments of part generation from CAD software.

Keywords: curvilinear cylindrical gears, gear mesh, tooth contact analysis.

OP.1.3

Open water simulation for a container ship propeller

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Abstract

Marine propellers are complex structures that must ensure the efficient operation of the vessel in various environmental conditions. Therefore, it is essential to evaluate the propulsion performance of a propeller at the earliest stages of the design process. The most common approach is the propeller open water (POW) test, usually performed in a towing tank using a geometrically similar propeller model. Even though this method proved to be accurate and reliable, it is costly and time-consuming. However, the development of theoretical approaches for numerical viscous flow over the last two decades has made possible the prediction of propeller performance using computational fluid dynamics (CFD) methods. Thus, complex propeller geometries under different operation conditions, either at full scale or at a model scale, can be numerically investigated, and the results are comparable in accuracy with towing tank tests.

The purpose of this study is to perform open water simulation for a model-scale propeller in order to analyze the flow and evaluate the propulsion performance. The KRISO container ship (KCS) propeller was chosen for this investigation. KCS is a benchmark designed to provide a better understanding of flow physics around a container ship with a bulbous bow and to validate the CFD results. This ship propeller (KP505) is a five-blade propeller with a model-scale diameter of 0.25 meters, for which experimental open water data are available to the scientific community. The numerical simulations were conducted using the NUMECA/FineMarine solver based on the Reynolds-averaged Navier-Stokes (RANS) equations and the volume of fluid (VOF) method. The finite volume method with an unstructured grid ensures spatial discretization, while the turbulence is modelled by the Explicit Algebraic Stress Model (EASM). The results are validated through comparison with the experimental data provided by SIMMAN during their workshops.

Keywords: POW, CFD, RANS, EASM.

OP.1.4

Multibody interaction effects on the structural model of inland vessel

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Abstract

In the current study, the authors investigate a multibody interaction between a river barge and a fixed structure (quay) by employing a combined hydrodynamic analysis for pressure mapping on a structural model. The main objective is to analyze the behaviour of the barge's structural model under hydrodynamic loads near the fixed structure represented by the quay. The study results include the Response Amplitude Operators (RAOs) from the hydrodynamic model, which depict the barge's response to different wave frequencies. Additionally, the state of stresses and deformations in the hull structural model is analyzed to determine the structural integrity of the barge under varying equivalent quasi-static loading conditions. The study provides valuable insights into the behaviour of an inland typical floating structure, the river barge, by highlighting the importance of considering multi-body interactions in the structural design.

Keywords: Multibody interaction, hydrodynamic response, 3D structural analysis.

OP.1.5

The influence of the fan position to the efficiency of the mist eliminator louvers

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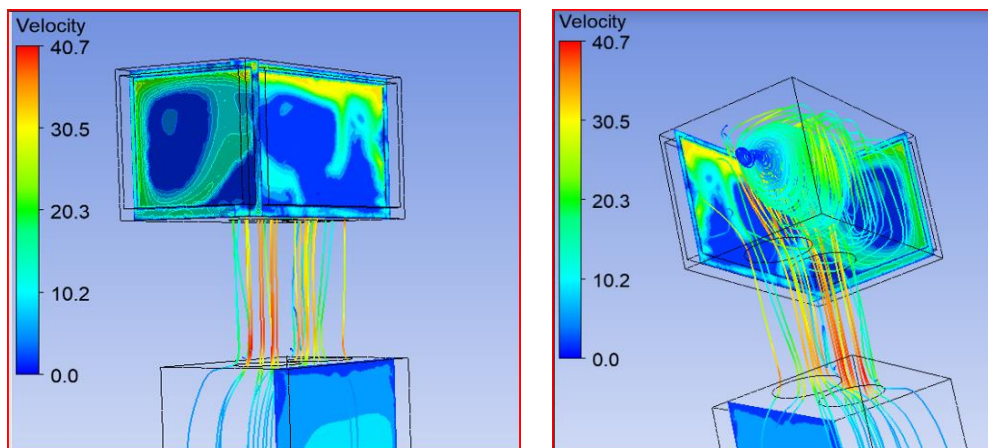
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Abstract

The size of the air supply mist eliminator louver in engine room ventilation systems is calculated to get a low velocity across it in order to ensure a good efficiency for water separation, to keep the low pressure drop and to keep the noise level as low as possible. The makers can provide the characteristic of the louvers, but these are considering the uniform air distribution. Unfortunately, depending on the shape of the main ventilation duct and function of the location of the fan related to the louver there are big differences in air velocity on different area of the louver. Therefore, the air velocity is increasing in some areas, and this will increase the noise level, will increase the pressure drop and will reduce the efficiency of the water separation for these areas. In order to avoid this negative impact to the ventilation system and to the noise level, the location of the fan and louvers should be carefully analysed. In case the fan should be located close to the louver due to the low available space on bord, a CFD analysis will be necessary in order to improve the air flow distribution across the louver.

Keywords: engine room ventilation, CFD calculation, louver efficiency, fan location.



OP.1.6

Numerical model for simulating multicomponent-alloy cladding on a steel substrate

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Abstract

In the last decades, a new category of materials composed of at least four or five main chemical elements attracted the attention of researchers worldwide. In the scientific literature, these materials are named high entropy alloys, multi-component alloys, or multi-element alloys. The investigations performed on these materials revealed remarkable mechanical characteristics such as hardness, wear and corrosion resistance, particularly for high temperatures, which makes them suitable for industrial applications, which involve surface improvement. In this study, the effects of depositing a multicomponent alloy from the AlCrFeNi system on an S235 steel substrate were investigated. A numerical model was developed to simulate the deposition of this alloy in order to determine the thermal field and the level of stresses and strains that occur during the cladding process. The validation of the model was achieved by comparing the results obtained with the experimentally measured temperature, stresses, and strains.

Keywords: Multicomponent alloys, numerical model, thermal field, stress analysis.

SECTION 2

ADVANCED INVESTIGATION METHODS IN ENVIRONMENT AND BIOHEALTH

OP.2.1

Myocardial infarction detection in ECG signals via Convolutional Neural Network

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Abstract

Electrocardiogram (ECG) signals contain complex and huge amount of electro-physiological signals. ECGs interpretation is time-consuming, tedious and their manual interpretation suffers from inter- and intra-observer variability. This paper investigates the utilization of convolutional neural networks (CNNs) for accurate classification of two electrocardiograms (ECG) records, namely normal (N) and myocardial infarction (MI). The investigation is based on features extracted from standard 12-lead ECG signals. Each lead characterizes a different condition of the heart activity. Lateral part is associated with lead I. In this study we used only limb lead I that was cropped from the 12-lead signals. The proposed model was designed to classify N and MI classes using 1935 data ($= 215 \times 9$, where 215 is the total number of single-lead ECG dataset and 9 times oversampling through augmentation transform). This work utilizes a high-quality labeled dataset of ECG records provided by Ch. Pervaiz Elahi Institute of Cardiology Multan, Pakistan and Mendeley data. The limb lead I signals are used to initially extracted high level features. The dataset is divided into a training set and a test set. The training set is used to optimize the weights of the network using an optimization algorithm, while the test set is used to adjust network parameters. To improve the network's performance, various network architectures and activation functions are used. To prevent overfitting, the regularization techniques are implemented. We use a CNN model with seven layers, two activation functions, a learning rate of 0.001 and one fully connected layer. A total of 15 epochs ran for training and testing rounds. About 70% of samples are used for training and 30% for test. The proposed CNN model achieves an average test accuracy of 93.98%. This study proposes an efficient deep learning model for IM detection in ECG signals. The selected architecture has robust ability for feature extraction and classification task.

Keywords: convolutional neural network, electrocardiogram signals, cardiovascular disease, classification, performance evaluation

OP.2.2

Local graph cut in the Image Segmenter app for breast ultrasound images segmentation

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Abstract

Breast cancer is among the most common cancers diagnosed in women globally. To help the breast cancer diagnosis, an important step is to accurately segment the breast lesion. To support clinicians in this important step, we analyze the performance of a semi-automated segmentation method based on the Local Graph Cut technique in the Image Segmenter application. Local graph cuts algorithm has the ability to segment more complicated shape by converting the image into a graph representation. It employs seed points set by the user and a cost function. The user identifies certain pixels as foreground and background. The region properties are identified from these pixels and they allow to specify the probability of a pixel belonging to the background or foreground. The graph cut formulation assigns each pixel to a node in the graph and incorrectly segmented pixels are re-assigned until the desired segmentation is completed. To evaluate the segmentation results, the Dice similarity coefficient and Frechet distance were calculated between the ground truth images and the segmented images. Results show a Dice score of 0.7754 for malignant lesions and 0.8842 for benign lesions. The average Frechet distance values were 303.28 for malignant and 290.80 for benign lesions, respectively. The experimental results show that the method achieves the best performance and gets the higher Dice score and Frechet distance for breast benign lesions against malignant lesions.

Keywords: breast lesion; Local Graph Cut; Image Segmenter application; Dice score, Frechet distance

OP.2.3

Retina image assessment for microstructural difference detection

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Abstract

The dissimilarities in appearance of the iris texture patterns can improve the individual's recognition and can strengthen the capabilities of multibiometrics systems. There is an important within-person variation or intraclass variation that produces different patterns such as the geometry or iris pigmentation details that change over time or could be different when the right iris and left iris are analyzed. Moreover, the sensing environment such as ambient lighting variations, eye rotation due to the head tilt or inconsistent iris size due to the distance from the camera can also introduce within-person variation. In this paper, we apply the fuzzy edges detection, in a comparative fashion between right iris and left iris, to find the interoperability capability of a particular biometric trait determined primarily by genotype. In other words, we investigated the degree of variation of the irises of the same person. The structural similarity index measure (SSIM) is implemented to investigate the structural similarity between two iris codes. Prior to the similarity analysis, the segmented iris (i.e., annular area between pupil and sclera) is normalized by transformed it from polar to cartesian coordinate and the edges detection based on the fuzzy edge is performed. This operation allows comparisons between the right iris and left iris without any influence of the stretch or dilation of the pupil induced by different illumination conditions. Also, we can estimate if the left and right irises belong to the same or to different individuals. The proposed approach is tested on the MMU Iris Database (with 225 images of the left eye and 225 images of the right eye). An average SSIM value of 0.9216, indicates that proposed iris biometrics model effectively differentiates between left and right eyes of the same person. Also, this result indicates that there is recognizable similarity between left and right irises. These results could be useful for certain applications devoted to detect anomalies in the human irises that could be associated to various diseases.

Keywords: iris; biometric recognition systems; fuzzy edge detection; iris segmentation; polar to cartesian coordinate transformation

OP.2.4

Toxicity assessment of some DOx, 2C-x and NBOMe psychoactive compounds using dedicated models

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Abstract

In recent decades, the abuse of psychoactive substances has increased greatly, generating significant health risks, especially among young people. Molecular modeling methods offer the possibility to assess the potential risk of controlled substances on human health as a consequence of their high toxicity. The aim of this paper was to compute different toxicity parameters of some psychoactive synthetic compounds which belong to three chemical classes of substituted phenethylamines i.e. DOx, 2C-x and NBOMe, by using dedicated software packages. Also, an evaluation of the organ toxicity i.e. hepatotoxicity, and the toxicity endpoints in relation to carcinogenesis, immunotoxicity, mutagenicity and cytotoxicity of investigated compounds was performed.

Keywords: phenethylamine, drugs of abuse, toxicity endpoints, molecular modeling

Toxicity model report for 4-iodo-2,5-dimethoxy-N-((2-methoxyphenyl)methyl)-benzeneethanamine (25I-NBOMe).

Classification	Target	Shorthand	Prediction	Probability
Organ toxicity	Hepatotoxicity	dili	Inactive	0.68
Toxicity end points	Carcinogenicity	carcino	Inactive	0.63
Toxicity end points	Immunotoxicity	immuno	Active	0.98
Toxicity end points	Mutagenicity	mutagen	Inactive	0.68
Toxicity end points	Cytotoxicity	cyto	Inactive	0.68

OP.2.5

The evaluation of physico-chemical parameters of some psychoactive compounds using molecular modeling

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Abstract

In this paper we have evaluated from physico-chemical point of view some psychoactive compounds representing substituted phenethylamine which contain methoxy groups on the 2 and 5 positions of a benzene ring (Figure 1). The chemical potential of investigated compounds is assessed by computing of the main quantum molecular descriptors, such as the dipole moment, the energy of the highest/lowest occupied/unoccupied molecular orbital, the gap energy, the electronegativity, the chemical hardness/softness, the electrophilicity index etc. Also, the presence of the nucleophilic and electrophilic sites was identified by using the molecular electrostatic potential diagram.

Keywords: phenethylamine, drugs of abuse, molecular descriptors, molecular modeling

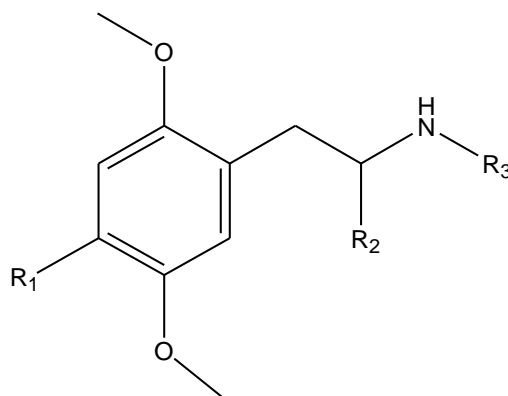


Figure 1. The parent molecular structure of investigated compounds.

OP.2.6

Computer-aided detection of synthetic cannabinoids

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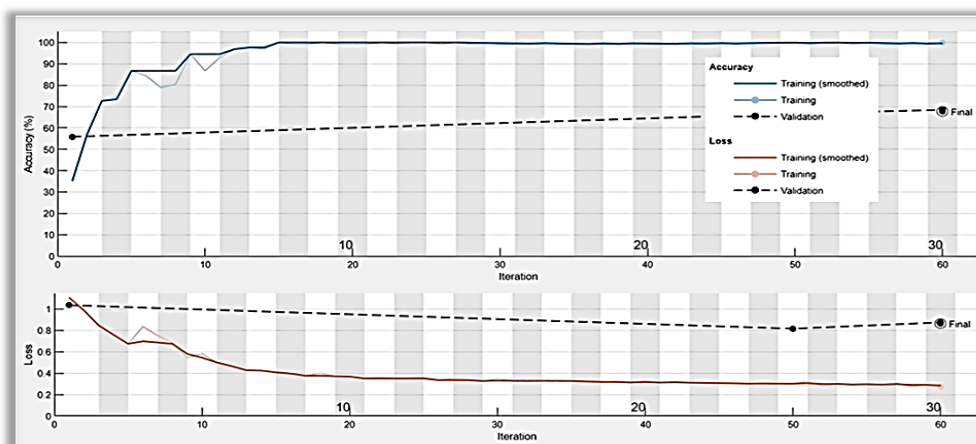
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Abstract

We are presenting a high-performance Convolutional Neural Network (CNN) model that may be used for the detection of synthetic cannabinoids. We are analyzing the accuracy of several automated identification and classification systems screening for synthetic cannabinoids, based on different pre-trained deep learning models. The CNN models were modified, adapted and tested by using different optimization methods and algorithms at different learning rates in order to reach the best accuracy. The advantages of using screening solutions based on transfer learning methods combined with the ATR-FTIR spectroscopy are discussed.

Keywords: synthetic cannabinoids, toxicity, Convolutional Neural Networks



OP.2.7

ANN detecting synthetic cannabinoids based on Quantitative Structure Activity Relationship (QSAR)

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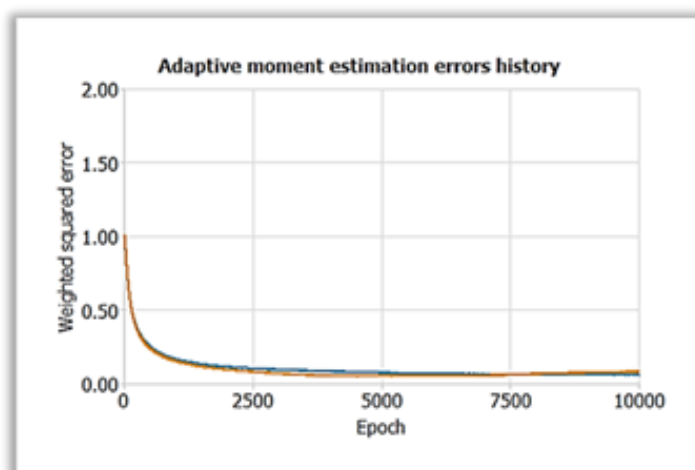
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Abstract

We are presenting an Artificial Neural Network (ANN) model developed for the detection and classification of synthetic cannabinoids, based on Quantitative Structure Activity Relationship (QSAR) modeling. The system was built using a set of 375 substances of abuse and the Alvascience and Neural Designer software packages, which resulted in an effective forensic tool in terms of its predictive and descriptive ability. The best performing machine learning algorithm and 3D-QSAR molecular descriptors were combined to produce a consensus model and to develop an ANN. The findings of this study should facilitate the identification and classification of new psychoactive substances in the group of JWH synthetic cannabinoids, as well as the main substances of forensic interest reportedly seized on the illicit market.

Keywords: JWH synthetic cannabinoids, toxicity, AM1 semi-empirical quantum method



OP.2.8

Metals and trace elements in hydrobionts from the Prut River ecosystem

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Abstract

Aquatic plants and benthic invertebrates are the basic components of the communities of hydrobionts important in the process of biomigration and the cycle of chemical elements in aquatic ecosystems. Aquatic plants possess a high resistance to toxic substances and are capable to accumulate large amounts of metals. In recent years, an intense coverage of flowing and semi-stagnant ecosystems was

seen. The plant samples (*Macrophytes Elodea canadensis, Myriophyllum spicatum, Potamogeton perfoliatus*) were collected in the medial and lower sector of the Prut river in the vegetation period.

The bivalve molluscs contribute with over 85% the biomass of aquatic benthic invertebrate. The accumulation level in the following species of molluscs was analysed *Mollusca (Phylum), Fam. Unionidae - Anodonta anatina (Linnaeus, 1758), Unio tumidus (Philipson, 1788), Crassiana crassa (Philipson in Retzius, 1788) și din Fam. Dreissenidae – Dreissena polymorpha (Pallas, 1771), Dreissena bugensis (Andrusov, 1897).*

Under laboratory conditions, the collected plants were washed with distilled water, dried 1-2 times on filter paper and mechanically crushed, out of which a quantity of 0.3-0.4 grams was taken for digestion and analysis. The molluscs were placed in an aquarium with aerated water and only after 6 days, the soft tissues of the body were separated and homogenized and an amount of 0.2-0.5 grams was taken for digestion and analysis. Nitric and hydrochloric acids were used for digestion of the biological material using Speed Wave four (SW-4) microwave sample preparation system (Berghof, Germany). After digestion, the samples were analyzed by inductively coupled plasma atomic emission spectrometry, using a Thermo Scientific iCAP 6200 Duo ICP-OES spectrometer (Thermo Fisher Scientific, United Kingdom). The range of investigated elements was quite large (Cd, Cr, Pb, Bi, As, Se, Zn, Cu), this depending on the properties of the investigated organisms and plants and the dynamics of these trace elements in the aquatic environment.

Keywords: hydrobionts, Prut River, Moldova, ICP-OES, metals, trace elements.

Acknowledgement: The research was carried out in the framework of the national project no. 20.80009.7007.06 AQUABIO (the State Programme 2020-2023), and international projects BSB27 Monitox and BSB165 HydroEcoNex (Joint Operational Programme Black Sea Basin 2014-2020, financed by the European Union).

OP.2.9

KNN system screening for the main illicit drugs

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Abstract

Worldwide, the fight against illicit drugs production and distribution involves the development of new and increasingly powerful methods of automatic screening, detection and / or identification of new substances that emerge on the illicit market. We are presenting a computer-based method designed to classify cannabinoids and amphetamines, based on machine learning methods. The spectra of the illicit drugs used to build the system were extracted from public libraries or databases.

Keywords: cannabinoids, K-Nearest Neighbors (KNN), illicit drugs

OP.2.10

Performance evaluation of the efficiency to reduce some pollutants using filter papers with added seaweed mass

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Abstract

This paper presents the results of a research carried out with the aim of recycling seaweed waste of the *Ulva rigida* species found on the Romanian Black Sea coast, by incorporating it into the structure of a filter paper. Thus, the newly developed product at laboratory level has been tested to demonstrate its ability to remove metals from wastewater. In addition to the waste recovery direction, the new product also has an utility, and can help reduce the amount of raw material used in the pulp and paper industry by displacing a proportion of pulp. The paper presents the strength values of filter paper with additions of 10, 20, 30 and 50% seaweed in mass, as well as the results of SEM-EDX analyses, which show the degree of reduction of Cu²⁺, Fe²⁺&Fe³⁺ and Zn²⁺ concentrations, from solutions of known concentrations. The results are compared with those previously obtained for filter papers produced with lower concentrations of algal biomass.

Keywords: filter paper, algae, SEM-EDX, pollutants

Acknowledgement: The authors acknowledge the support of the internal grant with Contract no. 9187/2023, „Researches on interdisciplinary applications of advanced analytical and control techniques in environmental, health and materials science studies (INTERVENT)”, awarded by Dunarea de Jos University of Galati, Romania.

SECTION 3

PROGRESS IN FOOD SCIENCE AND BIO-RESOURCES ENGINEERING

OP.3.1

Dehumidified air application as a method of elimination of carriers in food powders production by spray drying

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Abstract

Recently “clean label” products are gaining more recognition of more aware consumers. As a consequence, it forces food producer and scientist to respond to new trends. The application of dehumidified air in food powders production using spray drying enables to lower drying temperature, thus lower carrier content or in some materials eliminate it entirely. The aim of this research was the assessment of the possibility of obtaining carrier-free powders of selected materials that are considered as difficult to dry because of their composition. Sugar-rich and acid-rich blackcurrant juice concentrate, mango pulp, purple carrot juice concentrate, sauerkraut juice, kiwiberry pulp and tomato pulp were spray dried using traditional high temperature spray drying (inlet/outlet temperature 180/80°C) and dehumidified air assisted spray drying (inlet/outlet temperature 80/55°C). The course of drying was evaluated based on the powder recovery and physical properties of obtained powders. Dehumidified air application was the only method that enabled to obtain carrier-free powders in the case of blackcurrant juice concentrate, mango pulp, purple carrot juice concentrate and sauerkraut juice, highlighting its importance in production of clean label products. Furthermore, some powder properties were positively influenced by lowered drying temperature: median particle size diameter and hygroscopicity.

Keywords: spray drying, dehumidified air, clean-label, carrier-free

OP.3.2

Improving rosé winemaking technology in the Oltina region by using the *saignée* technique

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Abstract

The current market demands the availability of different wines, from easy-to-drink, semi-dry, or semi-sweet to complex and structured wines, focusing more and more on the specific aspects of a region, from climate characteristics, soil, and human practices, aspects known as *terroir*. This is a challenge for winemakers worldwide to find the best practices to fully satisfy most of the market segments,

ensuring at the same time the quality needed and designed in harmony with the *terroir* where the wines are made. Although there has been a paradigm-changing in the last years regarding rosé wines, which went from mostly low-quality wines, made from affected or insufficiently ripe grapes to more and more complex and expressive wines, there still are consumers that qualify these wines as too simple, compared to the reds. From Provence to Languedoc, New Zealand, and Australia, winemakers tried different styles to fully express the grapes and region's potential to deliver better and better rosé wines that differentiate from the others. One of these styles is saigné, also known as bleeding, which involves short-term contact between the must and the grape skins and then removal (bleeding off) of a part of the free-run juice (usually 30%) from macerated red grapes.

The objective of the study was to test bleeding technology for two international grape varieties, Merlot and Cabernet Sauvignon, and one indigenous, Fetească Neagră. We chose the Oltina region located in the SW of Dobrogea, known for its black grapes quality with high potential for rosé and red wines. The tests have been performed in the 2022 vintage. The results showed that the variety that lent itself the most was Cabernet Sauvignon, mostly because of its thick skin, the wine obtained the best flavor and aromatic profile, according to the panel, and had the most proper physicochemical characteristics for the intended destination.

Keywords: grapes, *Cabernet Sauvignon*, maceration, must, saignée, rosé.

OP.3.3

Comparative study on bioactive compounds with functional potential from black and red juniper (*Juniperus communis*, *Juniperus oxycedrus*) berries

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Abstract

Functional foods are dietary products that besides nutrient values also provide additional physiological benefits related to health promotion or disease prevention. The use of bioactive compounds of plant origin in food products is a field that has awakened the interest of many researchers in recent years. This work will present a comparison between wild black and red Juniper berries (*J. communis*, and *J. oxycedrus*), collected in Albania, especially related to some of their bioactive compounds and their application as a functional food ingredient. The sample extracts were characterized regarding their phytochemical profile, respectively the total flavonoids and polyphenolic content (TFC, TPC), and antioxidant activity (DPPH). The extracts from the berries were obtained with a mixture of ethanol 70% (w/w) and acetic acid in a ratio of 9:1 (w/w) treated by ultra-sonication for 15 min at 25°C. Additionally, was performed the content of chlorophylls and carotenoids of the samples extracts obtained under the same conditions using n-hexane and acetone (3:1 w/w) as a solvent were analysed. The results suggested that the ethanolic extract of red Juniper berries had an increased content of TFC (1.07±0.07 mg CE/g D.W.) and TPC (4.69±0.18 mg GAE/g D.W.). On the opposite, the antioxidant potential was higher for the black Juniper berries ethanolic extract (22.76±0.38 mg TE/g D.W.), as well as for the total chlorophylls (48.24±1.28 µg/g D.W.) and carotenoids (11.82±0.14 µg/g D.W.). These preliminary experimental data, encourage the utilization of Juniper berries' bioactive compounds in food products to enrich their functional character, ensuring also antimicrobial properties to extend the shelf-life of food products.

Keywords: *Juniperus communis*, *Juniperus oxycedrus*, bioactive compounds

OP.3.4

New bioactive whey - based packaging solutions for the food industry

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Abstract

The focus of researchers has turned to the side-streams valorization due to high motivation for reducing waste, the need to protect the environment and combat global warming, and an incentive to improve sustainability in the food industry and nonetheless considering the economic advantages that results from this approach. Whey is a valuable by-product of the dairy industry and whey proteins are of interest as packaging material due to their ability to form films and because they display good compatibility with dairy products. However, the mechanical and barrier properties are considered weak compared to conventional packaging, therefore it is necessary to improve their structure.

Thus, functionalized biodegradable packaging with active essential oils (EO) could provide a strategy for replacing conventional dairy plastic packaging while ensuring antimicrobial and antioxidant properties; moreover, composite materials containing whey proteins and other substances capable to form polymers as polylactic acid (PLA) could provide higher mechanical strength and better barrier properties in comparison with mono-composite films.

The purpose of this study is to obtain and characterize whey films (WF) in two ways:

- i) edible film formulas (EF) containing inclusion complex (IC) with thyme essential oil (TEO) encapsulated in beta-cyclodextrin (β -CD/TEO);
- ii) active poly-composite films (PCF) based on whey proteins with double layers, with TEO and PLA nanofibers on reverse side.

The properties of EFs containing thyme essential oil (TEO) encapsulated by co-precipitation in β -CD, developed in three formulas, with inclusion complexes (IC), having mass ratios of 15:85, 26:74 and 35:65 (EF /IC1, EF/IC2 and EF/IC3, respectively) were studied upon controlled release of their bioactive compounds. The SPME GC/MS analysis showed that thymol is the main volatile present in the EFs with TEO/ β -CD (50 - 60% of the total volatiles).

The poly-composite films (PCF) showed better mechanical permeability to water, gases resistance and vapors due to the PLA nanofibrous layer applied on one side of the film. Nanofibers deposited with one-single pump during 90, 150, 210 min and with two pumps during 210 min resulted in PCF/G1, PCF/G2, PCF/G3 and PCF/G4 films, respectively. The films displayed improved permeability to water vapors and vapor gases, and better mechanical resistance due to the nanofibrous network layer of polylactic acid applied on one side of the film. The films covered with PLA fibers PCF/G1, PCF/G2, PCF/G3 and PCF/G4 exhibited a force at break 1.49, 1.56, 1.91 and 3.54-fold higher compared to control without nanofibers.

The results obtained demonstrate that films with poly-composite structure showed improved structural and mechanical properties compared with monolayered films and have the potential to be used in different food applications as an alternative to conventional packaging.

Keywords: food active packaging; encapsulation by co-precipitation; thyme essential oil; nanofiber; electrospinning

OP.3.5

The study of functional properties of food packaging based on xylan/chitosan polyelectrolyte complexes

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Abstract

Based on their advantages such as availability from renewable resources, biodegradability, low-cost and biocompatibility, xylan hemicellulose biopolymers are expected to be used in the field of packaging manufacturing as eco-friendly alternative at synthetic polymers. Until now these biopolymers are used in xylitol and biofuel production or as strengthen additives in plastic packaging. In the last decades there are many studies and research on extending the application area of xylan hemicellulose in food packaging as edible films or coatings for foods preservation.

Generally, xylan hemicelluloses are hydrophilic polymers with extensive hydrogen bonds that limit the area of their industrial applications. To improve the ability of xylan to be used as biopolymer in food packaging application, the chemical modification by etherification, esterification or by combination with other biopolymers that improve the resistance to gases and humidity as well as the other functional properties (oil and grease barrier or microbial attack) is widely applied.

In this paper, the combination of xylan hemicelluloses and their derivatives (acetylated and hydrophobized xylan) with chitosan biopolymer was performed to obtain the uniform films and coatings for paper surface treatment with the aim to improve the properties required for food packaging. Using casting method, the film forming ability of these biopolymers was analysed and obtained films were evaluated regarding the uniformity and flexibility.

To measure the food packaging performance, the samples of films and coated papers were evaluated in terms of mechanical strength, barrier to water, water vapours, oil and grease, air permeability and antimicrobial properties.

The obtained results emphasized that the native xylan and its derivatives forms high brittle films with poor mechanical properties. The film forming ability of xylan hemicelluloses as well as the swelling and solubility of films can be improved by adding of chitosan biopolymer. In swollen state, the polyelectrolyte complexes xylan-chitosan films keep their integrity. The chemical modification of xylan improve its hydrophobicity, as the coated papers with modified xylan shown the increased contact angle (about 82,73°) and reduced water vapours transmission rate as well as water and oil absorption capacity compared with native xylan coated papers. The significant improving of

water/water vapours and oil barrier properties was obtained for the coated papers with composite coatings based on modified xylan and chitosan. In this case, for the papers coated with composite formula of 50:50-acetylated xylan/chitosan, the level of contact angle was about 92.8°, of WVTR about 30 g/m².day and KIT value was 8. These are appropriate values for food packaging papers and the obtained results can predict the potential utilisation of xylan hemicelluloses in packaging applications.

Keywords: xylan hemicellulose; chitosan; paper coatings; paper food packaging; barrier properties; film forming

Acknowledgement: This work was supported by a grant of the Ministry of Research, Innovation and Digitization, CNCS—UEFISCDI, project number PN-III-P4-PCE-2021-0714, within PNCDI III.

OP.3.6

Effects of pork backfat replacement with emulsion gels formulated with a mixture of olive, chia and algae oils on the quality attributes of pork patties

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Abstract

This paper reports on the development of new emulsion gels containing a mixture of olive, chia and algae oil emulsified with soy protein isolate and stabilized by two different cold gelling agents, gelatin (EGEL) and chitosan (ECHIT), and to evaluate their potential use as pork backfat replacers in cooked pork patties. Reformulated patties were produced by half and full pork backfat replacement and compared to normal fat patties and reduced fat content patties made by replacing half of the added fat with water. Color parameters, pH and thermal stability of the emulsion gels were determined at processing and after 10 days of refrigerated storage. Proximate composition, fatty acid profile, technological properties and sensory attributes were evaluated after patty processing, while color parameters, pH and lipid oxidation were monitored in patties during 15 days of refrigerated storage (4 °C). Reformulated patties showed significant improvements of the lipid profile (lower saturated fatty acid content and n-6/n-3 ratio and higher long-chain polyunsaturated fatty acid content) as compared to the controls. In terms of technological properties, chitosan was more effective than gelatin as a stabilizer of the emulsion gel. All reformulated patties showed a good evolution of lipid oxidation during storage and acceptable sensory attributes.

Keywords: reformulated pork patties; emulsion gels; gelatin; chitosan; fatty acid profile; technological properties

OP.3.7

Review of the importance of spirulina (*Arthrospira platensis*) on promoting fish health

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Abstract

Fish and aquatic products play extremely important role in the economies of many countries and form an important part of human protein intake. Due to fish importance in human protein nutrition, there is a growing natural interest in developing technologies to produce high quality aquaculture products with the least resources. Nevertheless, the quality of the fish produced in aquaculture systems is intrinsically linked to the health of the fish and its ability to adapt to the captivity stress.

Microalgae represent a very good natural ingredient that could be utilized in the diet of different fish species since there is ample evidence of their good nutritional properties. Their effectiveness varies with the strategy of including either the biomass as a whole or extracted beneficial compounds in the fish diet. Among microalgae, spirulina appears to have significant growth potential, particularly as a small-scale crop for improving nutrition, livelihood development and reducing environmental impact. The nutritional value of Spirulina (*Arthrospira platensis*) in the aquatic feed has been extensively studied over the past decade as a substitute for fish meal or as a functional feed additive to improve fish growth and health.

The objective of this paper is to review the beneficial effects of Spirulina when is included in the fish diet. This review provides useful information on the nutritional composition and active compounds of spirulina, its role in aquaculture for strengthening the immune system of fish and the benefits of using spirulina in disease situations, as well as reducing oxidative stress and toxicity.

Keywords: spirulina, beneficial effects, fish health, oxidative stress, toxicity.

OP.3.8

Seaweed potential for sustainable aquaculture: A Review

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Abstract

One of the greatest challenges facing humanity is to produce enough food for a growing population while ensuring healthy and nutritious food and developing a system that contributes to environmentally sustainable production. Aquaculture is one of the fastest-growing food-producing sectors in the world, it aims to provide a continuous supply of aquatic products, beneficial to human well-being, and to increase the efficiency of protein production. In the present literature review, we aimed to analyze the benefits of introducing macroalgae in the fish feed, due to the presence of

bioactive compounds, as well as the disadvantages associated with different strategies of integrating this aquatic resource in the aquaculture feeding technologies. It is known that the supply of fish feed in intensive aquaculture represents a major challenge both due to the high cost and the increased demand in the last ten years. In this context, the inclusion of new functional ingredients and the development of a new formulation of fish feed in aquaculture has attracted the interest of researchers scientific. Numerous studies have demonstrated the beneficial effect of bioactive compounds from algal biomass, this proves to be an important ingredient because it promotes growth, exhibits immunostimulant properties, improves survival, and can exert beneficial effects on the intestinal microbiota. Considering the composition and functional properties of seaweed, the extraction of components such as polysaccharides, polyphenols, pigments, and other compounds has proven to be a promising way, both in the accessibility of conventional vegetable proteins and in the prevention and management of fish, diseases, in the context of approaching ecological aquaculture.

Keywords: seaweeds, bioactive compounds, functional feed

OP.3.9

Nutritional composition, bioactive compounds and antioxidant properties of wild bilberry, blackcurrant and blackberry pomace powders

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Abstract

The aim of this study was to investigate the nutritional and antioxidant composition of dried bilberry, blackcurrant and blackberry pomaces by proximate analysis and evaluation of titratable acidity, color, total phenolics, total flavonoids, total anthocyanins content and antioxidant activity. In addition, the fatty acid and polyphenolic profiles were assessed using chromatographic methods. Higher fiber, fat and mineral contents were found in blackberry as compared with bilberry and blackcurrant pomaces. The fatty acid profile revealed high concentrations of monounsaturated (16.74-18.7%) and polyunsaturated fatty acids (72.25-77.36%). The lowest n-6/n-3 ratio was found in bilberry pomace (0.90) followed by blackcurrant (1.28) and blackberry pomaces (4.26). Bilberry pomace showed the highest total phenolic (36.7 mg CGE/g) and total anthocyanin content (28.35 mg CGE/g). The phenolic profile of the bilberry pomace was dominated by ellagic acid and catechin while in blackberry and blackcurrant pomaces the major phenolic compounds were epigallocatechin and catechin, respectively. High levels of procyanidin B1 have been also quantified in bilberry and blackcurrant pomaces. Due to their healthy lipid profile and richness in antioxidant compounds, berry pomaces are good candidates as food ingredients for enhancing the functionality of food products and for contributing to the sustainable development of the food industry.

Keywords: proximate composition; fatty acid profile; phenolic compounds; antioxidant activity; color

OP.3.10

Attempts to use natural inhibitors for apple polyphenol oxidase to obtain jellified products

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Abstract

The apples are widely consumed as fresh and processed fruits, due both to their rich nutritive components and wide planting. However, due to the high content in polyphenols, apples are prone to oxidation mediated by polyphenol oxidase and peroxidase. In this study, attempts to use aqueous extract of *Hibiscus sabdariffa* L. to inhibit the enzymatic browning during apples processing are proposed. Apples were infused in *Hibiscus sabdariffa* L. aqueous extract for 30 min, followed by processing in jams. Four variants were obtained, by varying the type and concentration of sugars, in order to develop low-sugar jams. The results highlighted the significant differences in color, phytochemical profile, texture, nutritional parameters and products acceptability. The apple jam without infusion in hibiscus extract were brighter, with values between 27.75 ± 0.1 and 28.76 ± 0.2 for L^* parameter, whereas positive values of a^* and b^* parameters highlighted the presence of a combination of red and yellow colors. The sensorial analysis showed that the lower taste characteristic was found for the sample with hibiscus infusion and no added sugar (AH4) (6.66). Therefore, it can be appreciated that the infused apples jams were located in the "like moderately" region of the hedonic scale. For all infused samples, the addition of hibiscus led to a higher polyphenolic content, but without significant changes in antioxidant activity.. The nutritional values highly depended on sugar addition, whereas the textural analysis showed that the type and sugar concentration did not significantly influence the firmness. The obtained results are valuable in terms of using natural antibrowning inhibitors in order to enhance the acceptability of the product, whereas defining the important technological aspects, in terms of nutritional, phytochemicals, textural and acceptability properties for low sugar jams.

Keywords: Apples, Jam, *Hibiscus sabdariffa*, Antibrowning.

OP.3.11

Evidences in the bioactivity of the peptides encrypted in egg proteins

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Abstract

Many biologically active peptides encrypted in food proteins are released through enzymatic hydrolysis using various exogenous proteases. Eggs are particularly rich in proteins and peptides exerting multiple physiological activities, targeting the nervous, endocrine, cardiovascular or immune systems. The aim of the present study was to investigate the ability of egg proteins to act as precursors

of biologically active peptides. The degree of hydrolysis (DH) of the proteins from white, yolk and whole powdered egg was monitored during 24 h of hydrolysis with pepsin, trypsin and proteinase K. The lowest hydrolysis degree of the whole egg protein was obtained with trypsin (DH of 7.7%), followed by pepsin (DH of 8.1%) and proteinase K (DH of 15.4%). The peptides from egg white and yolk released after 24 h of exogenous enzymes assisted hydrolysis were characterized by assessing the antioxidant properties and anti-diabetic activity against α -amylase. In case of all tested proteases, the highest antioxidant activity ($147 \div 310$ μ moles Trolox/g protein) was measured for the egg yolk protein hydrolysates, and the lowest ($58 \div 125$ μ moles Trolox/g protein) for the egg white protein hydrolysates. For all tested protein derivatives, proteinase K delivered the most active peptides. Regarding the α -amylase inhibitory activity, the peptides encrypted in the egg yolk proteins appeared to be the most effective. Compared to the α -amylase inhibitory activity of whole egg proteins hydrolysates, the IC₅₀ values registered for the egg yolk peptides were by 5.5-7.3 times lower. Regardless of the exogenous proteases used for hydrolysis, no improvement of the α -amylase inhibitory activity was observed in case of the egg white proteins. In conclusion, the peptides encrypted in the egg yolk proteins exhibit higher antioxidant and α -amylase inhibitory activity compared to the egg white proteins.

Keywords: egg proteins, proteolytic enzymes, hydrolysis degree, antioxidant activity, α -amylase inhibitory activity

SECTION 4

ADVANCES IN ENGINEERING AND MANAGEMENT IN AGRICULTURE AND RURAL DEVELOPMENT

OP.4.1

Global food security and the Russia-Ukraine war. A brief analysis

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Abstract

The Russia-Ukraine war has wide-ranging social and economic effects at the international level, which can affect global food security. The countries in the Near East and Africa, dependent on food imports, were the first affected by the war. The effects of the war overlapped with the COVID-19 pandemic, amid rising global food demand and poor harvests in some countries. The research proposes an analysis of the impact of the war from the perspective of global food security. The effects of the war have overlapped with the COVID-19 pandemic, amid rising global food demand and poor harvests in some countries.

The research proposes an analysis of the impact of the war from the perspective of global food security. The research results demonstrated a significant impact on global food security: Ukrainian exports halted, population migration from conflict zones, labor shortages, restricted access to fertilizers, uncertain future harvests.

The consequences of war on food security can be compounded by deficiencies in global food systems. A better use of natural resources and increased national food independence can lead to an increase in food security at the global level.

Keywords: food security, war, impact, Ukraine,

OP.4.2

The impact of the circular economy on sustainable development in agritourism

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Abstract

The paper aims to present the implications of implementing the concept of circular economy (EC) first at the theoretical-methodological level through a scheme that shows the main flows of activities that are carried out in order to make resources more efficient in order to produce more economic value with the same or with fewer resources. This new economic model is an incentive for innovation in the re-use of materials, components and products, as well as the creation of new business models. In a

circular economy, the more efficient use of materials creates greater value, both through cost savings and through the development of new or existing markets. The need to use EC concepts is also given by United Nations forecasts, as current trends in continuous growth are maintained according to the linear production-distribution-consumption-waste model. Rethinking, recycling, reduction, reuse, resource recovery: the various Rs at the heart of the circular economy are perfectly applicable in agriculture, helping farmers to "produce more, with less". Products that are today discarded, considered to be waste, can be processed, used by the agri-food industry and/or as food for animal consumption and bioenergy production, or can be incorporated into the soil to increase its organic substance content, improving its quality.

The main specific areas of the circular economy in agriculture and rural development are presented and the study continues by applying EC in agritourism.

In the process of agritourism development, it is necessary to pay more attention to the environment, which actually represents the objective of the tourist activity. Thus, the relationship between agritourism and the environment has a special significance. Sustainable development, by using the principles of the circular economy for the protection of the environment, is a necessary condition for its practice.

Keywords: circular economy, rural development, environmental protection, agritourism.

OP.4.3

Educational management in the circular economy from rural areas

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Abstract

One of the objectives of the circular economy is precisely to ensure that products and materials are not simply considered goods that will one-day end up in a landfill, but goods with great potential. The potential to be kept alive within the economic cycle through different types of actions: for example, by referring to the design discipline it is possible to design products or parts of them, design for components, in a way that can later be repaired, regenerated etc. The circular economy must be the turning point not only for the implementation of a new economic model with positive effects on the future, but it must be above all for us to restore, regenerate and protect the environment in which we live, that environment that has have been damaged by wrong political and economic choices in the past. The goal of educational management must aim at the generation and improvement of sustainable natural ecosystems, systems in which the word waste does not exist, but everything is and becomes a resource from reuse and transform into an input.

Keywords: management, education, circular economy

OP.4.4

Food patents and technology transfer. Are universities involved?

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Abstract

The paper aims to highlight the current state of innovation and patenting in the food field in Romanian universities from the perspective of technology transfer. The conducted research highlighted the interest of developing intellectual property rights in universities, but also the lack of intellectual property valorization strategies adapted to various economic sectors. The current legislation is complex and thick, and the transfer of property is effected by bureaucratic barrier.

Keywords: food patent, technology transfer, universities, Romania

OP.4.5

European funds and their impact on the skills of the agricultural workforce in Romania 2014-2020

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Abstract

Operational Programme Human Capital has as its general objectives the stimulation of employment, the reduction of social exclusion and the reduction of the level of poverty. The OP has several high priorities, including job creation, mobility and education as well as training. The projects implemented aimed at reducing early school leaving, improving access and quality of tertiary education, supporting apprenticeships, traineeships and lifelong learning, improving teacher skills, supporting entrepreneurial education, as well as vocational education and training in general, aiming to always increasing their relevance to the requirements of the labor market. Special attention was paid to disadvantaged people, such as Roma or people from rural areas or people with low skills, for example through scholarships. The results of the research highlighted a partial fulfillment of these wishes at the level of the SE Region of Romania.

Keywords: EU funds, agriculture, workforce, Romania, 2014-2020

OP.4.6

Benefits of gender balance in the agriculture field. Comparisons and statistics

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Abstract

The present paper aims to observe, analyze, and understand the contribution of gender balance in the agricultural sector in Romania, as well as to identify the challenges and opportunities that exist, with the ultimate goal of proposing solutions to maximize the potential of human resources in the field, regardless of gender. The study was developed using data provided by the national and European statistical systems. For bibliographic documentation, the official releases of ResearchGate, National Institute of Statistics, Clarivate Analytics, and Google Scholar were considered. The study results have shown the importance of gender balance in the agricultural sector in Romania and the necessity to implement more effective measures, policies, or programs that promote adequate gender balance in terms of access to resources such as agricultural land, inputs, financing, and training and personal and professional skill development options for human resources involved in the field. One of the key benefits of promoting gender balance in the agricultural sector is the potential to enhance productivity and sustainability by involving both women and men in all effective stages of activities, particularly in decision-making processes. This can lead to a broader range of perspectives and ideas being considered, resulting in innovative approaches and improved economic performance of farms. A practical implication of the topic of gender balance in agriculture in Romania includes conducting further research to better understand the specific challenges and opportunities faced by both women and men in agriculture in Romania and using this information to support the development of policies and programs.

Keywords: agricultural field, gender balance, human performance

OP.4.7

Research on the impact of European funds on rural development

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Abstract

The paper proposes an analysis of the contribution of European funds on rural development, with the aim of finding solutions for the development of rural communities. Rural development implies the development of rural communities from an economic, social, cultural and political point of view. The study was carried out using data provided by national and European statistical systems. National Institute of Statistics, ResearchGate and Google Scholar were considered for references. The research showed that for a sustainable economic development of rural areas, appropriate financing of the rural environment from European funds is necessary. The development of rural communities can benefit from education and training programs, thereby ensuring access to learning opportunities and skill development in agriculture, food processing and other economic activities. Among the direct benefits

of European funds are increased productivity and competitiveness in agriculture and the food industry, as well as the improvement of rural infrastructure, such as the development of roads and water networks.

Keywords: European funds, rural community, rural development.

OP.4.8

Human resources analysis in the agricultural field during the period of 2018-2022 in Romania

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Abstract

Agriculture is a fundamental field at a global level, with major implications in many related areas and has been extensively analyzed and researched over time, including various aspects such as techniques, technologies, processes, products, legislation, or resources involved. Upon analysis of the agricultural field situation in Romania during the period 2018-2022, it can be concluded that Romania remains an important agricultural producer at the European level, with a significant share in the country's Gross Domestic Product (GDP). The agricultural sector has the highest rate of effective absorption of structural funds, but there are still challenges related to modernization and investment in the sector, as well as ensuring equitable distribution of all resources involved. Regarding human resources involved in the agricultural sector in Romania in recent years, there are several relevant aspects. The quantity of workforce involved in agriculture has significantly decreased in recent years due to population migration from rural areas to cities and other countries, as well as due to the aging of the rural population. The level of salaries in the agricultural sector is relatively low compared to other sectors of the economy, which can represent an obstacle for attracting and retaining qualified workforce in the field. The quality of human resources involved in agriculture is another important issue, with many rural areas having a deficit in education and professional training of the population. For the elaboration of the present documentary article, European and national statistical databases were used, and for bibliographic documentation, official publications of the National Institute of Statistics, Google Scholar, Research Gate, and Clarivate Analytics were analyzed. The results have revealed that there are a series of challenges and opportunities related to human resources in the agricultural sector in Romania that require an integrated and sustained approach from authorities, farmers, and other actors involved. The decrease in the quantity of labor force is a trend that can potentially affect the agricultural sector's ability to meet the demand for agricultural products both domestically and internationally. The low quality of human resources can affect the performance and competitiveness of farms, as well as their ability to adapt to market changes and technological innovations and the relatively low level of wages in the agricultural sector can be an obstacle for attracting and retaining qualified workforce in the field. The results of the study regarding human resources in the agricultural sector in Romania can be implemented by a wide range of stakeholders, including: public authorities responsible for the development of the agricultural sector, farmers and representatives of agricultural associations and organizations, who can use this information to identify ways to improve the performance and competitiveness of their farms through more efficient human resource management, as well as suppliers of agricultural services and equipment, educational and professional training institutions, and even investors in investment funds.

Keywords: agricultural field, human resources, agriculture performance

OP.4.9

Food market in the Republic of Moldova. Competition between the retail market and traditional shops

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Abstract

The European path of the Republic of Moldova has led to new challenges for local manufacturers, on the competitive national and European market. Thus, the conclusion of the Association Agreement between the Republic of Moldova and the European Union opens up new opportunities in terms of competitive performance. In this way, new players appear on the market, and those who cannot cope with the competition, which is becoming increasingly active in different periods by placing new products and services on the market, disappear. At the present stage, the most essential component of the competitive environment is enterprises, also referred to as the backbone of the economy, which according to developments over time, shows a significant growth of the private sector. In 2021 in the Republic of Moldova, there were 38,285 active enterprises, according to the data of the National Bureau of Statistics, of which 92.67% were private enterprises. The research is preliminary in the analysis of the competition in the agri-food chain, a topic to be developed during the doctoral training program.

Keywords: competition, enterprises, Republic of Moldova

OP.4.10

Food consumption and social protection in the Republic of Moldova. Case study

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Abstract

Competition between retail outlets and in agricultural markets has been very active lately. Thus, some sectors of the national economy are constantly evolving. Although in the Republic of Moldova there are competitive games on certain segments that generate economic growth, which in a certain way would lead to increased quality and lower food prices, but is stagnated by certain internal and external factors, so to some extent influence or tend to influence the price of consumer food products. The insolence of certain economic actors on the market, the attempt to generate excessive revenue at low costs and taking advantage of certain situations by occupying dominant positions on the market, has created premises for state intervention, not damaging the free market economy. Thus, by means of normative acts, the State identified a number of products which are represented as socially important and which are to be marketed according to a fixed margin established. The research is preliminary in

the analysis of the competition in the agri-food chain, a topic to be developed during the doctoral training program.

Keywords: competition, social protection, Republic of Moldova

OP.4.11

Measures for preventing foodborne illnesses during the may 1st, 2023 long weekend

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Abstract

This paper presents an analysis of the monitoring and control actions undertaken by DSVSA Constanta in the recreational areas / tourist destinations of Constanta County during the May 1st, 2023 long weekend (April 28, 2023 - May 1, 2023). Compared to 2022, the number of tourists who have arrived on the Romanian coast this year is almost double. This is mainly due to the organizers of festivals on the seaside. In 2023, six festivals were organized in Constanta County. The supervision of operators in the food industry in the following period will be carried out through inspection and control actions, prevention and counseling aimed at ensuring the safety of citizens and preventing foodborne illnesses.

Keywords: competition, social protection, Republic of Moldova

OP.4.12

Food safety surveillance and control program

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Abstract

The paper proposes a presentation and analysis of the food safety surveillance and control program at the level of DSVSA Constanta for the first quarter of 2023. The research focuses on the number of samples planned within the plan, the samples taken, the non-conformities encountered and the measures applied. For plant-based products originating from domestic production, imports, and intra-community trade, the requested parameters are identical. It will be observed that there are no significant differences in quality and safety between products, taking into account their origin. Additionally, the measures taken in the case of non-conforming samples will be analyzed. The results of this study are part of the foundation of the doctoral research.

Keywords: products of non-animal origin, samples, analyses, measures

OP.4.13

Hunting tourism and the potential impact on biodiversity

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Abstract

The paper presents an analysis regarding sustainable tourism, as can be seen as the application of the idea of sustainable development in the tourism sector, in the sense of developing a form of tourism that meets the needs of the present, without compromising the ability of future generations to satisfy their own needs, or of a tourism that uses and conserves resources wisely to maintain their viability over a long period of time. On the territory of today's Romania and Moldova, hunting has been practiced since ancient times. The research also focused on the analysis of the reaction of rural actors in connection with the principle of the creation of the national rural development network and the proposal regarding its formation and functioning.

Keywords: tourism, hunting, biodiversity, rural tourism

OP.4.14

Agrotourism and the exploitation of the hunting fund in Romania

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Abstract

Romania is a country with great biodiversity and many intact natural ecosystems, with the largest natural forest area in Europe and numerous migratory birds. The high level of ecosystem diversity and geographical location is reflected in the floristic and faunal richness, with over 30,000 animal species. The game is brought together in hunting funds managed centrally in hierarchical order by the Ministry of Agriculture, Water and Environment and the Romsilva National Authority. Of all the hunting reserves, a small number have protected game and have a special regime. Irrational exploitation of land and excessive hunting of wild animals, environmental pollution can lead to the drastic reduction of some wild species, some of which are even in danger of extinction. Through different educational programs, the local populations could be helped to know and better understand the economic value and the biological role, as well as their contribution to the development of hunting tourism. Wildlife observatories and birdwatching trips can represent viable alternatives.

Keywords: agro tourism, hunting, birdwatching, Wildlife observatories, Romania

OP.4.15

Multispectral image analysis using drones in precision agriculture

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Abstract

One of the basic features in the use of precision farming by farmers is to obtain precise information and data on the evolution of the crops to be followed during the calendar year according to certain climatic factors in the area of crop establishment. The most reliable approach to this is the agricultural drone, which farmers nowadays realize that without the constant help of this equipment, crops will never reach their full potential. This article will cover the impact and analysis of multispectral images obtained with agricultural drones in the Romanian countryside.

Keywords: drone, NDVI, UAV, multispectral camera

OP.4.16

Food safety and official control in Republic of Moldova. Results and measures

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Abstract

Food safety and consumer health are key points of the agro-food police in the Republic of Moldova. The opening of the European food export market has imposed strict rules on food quality. There was a plan of official controls, at the level of food production and marketing. By following the official control over operators in the food sector, recommendations are provided by ANSA experts and a series of sanctions are applied. In case of non-conformities detected at enterprises, ANSA will pursue the necessary improvements. Only after this, the unit will have the possibility to be listed for export to the EU. Food business operators need to understand the need to implement national and EU legislation, based on a high level of protection of human health and consumer interests, allowing to 'open the door' to the EU market. A common approach to food safety by ANSA and food operators should be reached.

Keywords: food quality, ANSA, Republic of Moldova

OP.4.17

Food frauds, mass spectrometry and authenticity assessment based on protein and peptide

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Abstract

Today, food fraud has become increasingly used, some with additional benefits and income, others are harmful to ordinary consumers, which can seriously affect their health. The purpose of this article is to detect these food frauds using the latest technologies (tools). The most useful of them is mass spectrometry. This paper studies the actuality of the mass spectrometry technique, which makes it possible to assess the traceability of food products in the discovery of fraud and adulteration. In the current study we will discover the latest fraud detection tools recently encountered in everyday life. Protein/peptide analysis to ensure the quality of agro-food products.

Keywords: Mass spectrometry, Protein, peptide, agro-food products.

OP.4.18

Economic impact of food fraud

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Abstract

Food fraud, an intentional illegal replacing, omission, dilution, mislabeling or masking of a food defect for economic gain, is a real serious problem for the consumers, food manufacturers and governments in many countries, varying greatly by region. Food fraud broadly addresses food safety, food defense and food quality, and is far more prevalent throughout the supply chain than is known, today in international trade the supply chain being more complex and vulnerable. Fraud goes from economic, financial and reputational consequences for a food company to a matter of public health. Despite of its harmful consequences, a systematic causes analysis and economic influence of food fraud is limited.

This paper aims to identify and to discuss the causes that lead to food fraud, extending research to its economic impact.

Keywords: Mass spectrometry, Protein, peptide, agro-food products.

OP.4.19

The strategies for the development of beekeeping production in the Republic of Moldova in the context of cross-border cooperation within the EU

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Abstract

Republic of Moldova aims to develop and modernize apicultural businesses and also promote and develop trade and partnership in the UE. The reformist and active promotion and examination of the association network of target sub-groups of beekeepers in the with a role in detailed and implementing tools to development their chances of important acceleration in developing the conditions of creation, increasing the quality of bee products and provide marketing to build safe cross-border trade convenience and business evolution with input in renovate the beekeeping sector and complementary sectors.

Creating and growing a common framework for the formation and action of the Moldova-UE Bee Goods Network with a role in developmental and monitoring it for growing cross-border trade space and modernizing the beekeeping sector and similar activities. Stimulate the expansion of the competitiveness and growth of the beekeeping sector and correlated activities over the implementation of actions at the Republic of Moldova - UE Business Network to develop the skills and ability of apiculture producers as well as their economic achievement and retail access.

Establish the clarity of beekeepers, the potential of the Republic of Moldova area and public realization of the properties of apicultural products on health and developing food security by organizing events of an economic, educational, cultural, political nature, etc.

Keywords: honey, beekeeping production, cooperation, strategy. This paper aims to identify and to discuss the causes that lead to food fraud, extending research to its economic impact.

OP.4.20

World honey consumption and trends in the Republic of Moldova

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Abstract

Projected global consumption: 2.5 million. tons by 2025. Monofloral honey current (acacia, clover, pine) are gaining present-day in EU. Consumption increasing at annual rates of 5-15%. Present production more 5,000 tons per year and potential of 12.000. Growing global consumption due to health and consciousness trends. Creation of a National Honey Brand.

Establish bee honey consumption culture in Moldova as the European countries have. Establish bee honey consumption culture in Moldova as the European states have. The bee honey consumption ability is a program that is beneficial to generations, for composing the immune system of the developing generation and the older generation and is typically beneficial to the full society.

Keywords: honey, consumption, culture, bee.

OP.4.21

Studies on novel algal foods in dairy products and economic impact

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Abstract

Novel foods that include algae in dairy products such as milk, yogurt, and cheese are a relatively new topic in food research. Studies on these foods focus on two main aspects: their health impact and their economic impact. *Spirulina platensis* is a blue-green alga that has a rich composition of essential nutrients, including proteins, vitamins and minerals. This alga has been studied for its potential to be used as a food ingredient in dairy products to improve their nutritional and functional quality. In terms of the economic impact of marketing these new foods, it can be positive as *Spirulina* dairy products can be marketed as premium products due to their nutritional and functional benefits. These products can also be marketed to specific niche markets, such as the health food or vegan markets. However, the production and marketing costs associated with developing and marketing *Spirulina* dairy products must also be considered. For example, the cost of purchasing *Spirulina* can be higher than that of other food ingredients, and the marketing costs of educating consumers about the benefits of these products can be significant. Studies on novel foods that include algae in dairy products are important to understand their potential health benefits and economic impact. These foods can provide significant health benefits but are expensive, requiring effective marketing and distribution strategies to make them accessible to consumers. In conclusion, research on the incorporation of *Spirulina platensis* in dairy products shows an interesting potential for improving their nutritional quality and attractiveness, and the economic impact of their commercialization can be positive, although the costs associated with production and marketing must also be taken into account.

Keywords: *Spirulina platensis*, algal foods, dairy products, health impact, economic impact, marketing.

OP.4.22

Time management - efficiency and productivity in organization

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Abstract

It is known that there are internal and external factors increasing motivation. Income instated to be one of the motivations instruments while the significance of it varies by person and institution. Economic instruments are among the important factors used for increasing motivation. The environment is important. Community is important. Scheduling social interactions outside the workplace is important. So, then the presentation of this research can conclude that a motivated

employee will have a higher level of reaching organizational objectives and this would greatly increase the success of the business.

Keywords: time management, efficiency, productivity

OP.4.23

The art of efficient use of one's own resources from the systems of rural settlements as the basis of the development of the local economy and the well-being of the population

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Abstract

For a long time, energy was based on a paradigm that required electricity to be generated in centralized high-power units (located in areas determined by certain generation, and/or consumption conditions), transmitted to consumption areas via transmission lines, and delivered to consumers via a passive infrastructure at lower voltages. In this system, power flows in one direction only, from higher voltage levels to lower ones. Modern technologies allow us to move towards new power supply models, which would significantly increase the reliability of the continuous supply process, and the predictability of the delivery price. Locally initiated, and managed short energy cycles are a reliable solution for the RM, as they would allow the management, and adjustment of expenditure to the needs of the locality, as well as having an impact on the optimization of the public transport infrastructure in rural areas. A short hybrid energy cycle based on solar energy, diesel generator power, and a storage battery is an energy production, and distribution system that combines different energy sources to ensure an efficient, and reliable supply. This system combines renewable resources, such as solar energy, with conventional sources, such as diesel genera for a long time, energy was based on a paradigm that required electricity to be generated in centralized high-power units (located in areas determined by certain generation, and/or consumption conditions), transmitted to consumption areas via transmission lines, and delivered to consumers via a passive infrastructure at lower voltages. In this system, power flows in one direction only, from higher voltage levels to lower ones. Modern technologies allow us to move towards new power supply models, which would significantly increase the reliability of the continuous supply process, and the predictability of the delivery price. Locally initiated, and managed short energy cycles are a reliable solution for the RM, as they would allow the management, and adjustment of expenditure to the needs of the locality, as well as having an impact on the optimization of the public transport infrastructure in rural areas. A short hybrid energy cycle based on solar energy, diesel generator power, and a storage battery is an energy production, and distribution system that combines different energy sources to ensure an efficient, and reliable supply. This system combines renewable resources, such as solar energy, with conventional sources, such as diesel generators, and uses storage batteries to ensure continuity of energy supply.

Keywords: rural development, efficiency.

OP.4.24

Research on digitization in agricultural farms from Romania

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Abstract

In our study, we researched the scientific literature to trace the importance and application of farm digitalization technologies in Romania, as well as the most important trends and results obtained in this field. The digitization of agricultural farms in Romania is a growing trend, with the adoption of digital technologies by farmers. This trend can lead to increased efficiency and productivity, but also to reduced costs and improved quality of agricultural products. However, there are challenges in adopting digital technologies in agriculture, such as high costs and the need to train farmers. To ensure the continuous development of digitization in agriculture in Romania, it is necessary to develop the digital infrastructure and support farmers in adopting these technologies.

Keywords: digital agriculture, digital infrastructure, IoT, productivity

OP.4.25

Sustainability of wheat crops in the context of globalization and climate change

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Abstract

The sustainability of wheat crops is an important challenge in the context of globalization and climate change. Wheat is one of the most important food crops worldwide, being used for the production of bread, pasta, and cereals, but also for animal feed.

Globalization has led to an increase in the demand for food products, which has led to an intensification of agricultural production and an increase in the area under wheat cultivation. This intensification can have negative effects on the environment, such as soil erosion, pesticide and fertilizer pollution, and biodiversity degradation. In addition, climate change can significantly impact wheat production through changes in temperatures, precipitation, moisture levels, and other meteorological factors. To ensure the sustainability of wheat crops, an integrated approach is needed, which includes using more environmentally friendly agricultural practices, such as organic farming, crop rotation, organic fertilizers, and biodiversity protection. In addition, it is important to promote research and development of wheat varieties adapted to new climatic conditions and able to provide sustainable, cost-effective production with minimal environmental impact.

The present work aims to present sustainable wheat production technologies such as the maintenance of soil health, mechanical works, and fertilization systems.

Keywords: wheat, sustainability, technologies

OP.4.26

Research on the influence of pedoclimatic factors on production and quality indices of wheat varieties tested at s.c.d.a. Braila in the 2021-2022 agricultural year

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Abstract

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Globalization has led to an increase in the demand for food products, which has led to an intensification of agricultural production and an increase in the area under wheat cultivation. This intensification can have negative effects on the environment, such as soil erosion, pesticide and fertilizer pollution, and biodiversity degradation. In addition, climate change can significantly impact wheat production through changes in temperatures, precipitation, moisture levels, and other meteorological factors. To ensure the sustainability of wheat crops, an integrated approach is needed, which includes using more environmentally friendly agricultural practices, such as organic farming, crop rotation, organic fertilizers, and biodiversity protection. In addition, it is important to promote research and development of wheat varieties adapted to new climatic conditions and able to provide sustainable, cost-effective production with minimal environmental impact.

The present work aims to present sustainable wheat production technologies such as the maintenance of soil health, mechanical works, and fertilization systems.

Keywords: wheat, sustainability, technologies

OP.4.27

Agricultural financing and implications on the agri-food production of the Republic of Moldova

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Abstract

The sustainability of wheat crops is an important challenge in the context of globalization and climate change. Wheat is one of the most important food crops worldwide, being used for the production of bread, pasta, and cereals, but also for animal feed.

Globalization has led to an increase in the demand for food products, which has led to an intensification of agricultural production and an increase in the area under wheat cultivation. This intensification can have negative effects on the environment, such as soil erosion, pesticide and fertilizer pollution, and biodiversity degradation. In addition, climate change can significantly impact wheat production through changes in temperatures, precipitation, moisture levels, and other meteorological factors. To ensure the sustainability of wheat crops, an integrated approach is needed, which includes using more environmentally friendly agricultural practices, such as organic farming, crop rotation, organic fertilizers, and biodiversity protection. In addition, it is important to promote research and development of wheat varieties adapted to new climatic conditions and able to provide sustainable, cost-effective production with minimal environmental impact.

The present work aims to present sustainable wheat production technologies such as the maintenance of soil health, mechanical works, and fertilization systems.

Keywords: wheat, sustainability, technologies

OP.4.28

Innovative solutions for sustainable development in Cahul Region, Moldova

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Abstract

Research background. An intelligent rural community in our vision wants to be a balance between people and the environment, through a transformation of long-term economic, social, and environmental characteristics. This paper aims to investigate the need to change this environment in the Cahul Region of Moldova, a rural plain.

Purpose of the article. Villages with a certain risk of poverty are most at risk of depopulation due to the presence of low-income people, and disadvantaged groups, with a population of "third age" and "fourth age". In other mountain areas, for example, there are rich villages where aging does not characterize low-income people and retired migrants.

Methods. The objectives of the research are to describe the Cahul area, the need to transform the villages in their composition, and also to identify activities with potential for sustainable development

at its level. Awareness of the community by promoting those economic activities that support the smart plain area is the basis of the whole concept.

Findings & Value added. This study aims to evaluate the perceptions about smart villages (SV) to attract entrepreneurs, tourists, and business development in Cahul Region, Moldova.

Keywords: Cahul, local management, marketing, branding

OP.4.29

Research on the involvement of residents and tourists in protecting the local brand as a sustainable destination

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Abstract

Research background. Specialists show a decrease in awareness of the issues of sustainability of tourism activities among various stakeholders [1], followed by arguments [2], and irresponsible practices of visitors.

Local key actors could be the main interdependent factors in solving [3] these issues that characterize sustainable tourism through the emergence of the phenomenon of digitalization and high popularization of social networks.

Digital communication networks have left their mark on the impact that brand tourism - considered as local tourist destinations, has on the behavior of residents and tourists [5], [6].

In this research we aim to evaluate the various advantages that sustainable tourism can have due to digital media in the Pietroasele area, Buzau County, Romania.

Purpose of the article. In this research we aim to evaluate the various advantages that sustainable tourism can have due to digital media in the Pietroasele area, Buzau County, Romania.

Methods. Digital communication networks have left their mark on the impact that brand tourism - considered as local tourist destinations, has on the behavior of residents and tourists.

Findings & Value added. The aim of this study is to evaluate the perceptions about the local brand as a way to attract entrepreneurs, tourists and business development in the wine area Pietroasele, Buzau, Romania based on the following specific research objectives:

1. Knowledge of the role of the local brand in the management of local businesses and authorities.
2. Monitoring the application of mechanisms used by specialists to develop local branding, including collaboration with local partners.
3. Evaluation of the perspectives arising from the development of the analyses brand.

Keywords: Pietroasele, label wine, local marketing, branding

OP.4.30

Digital market policy of Republic of Moldova

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Abstract

The technology of agriculture contributes a lot to reducing the work you do. You can turn to the latest generation systems and tools that fit the needs of your farm. In addition, there are specialized teams that can handle their installation and show you how to use them. Automation in agriculture facilitates your work and speeds up processes. For example, it is no longer necessary to move to the field to start the irrigation systems manually, but you can activate them through the smartphone application. In this way, it is possible to proceed with other systems, the detailed collection of real data and the efficient management of the farm. Automation has an essential role in the digitization process and is of the future. Installing GPS systems on trucks offers the possibility of tracking routes and controlling fuel consumption. The digitization of agriculture gives you detailed real-time information about your crop and simplifies several aspects related to it. Basically, it will suggest the decisions that benefit you, starting from planting and until you harvest. In this way, possible human errors will be avoided, such as those related to insufficient preparation or impulsive decisions.

Keywords: rural development, digital market.

OP.4.31

Development sustainable wine tourism

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Abstract

Wine tourism is a relatively new form of tourism. Its history varies greatly from one region to another. Contemporary wine tourism developed first in the 1970s and 1980s in California (Mondavi), then in other regions of the United States (Oregon, Washington, New York), in Australia and in most wine-producing countries such as Argentina (Mendoza and Cafayate), South Africa (Stellenbosch) or Chile. Later wine tourism reached Canada, Europe, Japan, South Korea and China. The world wine tourism industry, including in Europe, grew significantly in the first decade of the 21st century. Wine tourism is an important part of the wine industry. It contributes to income generation while preserving and developing the cultural heritage of a wine region. Wine tourism could therefore be the key element for the sustainable development of wine regions around the world. Sustainable tourism is tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, industry, the environment and host communities

Keywords: rural development, wine market.

OP.4.32

Educational management in rural areas

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Abstract

The teacher is the one who facilitates the learning of circular knowledge and skills, the one who can train future professionals in the circular field. The three pillars of the circular labor market It is good to underline how the transition to the circular economy, as already mentioned before, will guarantee various benefits to the world of the labor market. In particular, it will create new opportunities, raise standards and reduce inequalities in the scope of work. Circular thinking and logic must be incorporated into training programs. At the same time, the teaching methods must be renewed, undergo a transformation to respond to this request: it is necessary to evolve from a linear type of education to a circular education.

Keywords: rural development, educational management.

OP.4.33

Importance of honey products in modern medicine

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Abstract

Benefit of honey has a very long and important history. Beekeeping production has been used since ancient time owed to its nutritional and therapeutic values. In special there had been varied ways of consuming honey including its use as a sweetener and flavoring condiment. The most important beekeeping production who is honey is produced all over the world. The nutritional and therapeutic form of natural products have gained more interest in recent years, owing to the importance that has been given to health and success.

The most essential nutriment of honey is carbohydrates current in the form of fructose and glucose. Honey plays an meaningful performance as an antioxidant, anti-inflammatory, anti-bacterial agent and develop the loyalty of skin grafts and wound healing procedure. The role of honey has been recognized in the scientific information and there is accepted evidence in support of its antioxidant and antibacterial nature, cold prevention, fertility and wound healing setting. The article of this review was examine and highlight the role of honey in contemporary medicine.

Keywords: honey, beekeeping production, modern medicine.

OP.4.34

Research on the valorisation of fish by products

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Abstract

Fish production is intended for human consumption, but large amounts of waste are produced during fish processing. The fish processing industry produces huge amounts of by-products, a major source of environmental pollution. About 75% of the total weight of the fish, in the form of bones, head, viscera, skin and fins, is considered waste. Debris is considered a threat to the environment when disposed of improperly. Although the economic value of secondary products resulting from fish processing is small, they are of significant importance for the food, pharmaceutical and biotechnology industries, due to the high content of biologically active compounds, for example, proteins (enzymes and collagen), protein hydrolysates, lipids (rich in polyunsaturated fatty acids), astaxanthin and chitin.

The paper proposes an analysis of the possibilities of superior valorization of fish products, by obtaining functional products. The research carried out is part of the applied part of the postdoctoral research

Keywords: fish, byproducts, valorization

Acknowledgments

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OP.4.35

Digitization of public procurement, a factor of investment growth

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Abstract

The increase of efficiency in public procurement is an ambition of every contracting authority, but also a necessity in achieving the objectives established by the National Recovery and Resilience Plan. Analyzing the way public procurement is carried out in Romania, through the Electronic Public Procurement System, the study examines the possibility of digitizing all processes in this field (from identifying the demand to the issuance of the final product supply document). The objective of the research is to determine the obstacles faced by the contracting authorities and economic operators in the computerization of all activities involved in the completion of purchases, as well as solutions to remove these barriers. The results of the study may be of interest to the participants in public procurement for determining the benefits granted by the digitization of processes, but also for establishing some directions for amending the applicable legislation, such as the imposition of electronic forms at a national level.

Keywords: public procurement, digitalization, barriers, processes

OP.4.36

The impact of Covid-19 and the Ukrainian regional crisis on the effectiveness of agricultural payment schemes in the Republic of Moldova

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Abstract

The current economic climate in the Republic of Moldova was directly influenced by the Covid-19 pandemic, and updated by the Ukrainian crisis that culminated in Russia's military conflict over Ukraine. Starting from the analysis of economic interdependencies between the Republic of Moldova - Ukraine - EU, the national economy has proven to be vulnerable to effectively respond to economic crises in the conditions of pandemic crises and the regional economic climate of the escalation of the crisis in Ukraine. The paper proposes an approach and analysis of the impact of government measures through subsidy schemes in agriculture. To the detriment of the existence of subsidy schemes, the government authorities that manage the FNDAMR fund did not respond effectively during the Covid-19 period. The payment of subsidy payments with long delays, in response to anti-crisis measures, led to a low discounted subsidy value on the government payment date.

Keywords: Covid-19, agricultural subsidy, reference rate.

SECTION 5

ADVANCED RESEARCH IN ELECTRICAL / ELECTRONIC ENGINEERING, SYSTEM ENGINEERING AND INFORMATION TECHNOLOGIES

OP.5.1

Comparative assessment of homomorphic encryption algorithms applied to biometric information

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Abstract

Our main contribution in this paper is to provide preliminary research regarding the implementation and evaluation of a hybrid mechanism of authentication based on fingerprint recognition interconnected with RFID technology, using Arduino modules, that can be deployed in different scenarios, including secret classified networks. To increase the level of security, enhance accessibility and convenience in the process of authentication, we perform a comparative assessment between two homomorphic encryption algorithms, the Paillier partial homomorphic algorithm and Brakerski, Gentry and Vaikuntanathan fully homomorphic encryption scheme, applied to biometric templates extracted from the device mentioned above, employing histogram analysis, mean square error (MSE), peak signal-to-noise ratio (PSNR), number of pixel change rate (NPCR), unified average changing intensity (UACI), correlation coefficient, and average encryption time and dimension. From security and privacy perspectives, the present findings suggest that the designed mechanism represents a reliable and low-cost authentication alternative that can facilitate secure access to computer systems and networks and minimize the risk of unauthorized access.

Keywords: Security, Paillier cryptosystem, BGV algorithm, Arduino modules, encryption assessment

OP.5.2

Analysis of active three-phase power filters

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Abstract

This paper presented research on active three-phase power filters, which are used to improve power quality in three-phase systems. We presented the basic components and topologies of three-phase active power filters, including series, parallel, and hybrid three-phase active filters. We also presented about the performance characteristics of three-phase active power filters such as quality factor and damping factor.

We presented the advantages and disadvantages of three-phase active filters and compared them with passive filters. We also mentioned the practical applications of three-phase active power filters, such as use in power generation and industrial applications.

I presented on the design and simulation of active three-phase power filters using programs such as MATLAB/Simulink and presented a source of information on the subject. We conclude by discussing future research directions in this area, which include the development of more advanced technologies to improve power quality and the wider integration of three-phase active power filters in power systems.

One of the research directions would be the development of new three-phase active filter topologies that have improved performance characteristics in terms of removing certain types of voltage or current distortions from the three-phase network. Three-phase active filters could also be developed that could be used in applications other than those currently in place.

Another direction of research would be to optimize the design of three-phase active filters, by using more efficient algorithms for their simulation and analysis. One can also try to optimize the costs and efficiency of these filters by selecting the best components and construction technologies.

In addition, it would be useful to research the application of three-phase active power filters in smart grids and their integration with other power grid control and monitoring equipment. Also, the possibility of using three-phase active filters in renewable electricity storage and distribution applications can be investigated.

OP.5.3

Nuclear electromagnetic pulse and risks to communications systems on board military ships

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Abstract

The use of nuclear electromagnetic impulse (EMP) as an attack weapon is part of the military doctrines of Russia, China, North Korea and Iran and is seen as a revolutionary new way of warfare that can be used both against infrastructure and military forces as well as on civilian critical infrastructures. In the previously mentioned countries it is also called Total Information Warfare, Electronic Warfare, NonContact Warfare, Cyber Warfare and Sixth Generation Warfare. In U.S. publications analysts also call it Combined-Arms Cyber Warfare, Cybergeddon or Blackout War. Depending on the emission power, such weapons are capable of suppressing practically all classical electronic equipment by structural changes of electronic elements and even causing metal melting or evaporation from printed circuit boards.

This article aims to present the main types of nuclear electromagnetic pulse, their characteristics and mode of action as well as the main protective measures that must be taken into account to limit the negative effects on the radio communication equipment on board a military ship.

Keywords: nuclear electromagnetic impulse (EMP), military ship, radio communication equipment, electromagnetic compatibility.

OP.5.4

Algorithm for determining the spatial distribution of the dispersion magnetic field produced by electric machines

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Abstract

The loss of the flagship of the Russian Military Fleet in the Black Sea, a ship just out of a modernization process, shows once again the special importance of the operation of the entire apparatus at optimal parameters. In order to achieve this, in the process of modernizing a ship, it is imperative to observe the principles, measures and rules of electromagnetic compatibility (EMC). Thus, the introduction of new equipment can only be done after a thorough analysis of the electromagnetic environment (EME) in which they will operate, as well as the way in which these newly introduced equipment affect the existing electromagnetic environment.

This paper presents an algorithm for determining the spatial distribution of the dispersion magnetic field that can be generated by the electrical machines on board a military ship. The algorithm is based on the principle of secondary sources, having as input data the values of the magnetic field measured in the vicinity of the primary sources - the electric machines and considering the experimental data as secondary sources of the field.

Keywords: electromagnetic compatibility (EMC), dispersion magnetic field, electric machine, military ships.

OP.5.5

The optimization of the operating regime of a three-phase medium voltage asynchronous motor serving a high pressure pump

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Abstract

The current economic and financial context requires the economic environment to look for and adopt technical solutions to optimize the energy consumption of all industrial installations and especially installations with high energy consumption.

The most efficient solution to optimize the operating regime of a 1.9 MW three-phase asynchronous motor powered at 6 KV is to use a medium voltage drive and a software controller provided by a PLC part of the production process.

The operating regime of the pump-motor assembly is dictated by the dynamic working regime of the descaling process, part of a production process.

The efficiency of the working regime and the energy consumption requires the analysis of the operating parameters of the motor at variable torque and variable speed, parameters required by the dynamic operating regime of the pump and provided by the drives. The analysis also considers the comparison of the motor operating parameters obtained by testing the controller in accordance with the dynamic environment of the technological process.

Keywords: Three-phase asynchronous motor, Operating regime optimization, High pressure pump, Medium Voltage Drives, Controller

OP.5.6

Marine telepresence system

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Abstract

The idea of using head mounted displays (HMD) for various purposes has long been around in science fiction culture, as in Figure 1.1 where Michael J. Fox is seen wearing a HMD to watch TV in the movie Back to the future II (1989), where the plot is a time travel to year 2015. The movie got this part of futuristic technology quite right, though they missed with predicting hovering skateboards and time machines. Today, some of the largest technology companies in the world (Google, Facebook, Sony, Samsung and Microsoft) are looking into producing HMDs. The idea for this master thesis originally occurred after seeing a video (Urke, 2014) of a tank from the Norwegian Army being driven with hatches closed, but able to have a 360 degree view around the tank using an Oculus Rift and a camera system.

Keywords: HMDS, HMD.

SECTION 6

FUTURE OF ECO-NANOTECHNOLOGIES, FUNCTIONAL MATERIALS AND COATINGS

OP.6.1

Polyvinylidene fluoride membranes obtained by electrospinning

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Abstract

The paper presents a series of preliminary results in obtaining nanofibrous membranes based on polyvinylidene fluoride (PVDF) with applications like medical, optical, and environmental remediation [1-3]. The study was carried out to explore the possibility of using the polymers as a carrier for nanoparticles. The solvent concentration was varied during the experiment. The membranes fiber diameter was measured to understand the effect of the solvent. The Scanning Electron Microscopy (SEM) images revealed significant fiber diameter modification. According to the measured tensile-strain curve, the PVDF membrane showed a typical thermoplastic behaviour.

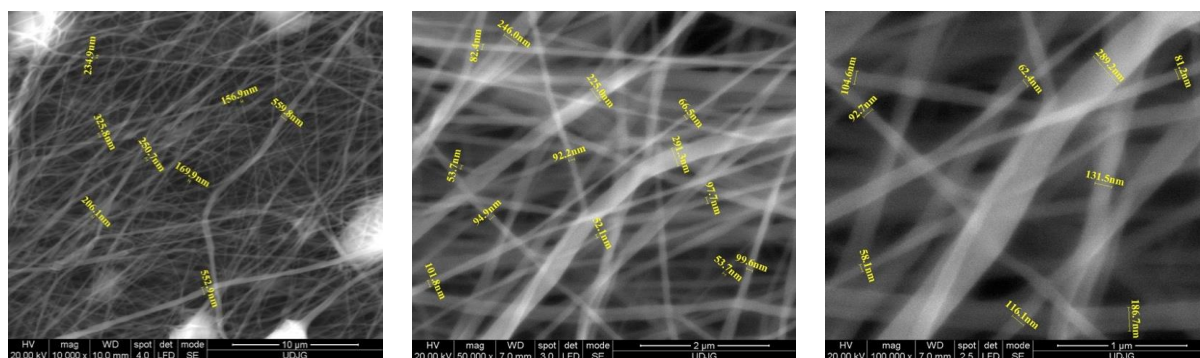


Fig. 1. Top-view SEM images of obtained membranes, depending on the solvent concentration

Keywords: electrospinning, fibre-based membrane, PVDF

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OP.6.2

Mathematical modeling of the CuSn12 alloy sintering process

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Abstract

The purpose of this study is to use statistical methods, namely active experimental regression analysis, to forecast the size of the intergranular sintering bridge by mathematically modeling the sintering process as it is applied to the CuSn12 alloy powder. A first-order linear design method was used to characterize the correlation between the intergranular sintering bridge and the sintering parameters (temperature and sintering time). Using the free casting of the powder into graphite shapes, nine experiments were scheduled. Following sintering, the intergranular sintering bridge was evaluated metallographically using image analysis software. In order to optimize the sintering process, a regression equation has been established by mathematical modeling that predicts the size of the intergranular bridge with sintering parameters (temperature and time) with a high probability (>95%), within the experimental limits.

Keywords: CuSn12 powder, sintering intergranular bridge, mathematical model.

OP.6.3

An investigation of antimicrobial activity of the chitosan membranes with mistletoe extracts

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Abstract

Chitosan-based materials can be manufactured into different shapes and sizes, such as nanofiber, nanoparticles, microspheres, membranes, and 3D printed scaffolds. In the addition, chitosan can be modified through physical, chemical, and biological modifications, to obtain versatility chitosan-based materials [1]. The use of chitosan-based materials is very promising due to the good filmability of chitosan leading to relatively simple production of films and coatings that could be incorporated with various biocomponents [2]. Our paper aims at the physico-chemical characterization of chitosan membranes incorporated with mistletoe extracts. The samples were characterized for structure by Fourier Transform Infrared Spectroscopy (FTIR), morphology by Scanning Electron Microscopy

(SEM) coupled with Energy Dispersive X-ray analysis (EDX) to provide elemental and quantitative compositional information. The swelling percentage was estimated based on weight of membranes before and after swelling. The antimicrobial properties of the membranes were studied against *Escherichia coli*, *Listeria monocytogenes* and *Staphylococcus aureus*, noting that the activity of chitosan is inhibited by adding mistletoe extracts to the composition of the membranes.

Keywords: chitosan membranes, mistletoe extracts, structure

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OP.6.4

Chitosan hydrogels as biomaterials for medical applications-an overview

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Abstract

Biomaterials have an important role in the medical applications, the mutual reaction between the biomaterial and the body can be beneficial or harmful; biocompatibility is an essential characteristic that must be analyzed in the clinical applications and it is related to the behavior of biomaterials in various contexts [1]. Hydrogels have been recognized as crucial biomaterials in the field of tissue engineering, regenerative medicine, and drug delivery systems due to their specific characteristics. Chitosan hydrogels represent a valuable candidate due to the relationship between the molecular structure of chitosan and all the major biological properties in human wound healing (antimicrobial, antitumor, immunomodulatory, coagulation and wound healing and regeneration promoting effects) [2]. Biological and physicochemical advantages in diverse functional materials (liquid forms, gels, powders, granules, films, tablets, capsules, microspheres, microparticles, sponges, nanofibers, textile fibers, composite, inorganic materials) make the chitosan a versatile material (with changing properties) with wide application in biomedical field. Each form of prepared chitosan is associated either physically or chemically with a network to form hydrogels.

Keywords: chitosan, biomaterial, hydrogels, medical applications

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SECTION 7

CHEMISTRY - ELECTROCHEMISTRY IN LIFE SCIENCES

OP.7.1

Authenticity of olive oil: classification of botanic and geographic origins and detection of adulteration based on phenolic compounds composition coupled with chemometric analysis

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Abstract

Olive oil, including virgin olive oil (VOO) and extra virgin olive oil (EVOO) is a high nutritional natural product with multiple therapeutic properties, which contain bioactive compounds such as monounsaturated and polyunsaturated fatty acids, vitamins, pigments, phenolic and triterpenic compounds. The high nutritional value of olive oil associated with high production costs and increased demand, make olive oil one of the most targeted products for counterfeiting. Mislabeling, false declaration of botanic and geographical origins and substitution with other types of oil are the main types of adulteration of olive oil. Thus, the authenticity of EVOO and VOO is of major importance for both, health-related and financial reasons. Various analytical techniques, able to detect possible adulteration and consequently ensure olive oil quality and authenticity have been developed. This work presents the discrimination of botanical and geographical origins of olive oils and the detection of extra virgin olive oils adulterated with different percentages of corn oil based on minority phenolic and triterpenic composition. Phenolic acids and alcohols, flavonoids, secoiridoids and triterpenic acids composition of different vegetable oils was performed by HRMS analysis after the appropriate extraction protocols. The resulted analytical data were processed using multivariate statistical analysis. Principal component analysis (PCA) and heat map analysis allows a clear discrimination of EVOO and VOO from other types of oils obtained from seeds and nuts. Cinnamic and p-coumaric acids, apigenin, pinocembrin, maslinic acid, and hydroxytyrosol, as well as simple secoiridoids and derivatives (such as elenolic acid, ligstroside and oleocanthal) represent olive oils specific biomarkers that can be considered as tracers for botanical origin. Sunflower and corn oils can be considered as potential adulterants of EVOO by adding them, in different percentages to EVOO, detection being possible for falsification percentages higher than 3%

Keywords: olive oil, HRMS analysis, phenolic compounds

Acknowledgements: *This work was supported by a grant from the Romanian Ministry of Education and Research, CNCS—UEFISCDI, project number PN-III-P4-ID-PCE-2020-0923, within PNCDI III*

OP.7.2

Electrochemical peptide-based Sensor for direct detection and quantification of verbascoside in extra virgin olive oil

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Abstract

Verbascoside, a representative phenylethanoid glycoside, is widely distributed in plants and has various activities beneficial for human health, including antioxidant, anti-inflammatory and antineoplastic properties in addition to numerous wound-healing and neuroprotective properties. Hence, there is a need for detection and quantification of verbascoside concentration in various food sources, such as extra virgin olive oil. In this study the development of a novel electroanalytical method for the sensitive and accurate detection of verbascoside was described. A new sensor based on a zwitterionic peptide attached via a cross-linking agent to the surface of the screen-printed carbon electrode modified with a graphene oxide composite film was developed and characterized. The redox activity of the studied compound was observed at the electrode surface when cyclic voltammetry was used as detection technique. We have demonstrated that the strong interaction between the immobilized peptide on the surface of the sensor and verbascoside favors the addition of the active compound on the surface of the electrode, leading to an efficient preconcentration that determines a high sensitivity of the sensor for its detection. Moreover, by means of the DPPH method, the antioxidant activity of the compound was determined, thus demonstrating the antioxidant effect of verbascoside in all olive oil samples studied. Accordingly, the developed method could represent a valuable alternative for the analysis of antioxidants in complex samples than the classical spectrophotometric method that is prone to interference from colour and turbidity of the samples and also usually requires pre-treatment of the complex samples.

Keywords: verbascoside, cyclic voltammetry, peptide, graphene oxide, olive oil.

Funding: This work was supported by a grant from the Romanian Ministry of Education and Research, CNCS—UEFISCDI, project number PN-III-P4-ID-PCE-2020-0923, within PNCDI III.

OP.7.3

Nanomaterial-based electrochemical sensors for antioxidant activity evaluation and discrimination of vegetable oils

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Abstract

This work proposes a new methodology based on electrochemical measurements for the classification and discrimination of different vegetable oil samples with respect to biological or geographical origin. This method uses voltammetric electrodes modified with carbonaceous nanomaterials and gold

nanoparticles. The electrochemical responses of such electrodes, in the form of complex voltammograms, have been exploited to discriminate oil samples. The characteristics highlighted in voltammograms are related to the redox properties of the electroactive compounds, mainly phenolics, existing in the oils. In addition, the correlation between the voltammetric responses of the sensors at a specific potential and the antioxidant activity of the oils' hydrophilic fraction as determined by conventional spectrophotometric methods (1,1-diphenyl-2-picrylhydrazyl (DPPH) and galvinoxyl) is also discussed. Following the determinations made in this study, it can be concluded that electrochemical sensors can be useful for estimating the antioxidant activity of different types of oils, but also that they can be used for the discrimination and classification of vegetable oils.

Keywords: phenolic compound, olive oil, electrochemical sensor, antioxidant activity, data analysis

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OP.7.4

Magnetic nanoparticles as inhibitors of biofilm, quorum-sensing and swarming motility in pathogenic bacteria

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Abstract

Resistance to antibiotics by pathogenic bacteria constitutes a health burden and nanoparticles (NPs) are being developed as alternative and multipurpose antimicrobial substances. Magnetite (Fe₃O₄ np), manganese ferrite (MnFe₂O₄ np) and nickel ferrite (NiFe₃O₄ np) nanoparticles were synthesized and characterized using thermogravimetric analysis (TGA), transmission electron microscopy (TEM), Fourier transformed infra-red (FTIR) and X-ray diffraction (XRD). The minimal inhibitory concentrations (MIC) ranged from 0.625 mg/mL to 10 mg/mL against Gram-positive, Gram-negative and candida species. The nanoparticles exhibited violacein inhibition against *C. violaceum* CV12472 of 100% at MIC, and reduced to 27.2±0.8% for magnetite NPs, 12.7±0.3% for manganese ferrite NPs and 43.1±0.2% for nickel ferrite NPs at MIC/4. Quorum-sensing (QS) inhibition zones against *C. violaceum* CV026 were 12.5±0.6 mm for Fe₃O₄ np, 09.1±0.5 mm for MnFe₃O₄ np and 17.0±1.2 mm for NiFe₃O₄ np. The nanoparticles inhibited swarming motility against *P. aeruginosa* PA01 and biofilm against six pathogens and the Gram-positive biofilms were more susceptible than the Gram-negative ones. The NiFe₂O₄ np had highest antibiofilm activity against Gram-positive and Gram-negative bacteria as well as highest QS inhibition while Fe₃O₄ np had highest biofilm inhibition against candida species. The synthesized magnetic nanoparticles can be used in developing antivirulence drugs which reduce pathogenicity of bacteria as well as resistance.

Keywords: Magnetite nanoparticles, manganese ferrite nanoparticles, nickel ferrite nanoparticles, antimicrobial activity, antibiofilm activity, swarming inhibition

OP.7.5

Evaluation of the potential effects of natural honey samples on microbial quorum-sensing

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Abstract

The hypothesis of antibiotic effects of honey has been developed since antiquity, maybe due to the fact that the hive is always free from infections. Natural honey exhibits a broad-spectrum of antibacterial activity against Gram-positive and Gram-negative bacteria and has shown potency against resistant strains and is used in medical treatments and the preservation of foods. In this study, six honey samples (denoted SB, KOM, NGDAL, FR and OKU) were collected from Cameroon and their aroma profiles determined using GC-MS while their phenolic components were evaluated using HPLC-DAD. Minimal inhibitory concentrations (MIC) values of honey samples against *Chromobacterium violaceum* CV12472 varied from 0.625-1.25 µg/mL while against *C. violaceum* 026, it ranged from 0.625-2.5 µg/mL. All samples inhibited violacein production in CV12472 at MIC, MIC/2 and MIC/4. Against CV026, only SB, FR and OKU showed quorum-sensing inhibition zones at MIC/2 and only the OKU sample inhibited QS at MIC/4. The KOM sample had best violacein inhibition while the OKU sample had best quorum-sensing inhibition. All samples inhibited swarming motility in flagellated *Pseudomonas aeruginosa* PA01 at MIC and MIC/2 and only KOM, NGDAL and FR samples inhibited swarming at MIC/4. Conclusively, these assays give indication of quorum sensing in bacteria which are used in controlling a series of virulence factors and increasing pathogenicity of bacteria and severity of infections. Inhibiting QS can reduce resistance and virulence of bacteria and thus is a new strategy of stopping the adverse effects of bacteria and avoiding resistance.

Keywords: Honey, aroma profiles, violacein inhibition, quorum-sensing, swarming inhibition

OP.7.6

***In vivo* hepatoprotective potential of the aqueous extract of *Cassia sieberiana* DC leaves used in the traditional treatment of hepatitis in the Hauts-Bassins region of Burkina Faso**

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Abstract

The liver is one of the largest organs in the human body. It plays a key role in the process of metabolism and detoxification. These complex functions make the liver vulnerable to microbes and toxic compounds, causing liver dysfunction. *Cassia sieberiana*, from the Fabaceae family, is widely used in the treatment of hepatitis in the Hauts-Bassins region. The aim of the present work was to evaluate the *in vivo* hepatoprotective potential of the aqueous extract of *Cassia sieberiana* leaves (100, 200 and 400 mg/kg body weight) in paracetamol-induced hepatotoxicity in mice. The acute toxicity study showed no observed effects above 2000 mg/kg body weight. Pretreatment of mice with the aqueous extract of *Cassia sieberiana* leaves and silymarin significantly prevented the elevation of serum and tissue levels of alanine aminotransferase (ALT), aspartate aminotransferase (AST), and alkaline phosphatase (ALP). However, the dose of 400 mg/kg body weight of the aqueous extract of *Cassia sieberiana* leaves showed an even better effect than silymarin (100 mg/kg). The hepatoprotective activity of the aqueous extract was dose-dependent. This study confirms the preventive effect of the aqueous extract of *Cassia sieberiana* leaves against liver toxicity induced by paracetamol.

Keywords: Paracetamol, hepatoprotector, *Cassia sieberiana*, silymarin, toxicity, liver.

OP.7.7

Phytochemical and biological activity of extracts from *Ampelocissus africana* (Lour) Merr plant used in Burkina Faso traditional medicine

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Abstract

Ampelocissus africana (Lour) Merr is a plant used in traditional medicine in Burkina Faso to treat wounds, edema, drops, infections. Objectives: To investigate on phytochemical and pharmacological effects of methanolic and aqueous extracts from *Ampelocissus africana* (Lour) Merr rhizomes. Methodology & Results: Polyphenols, tannins, flavonoids, triterpenes and sterols were assayed using standard methods. The acute toxicity was performed under OECD 423 guidelines. No mortality of mice were observed at dose of 2000 mg/kg b.w. The anti-inflammatory activity was evaluated *in vivo* using carrageenan-induced paw edema of mice at the doses to 50, 100, 200, 400, 600 mg/kg body weight (bw). The tests were showed that the extracts exerted significant dose-dependent anti-inflammatory responses in the paw induced by carrageenan (from 37 to 72.90 percent inhibition). The antinociceptive activity of the extracts was determined using acetic acid in mice. The extracts significantly reduce abdominal contractions (from 25.10 to 63.08%). Conclusion & Applications: This study suggested that the extracts from the rhizomes of *Ampelocissus africana* possessed anti-inflammatory and antinociception effects in mice. These effects could justify the uses of this plant in traditional medicine.

Keywords: medicinal plant, phytochemical dosage, biological activity, Burkina Faso.

OP.7.8

Ethnobotanical survey on the recipes of medicinal plants used in the treatment of gastroduodenal ulcers in Burkina Faso

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Abstract

Peptic ulcer disease is a real social scourge in developed and developing countries. Objectives: This study is part of establishing a catalog of recipes for medicinal plants with anti-ulcer activity. Methodology & Results: The method of approach was a semi-structured interview carried out with

traditional healers in four (04) different cities. At the end of the study, 290 traditional health practitioners were surveyed, 111 recipes for medicinal plants used in the treatment of peptic ulcers were also identified. The barks (31%) were the most used organs and the decoction (70%) was the predominant mode of preparation administered mainly orally (47%). Conclusion & Applications: This study is a very valuable source of information for further research in the field of phytochemistry and pharmacology for the search for improved traditional medicines that Africa needs for these endemic pathologies.

Keywords: peptic ulcer disease, ethnobotanical survey, traditional health practitioners, medicinal plant recipes.

OP.7.9

Action of *Sarcocephalus latifolius* on renal mechanisms in Wistar rats

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Abstract

The action of *Sarcocephalus latifolius* on renal mechanisms was studied in rats through the urinary ion balance. The protocol developed required the oral administration of water in which the plant preparation was dissolved. A synthetic diuretic, furosemide was tested in order to validate the method and to obtain a reference model. The evaluation of the effect of the aqueous extract of *Sarcocephalus latifolius* roots on the mechanisms of renal reabsorption was done by a diuretic pharmacological method. The doses of 100, 200 and 300 mg/kg body weight were tested in wistar rats. Determinations of parameters were made on urine 8 and 16 hours after esophageal gavage. The parameters of treated rats were performed before gavage and 24 hours after gavage. The results showed that the extract reduces glucose, bicarbonate ion and some Na⁺, Ca²⁺ and K⁺ and Cl⁻ ions in the urine filtrate. The extract at 100 mg/kg was effective in activating the symport.

At this dose the action of the extract was more pronounced and the percentage of elimination of the overload after 7 hours of administration is 18.63% *Sarcocephalus latifolius* batch, 17.72% control batch and 36.74% furosemide batch (synthetic diuretic).

The extract has a slow and less pronounced diuretic action compared to furosemide. The 8h urine assay showed that at the 100mg/kg body weight dose, there is more elimination of creatinine and urinary urea after 8 hours of administration. The results obtained with the 200mg/Kg body weight dose of the extract lead to think about the activation of the Na⁺/K⁺/Cl⁻ symport on the basal membrane. These various mechanisms observed could place *Sarcocephalus latifolius* as a traditional medicine in the treatment of oedema and blood pressure.

Keywords: *Sarcocephalus latifolius*, diuretic activity, renal reabsorption mechanisms, Na⁺/glucose symport, Na⁺/K⁺/2Cl⁻ symport

OP.7.10

Photoluminescent copper (I) and zinc (II) complexes for fluorescent detection of antibiotic and antiinflammatory drugs

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Abstract

The past few decades have witnessed an increasing interest in the chemistry of d^{10} metal systems because of their rich photochemical properties, catalytic applications and use in drug discovery. In recent years we have undertaken a systematic exploration of the structural features displayed by mixed-ligand compounds of diverse coinage metal salts with (substituted) (pyridine, in the main) nitrogen and tertiary (tri-aryl) phosphorus donors with diverse profiles and electronic characteristics, together with the influence of the counterions, the metal/ligand ratios, metal coordination number, stereochemistry and nuclearity, and the consequences for the physicochemical properties of the final compounds. The present work presents two series of complexes based on copper(I) iodide and zinc(II) bromide with combinations of phosphorus- and nitrogen-donor ligands, displaying photoluminescent properties (Figure 1), which will be subjected to fluorescent detection investigations for some pharmaceutical substances from the antibiotic and antiinflammatory classes.

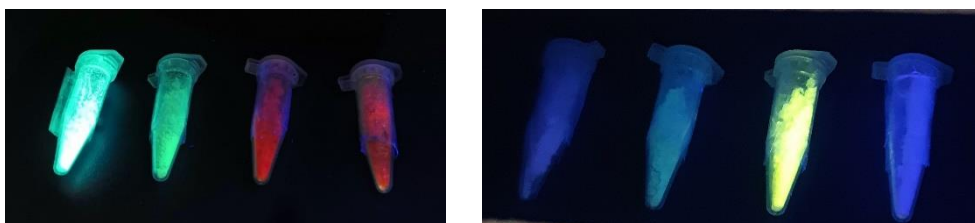


Figure 1. Photoluminescence effects of copper(I) complexes (left) and zinc(II) complexes (right) incorporating P,N-donor ligands

Keywords: copper(I), zinc(II), P,N-donor ligands, photoluminescence, drugs detection

OP.7.11

Evaluation of the synergistic antioxidant effect of essential oils from plants of the Lamiaceae family mixed with *Carum carvi* oil

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Abstract

Plants with a high content of secondary metabolites may exhibit valuable antioxidant activity [1]. Organic compounds of plant origin have been shown in many studies to exert many biological activities [2]. This study aimed to evaluate the antioxidant properties of the essential oils of *O. basilicum*, *O. citriodorum* and *A. foeniculum*, as individual samples and also in combination with the essential oil from *Carum carvi*. When some compounds with antioxidant properties are combined, interactions may occur that exhibit different effects that may be synergistic, antagonistic, or additive. A synergistic effect would enhance antioxidant activity and thus make it possible to use lower doses of each extract from various plants and prevent the side effects of using large amounts of individual plant extract [3]. The essential oils of *O. basilicum*, *O. citriodorum* and *A. foeniculum* showed antioxidant activity against DPPH• free radicals. Also, the essential oils of *C. carvi*, *I. verum* and *P. anisum* showed a very good DPPH radical inhibition activity, higher than the other samples analyzed from the plant species of the Lamiaceae family. Specific combinations have been evaluated at different concentrations that may show interactions (by the DPPH method) due to their chemical compositions. Combining the essential oils from the analyzed species with *Carum carvi* oil led to an increase in the antioxidant activity. Therefore, the combination of each two types of volatile oil in various proportions resulted in a synergistic antioxidant effect determined by the DPPH method. These mixtures of essential oils may encourage the use of natural antioxidants as adjuvants to synthetic antioxidants in the prevention and treatment of oxidative stress-induced conditions.

Keywords: essential oil, antioxidants, synergism.

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OP.7.12

Chemically modified screen-printed carbon electrodes for detection of diclofenac

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Abstract

In recent years the studies for the development of screen-printed carbonaceous electrodes based sensors significantly increased because of their wide range of application fields. The determination of active compounds with sensors in different samples such as pharmaceutical ones, due to their fast response, chemical stability, commercial availability, reduced costs and low toxicity, are making this method an environmentally friendly one. In this work is presented the use and characterization of screen-printed carbon electrodes, screen-printed graphene oxide electrodes and screen-printed phenanthroline electrodes. The characterization of the sensors was carried out by cyclic voltammetry in 10^{-3} M potassium ferrocyanide solution. The cyclic voltammograms have shown one peak pair related with the redox process of the ferrocyanide ion at the electrode surface. From the kinetics studies the active surface of the electrodes were calculated and it is larger for the modified electrodes, the highest being in the case of graphene oxide electrodes. The preliminary studies in 10^{-3} M diclofenac solution have shown two peaks pairs related to the oxido-reduction process of this active compound (Figure 1).

Keywords: screen printed electrochemical sensors, diclofenac, modified carbon electrodes

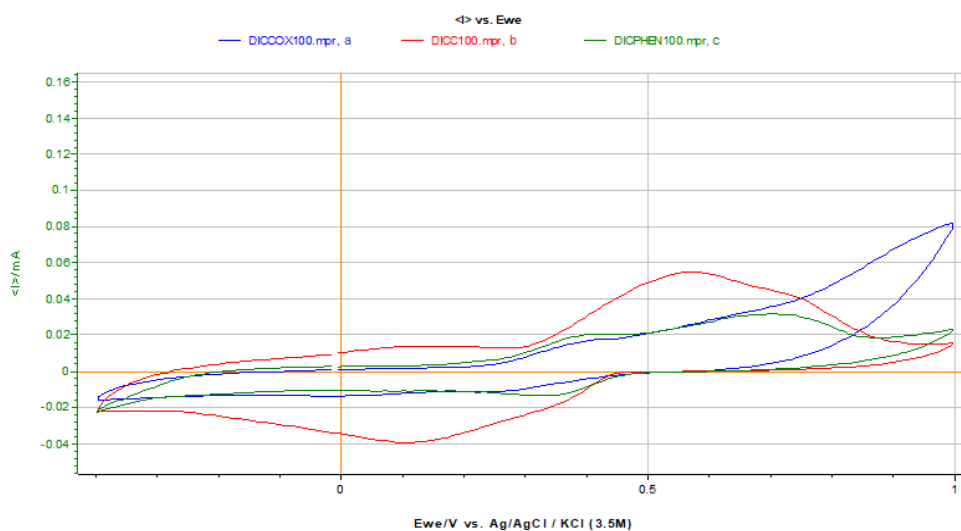


Figure 1. Cyclic voltammograms of screen-printed carbon electrode, screen-printed graphene oxide electrode and screen-printed phenanthroline electrode in 10^{-3} M diclofenac solution

OP.7.13

Sreening and quantitative determination of pytochemicals from leaves and roots of *Iris pseudacorus* from Danube Delta Biosphere

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Abstract

Iris pseudacorus is one of the most widespread *Iris* species and possesses complex secondary metabolites including saponins, flavonoids, hydroxycinnamic acids, γ -pyrones, tannins, isoflavonoids and polyphenolic compounds. From these metabolites, saponins are a diverse group of compounds widely distributed in the plant kingdom, which are characterized by their structure containing a triterpene or steroid aglycone and one or more sugar chains (1). The saponins from *Iris pseudacorus* have various applications such as pharmaceuticals and plant growth regulators (2, 3). In this study we have obtained different fractions from leaves and roots of the plant using different polar and non-polar solvents. The fractions were characterized from the point of view of the classes of phytochemical compounds and also the total saponins were quantified.

Keywords: *Iris pseudacorus*, saponin quatification, phytochemical compounds.

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OP.7.14

**Cytotoxic effect and anti-inflammatory, anti-colon cancer property of
[*Vigna radiata* (L.) R. Wilczek]**

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Abstract

Chronic non-communicable diseases are becoming more and more recurrent and require the addition of functional foods in our eating habits. Legumes due to their composition in biomolecules could meet this need. The objective of this study was to evaluate the cytotoxicity of *Vigna radiata* and to study its biological properties such as anti-inflammatory and anti-cancer activity of the natural and sprouted seeds. The cytotoxicity of the extracts was tested on *Artemia salina* larvae and the anti-inflammatory activity was evaluated *in vitro* by albumin denaturation method using diclofenac as reference molecule. The anti-cancer activity of hydro-ethanol extracts was evaluated on rats made cancerous with 1,2 Dimethylhydrazine (DMH) using 5-fluorouracil as reference molecule. The results showed that the highest yield of plant extraction was observed with hydro-ethanolic solvent for both natural form (MBN) and the germinated form (MBG). The cytotoxicity test showed no toxicity of the extracts towards shrimp larvae. The ethanolic extract of germinated mung bean seeds gave the highest anti-inflammatory activity at $95.13 \pm 0.22\%$ inhibition with significant difference ($p < 0.05$) between the extracts. Cancer induction with DMH was inhibited by both MBN and MBG extracts. The test of preventive effects of the extracts showed the best activity with significant difference in biochemical results. As a non-toxic legume, these results confirm that *Vigna radiata* is a functional food that can be integrated into the population's dietary habits for a double interest. Moreover, they open perspectives for the research of active principles of plant origin with anti-inflammatory and anti-cancer properties.

Keywords: Mung bean, Phytochemical, Plants extracts, Biological activities

OP.7.15

Dosage of polyphenolic compounds and evaluation of antioxidant activity of *Plantago major* L. Extracts obtained with natural deep eutectic solvents

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Abstract

According to the World Health Organization's (WHO) 2019 recommendations, incorporating natural sources of antioxidants in one's diet can help enhance the immune system. Fruits and vegetables are rich sources of dietary antioxidants that can mitigate the harmful effects of reactive oxygen species (ROS) on cellular macromolecules, including lipids, proteins, and DNA.

Plantain, scientifically known as *Plantago major* L., is a medicinal plant with a plethora of beneficial effects, primarily attributed to its high content of phenolic compounds. These secondary metabolites are widely distributed in the plant kingdom and have been found to exhibit various therapeutic effects, including antibacterial and antifungal properties, among others. As such, plantain has been extensively studied and is considered an important source of natural bioactive compounds with potential health benefits.

The amount of bioactive compounds extracted from plant sources can be affected by a variety of factors, including the properties of the solvent used for extraction, the characteristics of the plant material, and the duration and temperature of the extraction process.

Traditional extraction techniques like maceration and percolation have several drawbacks, including the need for extended time and large quantities of solvents, as well as their poor environmental impact. One alternative method developed for extraction is based on green chemistry and involves the use of green solvents, such as Natural Deep Eutectic Solvent (NADES). NADES has several advantages over conventional organic solvents in terms of physical chemistry, including its non-volatile nature, eco-friendliness, non-toxicity, stable properties at high temperatures, and food-grade status.

In this study, the total polyphenol content in the plant matrix was determined by measuring the optical density of extracts from plantain leaves obtained with NADES, which complex with the Folin-Ciocalteu reagent and absorb in the visible region at a wavelength of $\lambda=750$ nm.

The antioxidant activity of the extracts was studied using the DPPH (1,1-diphenyl-2-picrylhydrazyl) spectrophotometric method, widely used to test the ability of compounds to inhibit free radicals or their capacity to donate hydrogen.

Keywords: Natural Deep Eutectic Solvent (NADES), polyphenols, DPPH, green chemistry

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Tan Phat Vo, Ngoc Duyen Pham, Thuy Vy Pham, Hoang Yen Nguyen, Le Thao Vy Vo, Thi Ngoc Huyen Tran, Tri Nguyen Tran, Dinh Quan Nguyen, Green extraction of total phenolic and flavonoid contents from mangosteen (*Garcinia mangostana* L) rind using natural deep eutectic solvents, *Heliyon*, Volume 9, Issue 4, 2023.

OP.7.16

Estimating of antioxidant and *In Vitro* anti-inflammatory activities of *Hexalobus monopetalus* (A. Rich.) Engl. & Diels (HM) Extracts

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Abstract

This present work concerns the phytochemical and pharmacological research of *HM* extracts. *HM* is a species of medicinal plants used in traditional medicine in Chad where several difficulties make the population resort to plants in case of disease [1,2]. After extractions by solvents of increasing polarity, a qualitative screening was performed by Thin Layer Chromatography (TLC) and then total polyphenols and total flavonoids were assessed following the protocol defined by M. Cudalbeanu et al [3]. Antioxidant activity was evaluated using two techniques, the DPPH test and the ABTS test [3]. The *in vitro* evaluation of the anti-inflammatory activity consisted in the albumin denaturation [4]. Phytochemical screening by TLC revealed several spots characterizing several chemical families. The results of the biological screening would be explained by the presence of these families and particularly by the phenolic compounds quantified in the extracts. These results would justify the use of *HM* in traditional medicine.

Keywords: Phytochimie, antioxidant, *In Vitro* anti-inflammatory activity, *Hexalobus monopetalus*

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OP.7.17

Phytochemical composition and *in vivo* antidiabetic activity of *Corchorus olitorius* L variety: most consumed in Côte d'Ivoire

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Abstract

This paper presents the research on the phytochemical, antioxidant and antidiabetic activity of the cultivar of *Corchorus olitorius* most consumed in Côte d'Ivoire. It is a leafy vegetable of the Malvaceae family but even neglected in Côte d'Ivoire (Harouna Dieté et al., 2023). With the aim to valorize this underused leafy vegetable in Côte d'Ivoire in order to bring the population to increase their consumption frequency. Cultivars of *Corchorus olitorius* were collected in the center of Côte d'Ivoire. The polyphenols, flavonoids and tannins content were analyzed as well as antioxidant and antidiabetic activity. It appears from this study that the samples are rich in polyphenols and flavonoids and have better antidiabetic activities. The content of polyphenols (40.37 ± 1.71 mg Eq GA/g extract) and for flavonoids (417.5 ± 28.9 mg Eq Q/g extract). It is rich in narigin, rutin and hiperosid. Analysis of the antioxidant activity of the extract revealed an IC_{50} by ABTS from 16.15 ± 0.87 . The extract significantly reduces blood sugar, triglyceride and cholesterol levels. An increase in the frequency of consumption of this vegetable would contribute to the prevention of diseases caused by oxidative stress (type 2 diabetes). An evaluation of the effect of cooking would be very important to value this vegetable.

Keywords: *Corchorus olitorius* L; antidiabetic activity, phenolic profil and Côte d'Ivoire.

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OP.7.18

Assessment of Palm Oil Mill Effluent biotreatment with *Yarrowia lipolytica* by statistical approach

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Abstract

The palm oil industry is one of the major agro-industries in Republic of Côte d'Ivoire, West Africa. The production of palm oil, generates large quantities of polluted wastewater commonly referred to as palm oil mill effluent (POME). POME contains about 4000–6000 mg/L of oil and grease [1]. The composition of POME are mainly water, oil, suspended solid, dissolved solid and sand, total suspended solids (TSS), as well as cellulose wastes, vegetative matter, colloidal slurry of water and solids including about 2% suspended solids originating mainly from cellulose fruit debris, that is, palm mesocarp [2]. The main aim of the present study was to evaluate the biodegradation potential of *Yarrowia lipolytica* in POME. Furthermore, as statistical modern tools, the Plackett-Burman was used to highlight the limiting factors for the *Yarrowia lipolytica* biodegradation process. A sequential statistical methodology, comprised of Plackett-Burman experimental design, central composite design and response surface methodology, was applied to enhance the biodegradation of POME. Among the tested parameters, the POME concentration, temperature, time, agitation rate and inoculum concentration were identified as the most significant variables that influence the biodegradation process. The present study reports the optimization of the biotechnological conditions in order to improve the biodegradation process, in a Palm Oil Mill Effluent (POME) by using *Yarrowia lipolytica* MIUG D96.

Keywords: POME, biotreatment, *Yarrowia lipolytica*, Plackett-Burman.

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OP.7.19

Optimization and validation of an UPLC-MS/MS method for glyphosate, glufosinate and aminomethylphosphonic acid determination in surface water

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Abstract

Environmental pollutants such as pesticides can be detrimental to the environment and living organisms. The use of broad-spectrum systemic herbicide for crop protection like polar pesticides including glyphosate, glufosinate, phosmet and chlorpyrifos has increased due to their low cost, low persistence in the environment and high efficacy. This class of pesticides constitutes an extremely challenging group in terms of analysis in different environmental matrices due to their physicochemical properties such as high polarity, high water solubility, strong chelating properties and the absence of chromophoric or fluorophoric groups in the molecules. In this work we optimize and validate a method for the simultaneous determination of glufosinate (Glu) glyphosate (Gly), including the Gly metabolite (aminomethylphosphonic acid (AMPA)) at µg/L levels in water samples using UHPLC-MS/MS analysis after preconcentration on AFFINIMIP SPE cartridges and derivatization according to fluorenylmethoxycarbonyl chloride (FMOC-Cl) chemistry. The chromatographic and FullMS-vDIA data acquisition parameters were also optimized. The identification of the analytes was carried out based on the comparison of the retention times with those of the reference substances and by the identification of the molecular ion and the fragments resulting from fragmentation in the positive mode. The method was optimized and suitably validated, with a linear range from 1 to 10 µg/L. Limits of detection and quantification were 0.5 and 1 µg/L for Gly and Glu and 0.1 and 0.5 µg/L for AMPA, respectively. Mean relative recoveries of spiked samples ranged from 90–105% for Gly, 100-105 % for Glu and 95-100 % for AMPA. The validated method will be applied for the determination of Gly, Glu and AMPA in surface water samples collected from an agricultural area. Since typical C18 reversed-phase columns do not have satisfactory retention efficiency due to the charge that polar pesticides possess in the aqueous phase, the use of a porous graphitic carbon column for direct detection of Gly, Glu and AMPA in water samples, without derivatization, will be tested.

Keywords: polar pesticides, UHPLC-MS/MS analysis, derivatization, surface water

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OP.7.20

First chemical and pharmacological investigation of the leaves of *Dionycha bojerii* Naudin (Melastomataceae)

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Abstract

The genus *Dionycha* is endemic to Madagascar and belonging to the melastomataceae family. The chemistry of this family and the genus *Dionycha* is poorly know. There are three species in this genus and our work is focusing on *Dionycha bojerii* use traditionnaly to treat diarrhea disease.

Objective: Research for secondary metabolites, which could be safe as statepoint for the development of a new drug to treat diarrheal diseases.

Methodology & Results: Crude extract, hexanique fraction, Dichloromethane fraction, ethyl acetate fraction and methanolique fraction were prepared for antibacterial test with some bacteria inducing diarhea disease. The isolatation of the pure compound have done with chromatographic methodes : coloumn chromatography, sephadex LH-20 and spectroscopy analysis : NMR, MS. four compounds from Ethyl acetate fraction have affroded.

Conclusion: This study is the first chemical and pharmacological investigation on this plant and give more scientific support for its traditionnal use.

Keywords: Triterpenoids, flavonoids, *Escherichia*, endemic plant, Madagascar.

SECTION 8

RECENT THEORIES IN MEDICAL RESEARCH

OP.8.1

Dipsogenic or central diabetes insipidus – copeptine approach

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Abstract

Introduction: In recent studies, the introduction of copeptine dosing instead of dehydration test which is still the gold standard diagnostic method in adults, is gaining new scientific arguments of being reliable and more acceptable for paediatric patients. In spite of these new diagnostic methods, the simple dosing of baseline copeptin level may not be sufficient for establishing the final diagnosis in young children suffering from a form of partial central diabetes insipidus, primary polydipsia or dipsogenic diabetes insipidus.

Material and methods: In the current project we performed a biochemical analysis of different cases of young children admitted into „St Ioan” Emergency Children’s Hospital, with polyuria polydipsia syndrome (PPS), in order to assess the importance of renal and hypothalamic response after infusion of 3% saline solution to reach the biological level (150mmol/L of seric Na/ 300mOsm/Kg seric osmolarity) for arginine-vasopressine (AVP) pituitary release.

Results and discussions: The total number of young patients admitted for PPS is similar to the general population, being a rare pathology. The selected cases were confirmed with hypoosmolar polyuria, and all other secondary etiologies have been excluded. We performed the saline infusion test followed by copeptine immunoassay dosing, with a positive Pearson correlation ($r = 0.5$) between seric osmolarity and hypernatremia, confirming an important seric stimuli for AVP releasing, which has been measured using a cutoff copeptine level of 3.5pmol/L, for central diabetes insipidus or dipsogenic diabetes insipidus.

Conclusions: Copeptin dosing is a new and more promising diagnostic method especially for children with hydroelectrolytic imbalance, due to inadequate water intake, secondary to an insufficient AVP secretion or due to other psychogenic or habitual behavioural impairment, even in toddlers.

Keywords: arginine-vasopressine, copeptine, diabetes insipidus, dipsogenic diabetes insipidus

OP.8.2

Correlation between PCT values, SOFA score and discharge status of patients with surgical sepsis

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Abstract

Introduction: Sepsis is a major medical emergency that registers worldwide approximately 48.9 million cases and 11 million deaths, representing 19.7% of all global deaths. Procalcitonin (PCT) is a useful biomarker in the early diagnosis, prognosis, monitoring, assessment of disease severity, and guiding antibiotic management in sepsis patients.

Material and method: We conducted a retrospective study which included 125 patients with surgical sepsis aged between 18 and 95 admitted in the Surgical Departments of the County Emergency Clinical Hospital “Sf. Ap. Andrei” Galati between 2020 January and 2021 December. The studied included two groups of surgical patients with sepsis and septic shock. The main objective was the outcome of the patients. We aimed to observe if the values of PCT and SOFA score can contribute to the prognosis of patients with surgical sepsis. Serum levels of PCT were measured and the SOFA score was calculated according to the parameters of the patients. To perform the statistical analysis we used the XLSTAT 2016 software.

Results and discussions: The mean PCT value at admission in the sepsis group (28%, n=35) was 5.98 ng/mL, and in the septic shock group (72%, n=90) it was 40.09 ng/mL. The most significant correlation was between PCT value at discharge with discharge status ($r = 0.334$; $p < 0.0001$) and with SOFA score ($r = 0.356$; $p < 0.0001$).

Conclusions: The PCT value at discharge can be used in the prognosis of the patient with surgical sepsis. However, for a better prognosis it is recommended that PCT be considered together with the SOFA score and the patient's clinical condition.

Keywords: surgical sepsis, septic shock, procalcitonin, inflammatory biomarkers, SOFA score.

OP.8.3

Complex case of recurrent myocardial infarction associated with recurrent intrastent restenosis (R-ISR)

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Abstract

Introduction: Intrastent restenosis (ISR) remains a difficult clinical problem even with the emergence of the new generation drug-eluting stents (DES). Despite the clear indication of revascularization, currently, the management of patients with recurrent ISR is a major therapeutic dilemma and the management becomes a challenge.

Case description: We are presenting the case of a 73-year-old hypertensive, dyslipidemic patient, known with atrial fibrillation and recurrent myocardial infarction, revascularized by percutaneous coronary intervention (PCI) for univascular coronary atherosclerotic disease (CAD), with implantation of an active drug-eluting stent (DES) at the level of the ramus intermedius, with later intrastent restenosis at the same level, which presents itself to the emergency room for anginous pain. From the biological point of view, the elevated levels of the cardiac biomarkers of 450 ng/l and mixed dyslipidemia with LDL-C of 94 mg/dl are distinguished. Echocardiography revealed mild systolic dysfunction of the LV.

The electrocardiogram identified atrial fibrillation with slow VR, bifascicular block – diagnoses known to the patient, but with a much increased QT interval (650 msec). Shortly after, the patient develops Afib with complete block and presents multiple episodes of unsupported ventricular tachycardia (VT), being asymptomatic. Emergency implantation of permanent VVI stimulator is being performed, with sporadic recurrence of unsupported VT episodes.

Long QT is considered as having ischemic etiology and coronary angiography is performed, revealing significant changes at the level of all coronary arteries: the left coronary trunk with 50-60% stenosis which also includes the ostia of the anterior interventricular artery and the circumflex artery, ramus intermedius with intrastent restenosis of 60%. The coronary aspect currently pleads for three-vessel disease (3VD) with indication of surgical revascularization. Considering the severe symptomatology of the patient, together with the department of cardiovascular surgery, the intervention of aorto-coronary bypass surgery is decided, with indication according to the guidelines in force to be performed without delay.

Open-heart surgery is performed with aorto-coronary bypass. For a multidisciplinary approach to the case, the patient received treatment with Inclisiran - a novel small interfering RNA drug to reduce low-density lipoprotein, in order to minimize the process of atherosclerosis. The patient's evolution is favorable, without post-operative complications, without recurring arrhythmic episodes and without angina 3 months after discharge.

Particularity of the case and conclusions: The particularity of our case is represented by the multiple, unexpected and rare, recurrence but with fatal potential, of the ISR. Association of recurrent myocardial infarction with recurrent intrastent restenosis on the same territory, presents a challenge,

requiring multidimensional evaluation and complex management. In this case, the patient associates ISR, three-vessel disease with indication for surgical revascularization, newly diagnosed, prolonged-ischemic QT syndrome with recurrent episodes of ventricular tachycardia and resuscitated CRA. The literature cites a series of cases of intrastent restenosis, which emphasizes the importance of individualized approach and complex management in patients with recurrence of stenosis.

Data from specialized literature cites the use of apoA-I and clinical parameters in better predicting the incidence of intrastent restenosis under certain circumstances.

Keywords: recurrence, intrastent restenosis, acute myocardial infarction

OP.8.4

Updates on the importance of providing palliative care for patients with advanced and metastatic urological cancers

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Abstract

This document brings together numerous studies that demonstrate the positive impact that palliative care has on patients' quality of life. Although the importance of these services has been demonstrated over the years, in 2022, 13 counties in Romania had no specialized palliative care services. Nationally there are reportedly 80 palliative care providers, of which just over half are in the public system and very few in the outpatient system (8%). However, there is scope to increase the number of beds for patients in need of palliative care. Early integration of palliative care significantly reduces the burden of symptoms and improves the quality of life of cancer patients, especially in outpatient settings. Palliative care is seldom mentioned and is underutilized in patients with genitourinary cancers, despite research in the urological literature confirming its viability and benefits. Palliative strategy in advanced disease depends largely on effective care of urological symptoms (pain, spasm, bladder outlet obstruction, spinal cord compression, haematuria, delirium). Quality end-of-life care depends on effective management of these symptoms. For patients with cancer, palliative care offers a variety of benefits, including increased spirituality, a reduction in disease-specific symptoms and improved functional status. It is essential to consider the fundamentals of palliative care as early as possible when treating a patient with a terminal illness.

Keywords: palliative care, quality end-of-life, symptoms.

OP.8.5

New perspectives on the risk factors of retinopathy of prematurity

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Abstract

In this manuscript, the theoretical research highlights the novelties about risk factors, especially how the insulin-like growth factor -1 and the vascular endothelial growth factor influence the development of retinal vascularization.

In addition, after birth, premature infants present low serum levels of insulin-like growth factor 1 (IGF-1), which plays an important role in the development of ROP.

Moreover, starting from the idea that the kidneys and the retina have a similar embryological development, this manuscript presents a new potential risk factor, namely proteinuria.

Keywords: ROP, risk factors, proteinuria, IGF-1.

OP.8.6

Mucormycosis in a patient with severe COVID-19 disease

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Abstract

Introduction: COVID-19 infection is often associated with a vast spectrum of opportunistic bacterial and fungal infections. Herein, we share a summary of the first case of COVID-19-associated mucormycosis (CAM) in a patient from Romania.

Case presentation: A 51-year-old male non-smoker, with no known relevant medical history, who denied any previous alcohol use and was vaccinated against COVID-19 (complete scheme with Vaxzevria), was admitted to the hospital for severe COVID-19 infection. The first mucormycosis-related symptoms were reported on the eighth day of admission and were followed by the rapid deterioration of the patient's condition and, consequently, death. The main aggravating factors, which were identified to be associated with the development of mucormycosis and with the poor outcome, were the association of severe COVID-19, new-onset COVID-19-triggered type 2 diabetes, and corticoid treatment for severe COVID-19.

Conclusions

The association between severe COVID-19 and newly diagnosed type 2 diabetes, triggered by COVID-19 infection, increases the risk of severe opportunistic fungal infections and the associated mortality rates.

Keywords: mucormycosis, COVID-19, fungal, bacterial.

OP.8.7

Psoriasis in children: diagnosis and management

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Abstract

Psoriasis is a chronic skin condition that can affect anyone, including children. The incidence of this condition has increased significantly and it affects approximately 1% of children. The pathology of psoriasis is the result of the interaction between trigger factors and genetics. Diagnosis of psoriasis in children can sometimes be challenging as it can mimic other conditions. This review aims to present the current knowledge concerning the diagnosis and management of psoriasis in children. Early recognition of psoriasis in children is vital in therapy. It is important to involve the child and their parents in the management plan as adherence to treatment and lifestyle modifications can have a significant impact on the course of the disease. The management of psoriasis in children is an complicated and intriguing task. Education and support are important for children with psoriasis, including support groups and resources that can help them understand and manage their condition.

Keywords: pediatric psoriasis, management, diagnosis

OP.8.8

Dyslipidemias and inclisiran in primary prevention

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Abstract

CV disease remains the leading cause of death and disability worldwide.¹⁰ More than 50% of these deaths occur in individuals without a prior history of CV disease;¹¹ hence, population health strategies that improve approaches to primary prevention at a global level are important. The multifactorial nature of CV disease necessitates a comprehensive approach to prevention, starting first with

diet and lifestyle modifications before considering pharmacotherapy to improve all modifiable risk factors, including LDL-C, if appropriate, in the setting of shared decisionmaking. Most prescriptions for statins (approximately two-thirds of all use) are for the primary prevention of CV disease.¹²

After diet and lifestyle, the foundational pharmacological approach to lower atherogenic lipoproteins in primary prevention patients is to reduce low-density lipoprotein cholesterol (LDL-C) with statins.^{1,2} Other lipid-lowering therapies are added if the lowering of LDL-C with statins is considered insufficient for the level of individual risk. Beyond LDL-C, suboptimal control of other lipid parameters, including non-high-density lipoprotein cholesterol (non-HDL-C) and apolipoprotein B (apoB), may also necessitate additional lipid-lowering therapies beyond statins. Inclisiran is a small interfering ribonucleic acid (siRNA)-based therapy that targets hepatic proprotein convertase subtilisin/kexin type 9 (PCSK9) production, thus reduces PCSK9-mediated degradation of LDL receptors (LDLRs), consequently leading to higher LDLR expression and hepatic uptake of LDL-C, thereby lowering plasma LDL-C levels.⁶ Inclisiran resulted in significantly reduced LDL-C levels compared with placebo in patients with heterozygous FH (HeFH; primary and secondary prevention),⁷ in a secondary prevention population,⁸ and in a mixed population of primary and secondary prevention patients in the ORION-11 trial.⁸

Keywords: dyslipidemia, LDL-C, Inclisiran, Prevention

OP.8.9

Ischemic aphasia in the polyglot

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Abstract

Ischemic aphasia in the polyglot patient takes on various aspects: sometimes the language deficit involves equally all spoken languages, other times the mother tongue or the acquired language is predominantly affected.

The multilingual language system depends on the age at the time of its acquisition, on the frequency of language use, on comorbidities, on the linguistic similarities between the mother tongue and the acquired language.

The impairment of aphasic language in polyglot patients due to a Sylvian stroke takes on different aspects: in some cases the impairment is of similar intensity both for the mother tongue- L1 and for the language learned later- L2, and in other cases, the impairment of L1- L2 is differentiated.

The intricate structures of the multilingual system are shaped by a diversity of factors: the age of acquisition, the frequency with which the respective language is used, associated premorbid factors, L1/L2 linguistic similarities.

Recent studies show that cerebral destruction by stroke causes damage to L1 and L2 and that both L1 and L2 contribute to language recovery and require recovery therapy.

Keywords: aphasia, ischemic stroke, polyglot.

OP.8.10

Quality of patient safety: the current state of clinical data reporting and collection issues

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Abstract

Introduction: The term "patient safety quality" will refer to information that includes descriptions of the incidents produced by medical errors, their causes, collective actions, interventions that lead to the reduction of the effects of future risks and dangers to patient safety.

Materials and methods: The following methods were considered: a. Improving patient care: identifying opportunities for direct implementation of solutions; b. Benchmarking: determining the frequency of errors and the interval of their occurrence for the purpose of evaluating safety-related performance parameters; c. Causal modeling: identifying or deducing the causes of an event and developing an intervention to reduce the likelihood of recurrence; d. Compliance with Regulatory Agencies: Voluntary reporting to government regulatory agencies, accreditation and licensing bodies.

Results: An incident report generated shortly after the incident by a healthcare professional could help identify the type of event, but could be relatively vague about the sequences of events leading to that event. A root cause analysis, which retrospectively evaluates the event, often provides detailed descriptions of causal and contributing factors, specific interventions prompted by the incident, followed by recommendations for preventing future incidents.

Conclusions: Improving patient safety data representation standards has significant implications for the success of data-driven interventions, namely, causal modeling, patient care improvement policies, benchmarking, and compliance. Without a common data representation, it becomes very difficult to analyze information by event type. To date, regulators have not implemented standard surveillance methodologies or data reporting formats.

Keywords: quality, patient safety, reporting, standards, error rate

OP.8.11

Healthcare associated infections-between myth and reality

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Abstract

Introduction: Healthcare-associated infections (HAIs), also known as nosocomial infections, are currently an important public health problem, generated by medical practice and involving both patients and healthcare workers. They occur all over the world, with varying incidences depending on the specifics of the wards (medical, surgical, intensive care, paediatric, oncology) and the specifics of the patients receiving medical care.

Material and method: Our study was a retrospective, descriptive epidemiological study conducted over a period of one year (1.01- 31.12.2022), including all patients who contracted intra-hospital infections.

Results: The study included 375 cases of IAAM, with an incidence rate of 4.42%, distributed as follows, in descending order: 45.8% in the 3 Neurosurgery wards, 34% in the ATI ward, 20.2% in the 2 Neurology wards. The highest incidence rates were in the ATI ward (6.58%) and the Neurosurgery wards (4.43%), followed by the Neurology wards with 3.76%. The age histogram shows a predominance in the 65-84 years age group (42, 94%) and the 45-64 years age group (38.40%). The distribution according to types of HAIs shows: predominance of respiratory infections such as intubation-associated pneumonia (IAP) or lower tract infections (LTI) - 44,27% as well as urinary tract infections (UTI)-32,27%. This is followed by surgical incision infections (SII) – 8,26%; *Clostridium difficile* digestive infections – 5,87%; post-operative meningitis – 3,20%; superinfected eschar skin infections – 2,94%; sepsis – 1,86% and catheter infections -1,33%. The aetiological profile of AMI is dominated by gram negative bacteria: *Klebsiella pneumoniae* ESBL, (34.33%), *E.coli* ESBL (36.96%), *Acinetobacter* spp (31.72%), *Pseudomonas aeruginosa* (21.34%), MRSA (38.65%) and SARSCoV-2 -22.66%. The majority of pathogenic strains were identified mainly in the ICU and Neurosurgery wards and less in the Neurology wards. All MRSA species identified are resistant to vancomycin, as all *Acinetobacter* and *Pseudomonas* species are resistant to carbapenems and multidrug resistant, especially to polymyxins (Colistin). The study also revealed an increased consumption of antibiotics, partly justified by the specificity of spinal and brain surgery and the presence of many patient comorbidities.

Conclusions: The results of our research are comparable with data from the national and global literature for neurosurgical profile. They draw attention to the phenomenon of microbial multi-resistance to antibiotics, which is gaining momentum and towards which physicians must exercise maximum caution and discernment. The accuracy with which intra-hospital infections are detected and reported in a university hospital with a neurosurgical profile, located in the North-East region of Romania, should also be highlighted.

Keywords: healthcare-associated infection, retrospective epidemiological study, neurosurgery.

OP.8.12

Lumbar disc herniation - a reality of modern society

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Abstract

Introduction: Lumbar disc herniation is a population and socio-economic health problem affecting patients worldwide. More than half of adults worldwide suffer from low back pain at some point in their lives, with varying degrees of severity, frequently associated with sciatic symptoms. The multifactorial mechanism of low back pain has not yet been fully elucidated and is aggravated by mechanical, traumatic and inflammatory factors. Modern society is characterised by sedentary lifestyles and lack of physical activity, which has led to an overall increase in low back pain. The intensity of low back pain has increased by more than 50% in the last 50 years. Low back pain leads over time to disability and decreases quality of life.

Material and method: Our research was carried out as a retrospective epidemiological study including a group of 944 patients with lumbar disc herniation admitted in the 3 Neurosurgery Departments of the Emergency Clinical Hospital "Prof. N.Oblu" in Iași during the period 1 January-31 December 2022.

Results: The study reveals a somewhat equal distribution in both sexes: male (466- 49.36%) and female 478 (50.64%) and higher in urban areas (60%). According to the age histogram, the group 41-60 years predominates - 428 cases (45.43%), followed by the group 61-80 years - 309 (32.72%), the group 21-40 years - 193 (20.43%), and 8 patients (0.85%) were over 80 years and 6 (0.63%) under 20 years. The most affected professions were: drivers, civil servants, dentists, commercial workers. The most common comorbidities in females were: neuro-psychiatric diseases (68%); hypertension (31%), obesity (15%), diabetes mellitus (12%), osteo-articular diseases (4%). 3 patients although presenting with SARS CoV-2 virus infection, were operated with favourable outcome. Obesity and intense physical exertion were the main risk factors in both sexes. Regarding the type of therapeutic manoeuvres in the studied group, 715 patients (75.7%) underwent surgical interventions such as: discectomies - 640 (89.5%); spondylolisthesis - 36 (5%); decompression - 17 (2.4%) and other reparative manoeuvres - 22 (3.1%). Conservative medical treatment required 10.5% - 229 patients. Referral for functional recuperative treatment was followed by 664 patients (70.3%), at the Recovery Hospital or state or private specialist outpatient clinics. At the 6-month reassessment, 56% showed complete remission and 44% partial remission of symptoms.

Conclusions: The study highlights some clinico-epidemiological features of lumbar disc herniation, which influence the evolutionary profile of the condition in the group of patients. Comorbidities are also triggering factors with an unfavourable influence on the quality of life of these patients.

Keywords: lumbar disc herniation, epidemiological study, comorbidities.

OP.8.13

The impact of COVID-19 on respiratory pathology and absenteeism among healthcare workers

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Abstract

Introduction: The COVID-19 pandemic has put the global healthcare system under immense pressure, with healthcare workers (HCWs) facing a higher risk of respiratory infections due to their close proximity to infected patients. This study aimed to investigate the relationship between respiratory pathology and absenteeism among HCWs during the COVID-19 pandemic. This study aims to investigate the relationship between respiratory pathology and absenteeism among HCWs during the COVID-19 pandemic. Healthcare workers had limited access to health services, resulting in changing patterns of absenteeism related to chronic respiratory disease. These changes were due to delays in investigations and treatment of comorbidities, as well as limited access to functional respiratory investigations. SARS-CoV2 infection in healthcare workers resulted in various respiratory complications, including pneumonia, acute respiratory distress syndrome, and exacerbations of chronic lung disease.

Methods: This medical study analyzed sick leave data from an emergency clinical hospital with a pediatric profile during the years 2018-2019 and compared it to the pandemic years of 2020-2022. The sick leave data included information on the reason for absence, duration of absence, and job position of the healthcare worker. Respiratory pathology was identified through medical records and laboratory results, including COVID-19 PCR tests.

Results: The results showed a significant increase in respiratory disease cases in the year of pandemic declaration (2020) with a 385.74% increase compared to the preceding year (2019). Among the diagnoses, 61.04% were attributed to COVID-19. In the following year (2021), there was a decrease of 43.45% in respiratory pathology, with COVID-19 accounting for 67.81%. In 2022, there was a modest 12.03% decrease in respiratory diseases compared to 2021, of which COVID-19 represented 53.54%. The analysis of sick leave data revealed a significant increase in temporary work incapacity due to respiratory pathology in the pandemic years compared to the pre-pandemic years.

Discussion: The results suggest that the COVID-19 pandemic had a significant impact on respiratory illness incidence, particularly in the year of pandemic declaration. The study found a correlation between the trajectory of the COVID-19 curve and the increase in respiratory illnesses among healthcare workers. The increase in sick leave days due to COVID-19 also highlights the importance of early detection and prevention of infectious diseases among healthcare workers.

Conclusions: The study findings underscore the profound impact of the COVID-19 pandemic on respiratory illness and temporary work incapacity among healthcare workers. The study suggests the importance of implementing measures to reduce the risk of respiratory infections among healthcare workers, such as providing access to personal protective equipment, promoting vaccination, and implementing infection prevention and control measures. These measures can help minimize the impact of respiratory infections on healthcare system functioning and healthcare workers' well-being.

Keywords: COVID-19; healthcare workers; SARS-CoV2; coronavirus; respiratory infections; absenteeism; work incapacity

OP.8.14

Preliminary clinical data regarding the recovery of the geriatric patient with sechelar stroke

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Abstract

Introduction: Cerebral vascular accidents (CVA) currently occupy the third place in general mortality after coronary heart disease and cancers, in Romania and in European countries, representing the third cause of disability and handicap. The risk of stroke doubles every 10 years after the age of 55, especially in people who present a combination of risk factors.

Material and method: A group of 31 patients from the Geriatrics - Gerontology Clinic, "Sfântul Apostol Andrei" Galati County Emergency Clinical Hospital, was studied, between 01.01 and 06.30.2022.

Results: The study group composed of 31 patients included 65.7% men and 34.3% women. 46.5% from the urban environment and 53.5% from the rural environment. The age histogram revealed: 21.7% of the 60-70 age group, 52.7% of the 70-80 year old group and 21.7% over 80 years old, all presenting one or more comorbidities: high blood pressure, diabetes mellitus type II, atrial fibrillation, liver cirrhosis, chronic kidney disease, venous thrombosis, senile dementia. The hospitalization period varied between 14-21 days: 14 days for 15.5% of patients aged 60-70, 31% for 70-80, 3.1% over 80 and 21 days for 46.5%. During the hospitalization, the patients received treatment for the basic condition and for comorbidities: medicinal and physiokinetic therapy. 69% of patients presented a favorable evolution, and 31% stationary.

Conclusions: The phenomenon of aging, with its numerous socio-economic implications, must be an increasingly important concern in the health policy of our country. The multifactorial etiology of stroke, the accumulation of risk factors, the compliance of the geriatric patient to multiple therapies are aspects that influence the evolution and prognosis of the sick geriatric patient.

Key words: stroke, geriatric patient, comorbidities .

OP.8.15

The impact of early diagnosis and prevention of gestational diabetes in pediatric respiratory pathology

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Abstract

Introduction: The specialized literature confirms, through the numerous studies carried out in the last decade, the fact that there is a causal relationship between the respiratory pathologies developed by pediatric patients in the first years of life and their status since the prenatal and perinatal period. The existence of a pathology such as gestational diabetes is simply a trigger of a series of physiological changes that can induce an increase in the risk of pulmonary pathologies.

Material and method: Through the present clinical research, I analyzed in a comparative manner the incidence of respiratory pathologies among a group of pediatric patients aged less than 10 years, depending on the existence or absence of a definite diagnosis of gestational diabetes. Therefore, we created a preliminary group consisting of a final number of 110 subjects, 56 of whom had mothers diagnosed with gestational diabetes during pregnancy (defining subgroup A). During the study period (1.12.2021 – 1.12.2022), the cases of patients presented in the ER of the Emergency Clinical Hospital for Children of Sf Ioan, Galați, under the age of 10, who complained of symptoms dominated by wheezing, dyspnea, cough, were collected. The IBM Statistics package V26 program was used for the statistical analysis, with the exposure of the impact of the individual variables collected on their evolution. Descriptive statistics as well as Pearson correlations, ANOVA testing and Chi square tests were used.

Results: Out of the total of 110 subjects, 50.9% came from mothers diagnosed with gestational diabetes. At the level of the entire group, 53.6% of the patients are male, and 52.7% came predominantly from rural areas. The seasonal variation of presentations has a quasi-equal distribution. Their ages have a maximum of 9 years with a average value of 4.77 years, with SD of ± 2.76 years. The skewness (.039) and Kurtosis (-1.355) indicators describe a distribution curve deviated to the left with an occasional peak at the age of 1 year. Patients whose mothers were diagnosed with gestational diabetes required more hospitalization days for the treatment of respiratory pathology (Sig = .231), showing higher CRP values at presentation (sig.160). Anamnesticly, those belonging to subgroup A present an increased risk of being born with an APGAR score below 9 (sig .189), of requiring supplemental feeding with milk formulas (sig.682), of developing allergies in the first years of life (sig. 739). In their case, antibiotic therapy was predominantly opted for (sig .281), the respiratory symptomatology at presentation being one dominated by spastic, emetic cough and severe dyspnea accompanied by episodes of recurrent wheezing.

Conclusions: At the level of the researched group, the association of maternal gestational diabetes with an increased incidence of respiratory pathologies in pediatric patients is confirmed, correlated with the existence of a more difficult evolution in their development.

Keywords: gestational diabetes, respiratory pathology, recurrent wheezing.

OP.8.16

Contributions to the study of biocompatibility of materials in dental medicine

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Abstract

Introduction: Currently, great emphasis is placed on the general immune response of the patient regarding the integration of some implant materials into his ecosystem. This tissue response is of particular importance for the success of the therapeutic act and the patient's quality of life.

Material and method: We carried out a prospective study on a group of 50 patients, within the Dental Alliance clinic in Roman, Neamț county, in the period: 1.01.- 30.04.2023.

Results: The study group included 66% female patients and 34% male patients, with an average age of 45.54 years; 46% belong to the urban environment and 54% to the rural environment. All the 50 patients in the batch were subjected to a mandatory investigation protocol consisting of: medical history, general and oral clinical examination, laboratory investigations, namely: blood count, HBsAg, anti HCV antibody, 25-OH-vitamin D, parodont test (detection of pathogenic periodontal bacteria) and paraclinical tests: orthopantomography and cone beam computed tomography (CBCT).

Following the medical history and examination of the oral cavity, it was found that some patients also had unique or associated oral diseases: gingivitis (74%), marginal periodontitis (50%), bone resorption (66%), residual tooth roots (80%). All patients had periodontal pockets in various degrees of evolution. Regarding the materials from which the dental prosthesis was performed, we found that they presented: gold alloy (26%), Co-Cr alloy covered with acrylic resin (30%), Co-Cr alloy covered with composite (18%), Co-Cr alloy covered with ceramic (16%) and full ceramics (10%). After the removal of the prosthesis, 74% of patients benefited from provisional prosthetic work made of PMMA (polymethyl methacrylate by CAD-CAM technique) and 26% of zirconium. All the patients were recalled at 1, 3 and 6 months. At the one-month follow-up, gingival inflammation disappeared in 48% and oral hygiene improved in 60%.

Conclusions: The present study constitutes a pertinent starting point for the practical materialization of the clinical-technological decision to use a certain type of biomaterial according to the tissue archetype of each patient.

Keywords: dental materials, biocompatibility, tissue reactions

OP.8.17

Healthcare-associated infections in the Galați County during the COVID-19 pandemic

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Abstract

Healthcare-associated infections are infections acquired by patients during their stay in a hospital or another healthcare setting. Even though some of these infections can be treated easily, others may more seriously affect a patient’s health, increasing their stay in the hospital and hospital costs, causing considerable distress to these patients and sometimes requiring temporary restructuring of the medical ward where the point of origin is. During 2020 and throughout 2022, the most common HAIs occurring in the Galați county were COVID-19 and the Clostridioides difficile infection (CDI). COVID-19 being the main concern in 2020, the increased antibiotics use in the initial phase when antivirals were not yet readily available and the old age of those affected led to an increase in the CDI cases throughout the medical units in Galați. Also, the relaxation of the COVID-19 measures including the necessity for specific medical equipment in the non-COVID-19 medical units in the context of decreasing number of new cases, led to a steady increase in the HAI cases beyond what was registered before COVID-19 came in picture. In the light of these findings, patients are now more vulnerable to developing HAIs, requiring a stronger collaboration between medical specialties to manage and prevent such cases.

Keywords: healthcare-associated infections, HAI, medical threat.

OP.8.18

Management of a fall from high severe polytrauma case in children

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Abstract

Polytrauma in children is rare; however, trauma is a leading cause of death in children. Fall from height is defined as an injury to a person that occurs after landing on the ground after falling from a higher place. Tension pneumothorax after a fall is an a severe disease with a malignant course leading to death if untreated. It is most commonly encountered in prehospital trauma care, emergency departments, and intensive care units. Lesion of the spine, head, liver, spleen, kidneys and bones can be found and rising the risk of mortality. Optimal management of the multiply injured child relies on anticipation and preparation followed by a standardised, consistent and structured response by

healthcare professionals. The principles of trauma care remain the same both for children and adults, but the differences in care required for the optimal treatment of the injured child demand special awareness of the anatomy and physiology of the growing child and adolescent.

Keywords: polytrauma, fall from height, tension pneumothorax, bone fracture, liver lesion



OP.8.19

The efficiency of acceptance and commitment therapy in anxiety and depression. A case study

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Abstract

Recent studies highlight the high effectiveness of eclectic interventions, which use not only classical psychotherapeutic methods, but also mindfulness sessions (Herbert et. Al, 2022) or creative-unifying meditation – MCU (Gâtej, 2013).

Through this study, we aim to observe if short-term psychological interventions combined with creative-unifying meditation (MCU), mindfulness and acceptance and engagement therapy (ACT) techniques help to better anchor, connect with the present moment, eliminate experiential avoidance and understand one's own emotions.

Method: We conducted four meetings with a client, in which we used the techniques mentioned above. Before and after the intervention, I applied the Hamilton depression and anxiety scales to assess the case.

Following the intervention, the subject showed an improvement in anxiety-depressive symptoms, but also had a number of insights related to life themes such as abandonment, family relationship, couple relationship.

A brief intervention focused on unifying meditation, mindfulness and ACT can have positive effects on behavioral optimization. In order to strengthen the effects, continuing with a long-term psychotherapeutic process can highlight other relevant information.

Keywords: Creative-unifying meditation, mindfulness, ACT, experiential avoidance

OP.8.20

Dentine adhesion evaluation of two modern pulp capping materials

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Abstract

This in vitro study aimed to evaluate and compare the dentine adhesion of two modern pulp capping materials: TheraCal LC (Bisco Inc. U.S.A.) and BioMTA (Cerkamed Poland). The samples have been prepared simulating in vivo conditions, in accordance with ISO/DIN standard protocols for this type of test. Twelve samples were prepared in this way, being preserved in good condition for each material in order to be investigated and the results interpreted. The values of the shear test, measured in kgf for each sample, have been recorded. A paired t-test was conducted to compare mean adhesion results in TheraCal and MTA groups. The results of our study showed a statistical significant difference between the measurements for TheraCal (M=1.27, SD=0.69) and MTA (M=0.22, SD=0.13); $t(11)=4.80$, $p=0.0005$. The results suggest that TheraCal has better adhesion properties than MTA.

Keywords: direct and indirect capping, pulp vitality, dental material

OP.8.21

Assessment of palliative care needs of children diagnosed with life-threatening illnesses in Romania

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Abstract

Introduction: Palliative care is a crucial part of integrated, people-centred health services. Alleviating serious health-related suffering, whether physical, psychological, social or spiritual, is a global ethical responsibility. Thus, whether the suffering is caused by cardiovascular disease, cancer, major organ failure, drug-resistant tuberculosis, severe burns, end-stage chronic disease, acute trauma, extreme prematurity at birth or extreme frailty in old age, palliative care may be necessary and must be available at all levels of care.

Material and method: The methodology behind this approach to assessing the needs of children diagnosed with life-threatening illnesses aimed to triangulate data obtained through various research methods: document and secondary data analysis, public policy analysis, quantitative questionnaire-based research, qualitative cluster-based research.

Results: The needs expressed by the families of the beneficiaries are diverse: from basic health education, psychological support, financial support to support for a period of respite. In addition to

medical needs, parents frequently mention that they need centres to provide psychological support and counselling. Specialists, especially doctors and psychologists who frequently come in contact with these families recognize the need for support and this need is not just for one of the family members, which is often the mother, but for the whole family.

Conclusion: Institutions offering palliative care services are necessary and must be developed not only because they are a necessity to provide medical support and special care to children in need, but also because this is the only place where parents can speak openly, with confidence that their problems are heard, understood because they are joining experts in this field and because they are talking to other parents in the same situation. Beyond the services of the experts, the most important thing for this population is not to feel alone.

Keywords: life-threatening illness, life-limiting illness, respite, end-stage.

OP.8.22

Traumatic brain lesions in children- when and which imaging tools to use

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Abstract

Traumatic brain injuries in children is a worldwide issue. Either accidental or non-traumatic, brain injuries can have a series of midterm and long term consequences. Unfortunately, the worst outcome is death following a traumatic brain injury.

Head trauma is an emergency given the anatomical structures that can be involved in this case. The rapid, unpredictable and potentially lethal evolution of the traumatic brain injuries demands for this condition to be diagnosed and treated accordingly as quickly as possible. It is crucial for the clinicians to master the criteria in order to select the patients who are to have imaging investigations done.

Keywords: head trauma, brain injury, children

OP.8.23

Pleuresy

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Abstract

Introduction: Pleurisy is the accumulation of excessive amounts of fluid in the space between the lungs and the chest wall (normally the pleural fluid is very small, approximately 10 ml). It can be caused by pneumonia, bronchitis, lung tumors but also by other pathologies of the lungs or neighboring tissues. Also, this condition of the pleura can be caused by pathogens originating from other inflammatory foci (tuberculosis, rheumatism, typhus, autoimmune diseases: lupus erythematosus). Untreated pleurisy can lead to a series of complications, the most important of which

are insufficiency respiratory, fistulization in the bronchi (passage of pleural fluid into the bronchi in purulent pleurisy) or pachypleuritis leading to fibrothorax (fibrosis of the pleural cavity).

Case analysis: A number of 30 hospitalized patients over the age of 30 were analyzed for pleurisy secondary to inflammatory processes at the pleuro-pulmonary level. , fatigue, followed by chest pain, palpitations, dizziness, altered general condition, abdominal pain.

The results obtained, for example, in the patients hospitalized and treated in our clinic for pleurisy in which the methods of investigation and diagnosis, the etiological factors, the age, the age of the disease, the method of obtaining the cure and the therapeutic method used were associated and corroborated in general had a more favorable prognosis.

Conclusions: Since the specialized literature does not abound with population studies on the precipitating factors, at the moment of action they are not included in the therapeutic guidelines regarding pleurisy. Multiple comorbidities present in elderly patients produce more serious symptoms thus making the differential diagnosis difficult. Biological markers have an important role in the diagnosis of pleurisy

Keywords: pleurisy, pleural fluid, respiratory failure.

OP.8.24

TNF α vs. JAK Kinase in treatment effectiveness in rheumatoid arthritis

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Abstract

Introduction. Treat-to-target concept in rheumatoid arthritis (RA) is a highly disputed subject. Up to the present, there is no evaluation score that integrates the clinical and laboratory/imaging results for defining remission in rheumatoid arthritis. This issue generates the need of identifying predictive factors of remission in rheumatoid arthritis patients.

Aim. The aim of this study is to assess the effectiveness of the biological treatment upon TNF α patients versus switchers and to identify some difficulties in achieving remission.

Material and method. 31 patients with rheumatoid arthritis were enrolled in this retrospective study, using data from multiple-choice forms and medical reports from University Hospitals in Romania, between 2021-2022.

Results. 31 patients with rheumatoid arthritis, in treatment with one biological disease-modifying antirheumatic drug (bDMARD) were available for the baseline analysis. They were distributed into 2 groups, whether they changed the biological therapy: group 1 – TNF α patients, group 2 – JAK Kinase patients. VAS and ASDAS were calculated at baseline, 24 and 52 weeks for the 2 groups. The scores were higher for the switchers and the highest in the 1st group. Retention time of the first bDMARD was compared between groups and between the biological therapies.

Conclusions. Results showed that the best treatment response, as well as effectiveness, is reached by the naïve patients group. Greater retention time rate for the first bDMARD is associated with a greater chance of achieving remission.

Keywords: treat-to-target, rheumatoid arthritis, remission, effectiveness

OP.8.25

The importance of molecular biology in the management of digestive infections

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Abstract

Objectives:

This paper presents the trend in the diagnosis of pathogens, namely the superiority that current PCR methods have over the classical methods of determining pathogens. The data regarding the quality of the molecular method were obtained after analyzing a batch of 22 patients admitted to the Children's Hospital "Sf Ioan" Galati, who complained of pain in the digestive sphere.

Materials and methods:

The study was carried out on a group of 22 patients aged between 1-12 years with simple digestive pathology for which both the classic and PCR tests were performed. Viruses and bacteria were identified from fecal matter in coproculture from spontaneously emitted stool by classical methods - coprocytogram, coproculture, rapid tests (latex-agglutination) Adenovirus/Rotavirus,/Norovirus antigen being used in all patients, Campylobacter antigen tested in 9 patients and Clostridium difficile Toxin A+B+GDH in 4 patients. The molecular method was used for the entire studied group and consisted in the use of multiplex Real-Time PCR gastric panels for the identification of viruses and intestinal bacteria.

Results and discussion:

In the studied group, an increase in bacterial infections was observed in patients aged 1-2 years and in the age group 6-8 years, and viral infections after the age of 2 years. The studied group presented an increased belonging to the male gender and to the urban environment. The coproculture performed on all patients resulted in the absence of pathogens. Rapid tests were performed with negative results for Adenovirus, for Rotavirus there were 3 positive and 19 negative results, for Norovirus one positive test and the rest 21 negative and for Campylobacter 2 positive tests. In parallel with the multiplex PCR gastric panel, several positive results were recorded as follows: 5 patients were positive for Norovirus GII, 9 patients were positive for Campylobacter, in 2 patients both types of pathogens were present and one patient with Clostridium difficile positive.

Conclusions:

The work highlights the fact that the molecular diagnostic methods are clearly superior to the classic ones by accurately identifying (90-100%) the type of microorganism involved in the digestive pathology and by the short duration of the testing, 4 hours from the receipt of the sample in the laboratory, compared to the classics co-cultures that can provide a result after at least 72 hours.

Keywords: PCR, digestive infections

OP.8.26

Antibiotic resistance in urinary tract infection caused by *Escherichia coli* in the Children`s Hospital from Galați

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Abstract

Introduction. Urinary tract infection is one of the most common bacterial infections in children.

Escherichia coli is the most common causative bacterial strain in urinary tract infection in children.

Material and method. The aim of this study was to identify *Escherichia coli* strains from positive urine cultures and tested their resistance to antibiotics. It was conducted a retrospective study (January-December 2022) on a number of 115 positive urine cultures with *Escherichia coli* from child patients, aged between 0-17 years, hospitalized in the wards of Children`s Hospital from Galați.

Results. Our study reveals a high rate of resistance to ampicilin and followed by co-trimoxazole , cephalosporines and aminoglycosides.

Conclusions. Antibiotic resistance is on the rise all around the world so is a threat that requires vigilant monitoring to be done.

Keywords: urinary tract infection, *Escherichia coli*, antibiotic resistance

OP.8.27

Immunohistochemical approach of metastatic carcinomas of unknown primary site

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Abstract

Introduction

Metastatic carcinomas, especially poorly differentiated or undifferentiated ones, or those in which the primary site is not identified, represent a diagnostic challenge for any pathologist, even if there are available for use immunohistochemical (IHC) tests in the laboratory.

Material and method

Initially, a review of the literature was carried out, using the PubMed platform and the different search functions it offers. The series of searches identified hundreds of publications describing

immunohistochemistry methods for the histopathological diagnosis of carcinoma, which include a selection of tissues and panels of IHC markers that can be used for differential diagnosis.

At the same time, we carried out a retrospective study between January 2020 and December 2022, with the aim of identifying metastases with an unspecified origin, that arrived for immunohistochemical diagnosis in the Pathology Department of the Clinical Emergency Hospital for Children "Sf. Ioan" Galați.

Results

Based on the literature review and on our retrospective study, we propose a diagnostic algorithm using IHC markers for carcinomatous metastases of unknown primary site. Limitations of the method under certain circumstances are also presented.

Conclusion

Immunohistochemistry is an important ancillary technique in the evaluation of metastatic tumors, but it should be used in the context of tumor microscopic morphology and clinical data. While a single IHC marker can be used to support a known or suspected site of origin, a panel of markers for tumors of uncertain origin must be chosen with particular care.

Keywords: immunohistochemistry, metastatic carcinoma, unknown primary site, diagnostic algorithm

OP.8.28

Immunohistochemical biomarkers in cancer

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Abstract

Introduction

The increase of cancer incidence and cancer mortality worldwide requires the use of more accurate biomarkers for the detection, diagnosis, prognosis and monitoring of this disease. Under this aspect, the greatest advances in research have been made in recent years regarding bronchopulmonary tumors, breast cancer, colorectal cancer, tumors of the genitourinary tract. Despite major advances in the characterization of these neoplasms, this has rarely translated into biomarkers usable in clinical practice.

Material and method

A review of literature was carried out, using PubMed, based on the search functions that this platform offers. The series of searches identified multiple articles describing the discovery of biomarkers by different instruments, in various specimens. Those articles involving biomarkers identifiable on formalin-fixed paraffin-embedded (FFPE) tissue fragments or cell blocks, by immunohistochemistry (IHC) were analyzed.

Results

In this review, we focused on the most promising biomarkers for detection, diagnosis, prognosis and prediction of response to therapy in most of the cancers with the highest incidence worldwide. Studies have identified biomarkers of importance in various cancers, some of which have come to be used in clinical practice.

Conclusion

New multicenter validation studies are needed to advance the use of biomarkers in clinical practice. Due to the limitations of those currently available, the identification and validation of new biomarkers is necessary.

Keywords: cancer, biomarkers, immunohistochemistry

SECTION 9

RECENT PRACTICES IN MEDICAL RESEARCH

OP.9.1

Drug induced gum allergy

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Abstract

One additional method to diagnose a certain drug allergy or sensitivity is Lymphocyte Transformation Test. This is one of the "in vitro" tests that can be performed to assess whether a patient has developed drug-specific T cells as a marker of sensitization.

Materials: My patient has a very long systemic medication with PLAVIX- an antiplatelet agent (almost 11 years). He has many gingiva lesions with bleeding when probing, increased pain when eating or drinking spices and acidic juices. The gingiva inflammation has developed pseudo-pocket formations.

Methods: are based on the medical history of the patient and also some tests:

- 1-Lymphocyte Transformation Test {T.T.L.}
- 2-Narajo Score for Suspected Adverse Drug Reaction
- 3-Immunoglobuline E {IG E} test {anti-drug}

Results: In order to find out the exact gingival status some gingiva samples were taken for microscopic examination and send to the Pathology Laboratory of the Clinical Hospital "Saint Andrew" in Galati City. The presented results are based on these tests.

Conclusions: Although my research is at the very beginning and cannot be generalized, I can propose that L.T.T. is a useful diagnostic test consistent with previous clinical findings which were performed to pinpoint a sensitization or an allergy to a certain drug.

In this particular case, my patient get a letter of explanation with a referral to his cardiologist in order to change with an alternative one for the same indication.

Keywords: Lymphocyte Transformation Test, drug allergy, sensitivity, Narajo test, IgE, gingiva inflammation, PLAVIX,gingiva status, Hypertrophic Gingivitis.

OP.9.2

Emotional stress in patients with polytrauma

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Abstract

Introduction

Emotional stress and polytrauma are interrelated concepts that can have a significant impact on an individual's mental health and overall well-being [4]. Polytrauma refers to the experience of multiple traumatic events, which can lead to physical and emotional damage, including PTSD, depression, anxiety, and other mental health conditions [1]. In addition to the immediate effects of trauma, polytrauma can lead to long-term physical and mental health complications [11].

Material and methods

This is an observational and cross-sectional study. The items leading to the creation of the final database were collected through an individually-administered, paper-based questionnaire that contained 43 items, of which 39 were specific questions found in the affective distress profile. The questionnaire was administered to patients who suffered polytrauma and were admitted to Galati Emergency Hospital in October 2022.

Results

We observed a quasi-symmetrical distribution between the two sexes, with an average age of 35.77 years. The predominant environment of origin was urban, 75.85%.

The total distress score was obtained by summing all the negative items found in the PDA questionnaire. Thus, we observed that most subjects presented a high level of distress, 74.48%.

Discussions

Physical injuries can cause pain and distress that can be difficult to manage, which can cause mental anguish and a lower quality of life. Further exacerbation of the emotional distress is the long-term nature of many polytraumatic injuries, which can cause feelings of hopelessness and helplessness.

Conclusions

Polytrauma can significantly affect mental health and cause emotional distress, including PTSD, despair and anxiety. In the long term, many polytraumatic injuries can exacerbate emotional distress causing feelings of hopelessness and helplessness. Early intervention and continued treatment are essential to stop the progression of chronic mental health illnesses and improve overall outcomes.

Keywords: polytrauma, PTSD, physical and emotional damage, distress profile

OP.9.3

Assessing the relationship between burnout syndrome and job satisfaction in the context areas of work life

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Abstract

Introduction

Burnout syndrome is caused by a number of factors, including personal, organizational, and professional problems. The purpose of this study was to investigate burnout and satisfaction levels among emergency department staff in the context of professional activity issues.

Material and methods

We studied a sample of 200 participants working in the emergency department. Participants signed an informed consent and then completed a socio-demographic questionnaire and the MASI-HSS (MP) questionnaire to assess burnout, JSS (job satisfaction Survey) to assess professional satisfaction and the AWS (AWS of work Survey) questionnaire on work aspects. The questionnaires were completed between November 2022 and March 2023.

Results

The study group was aged between 24-64 years, most of the subjects being female. The study found that 30.2% of emergency medical staff are at high risk of burnout. Emotional exhaustion is indirectly proportional to workload, interpersonal relationships and reward. Emotional exhaustion is a direct result of the work experience. While participants expressed ambivalence and dissatisfaction with the work environment, they were satisfied with the nature of their work.

Conclusions

The prevalence of burnout syndrome is high, with most front-line nurses suffering from moderate to severe burnout. Burnout is a predictor of job satisfaction for emergency department nurses. Given the importance of community health, the burnout status of medical staff should be improved. It is necessary to improve professional communication, decrease stress related to role conflict and workload.

Keywords: burnout syndrome, professional satisfaction, healthcare workers, emergency department, areas of worklife

OP.9.4

Perioperative management of antitrombotic therapy

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Abstract

Introduction: The perioperative management of antiplatelet and oral anticoagulant therapy (ACO) depends on the type of surgery and the individual particularities of each patient. It is important to manage antithrombotic therapy in patients undergoing non-cardiac surgery (NCS).

Material and methods: Surgery-related factors are urgency of the intervention and its risk of bleeding. Patient-related factors: age, thrombotic risk, comorbidities, chronic medication, renal function. Thus, the decision to continue or to interrupt antithrombotic agents is influenced by the relationship between hemorrhagic and thrombotic risk.

Results: It is recommended to interrupt aspirin for at least 7 days pre-operatively for patients undergoing high bleeding risk surgery and to delay elective NCS until 6 months after elective PCI and 12 months after an acute coronary syndrome. Regarding anticoagulant therapy, depends on the specific oral anticoagulant agent vitamin K antagonist or a non-vitamin K antagonist oral anticoagulant. The minor surgical procedures and those in which bleeding is easily controlled can be performed without interruption of agent.

Conclusions: Patients with antithrombotic therapy who are going to benefit from a surgical intervention represent a challenge for clinicians. The decision regarding therapy will be made by a multidisciplinary team. If antithrombotic therapy has been interrupted before a surgical procedure, it is recommended to restart therapy as soon as possible post-surgery.

Keywords: antiplatelet, anticoagulant, non-cardiac surgery, thrombotic risk.

OP.9.5

Comparing therapeutic effects of different misoprostol regimens for the prevention of postpartum hemorrhage in cesarean section

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Abstract

(1) Introduction. Postpartum hemorrhage is a significant contributor to maternal morbidity and mortality on a global scale. Misoprostol is a prostaglandin analogue that exhibits uterotonic activity, rendering it a viable treatment option due to its stability, oral bioavailability, and cost-effectiveness. The research investigated the most effective dosage of misoprostol for the purpose of preventing postpartum hemorrhage (PPH). Additionally, an assessment was conducted on the potential adverse reactions that could be associated with varying dosages of misoprostol.

(2) **Materials and Methods.** An observational retrospective study was performed in mothers gave birth through cesarean section and received 400 (group 1, n= 116 patients), 600 (group 2, n= 121 patients) and 800 µg (group 3, n= 231) oral misoprostol. Clinical characteristics, laboratory testing and operative data were collected. Univariate analysis and propensity score matching were used for analyzing data. The primary outcome was the amount of intra-operative blood loss and side effects were assigned as a secondary outcome.

(3) **Results.** The baseline characteristics exhibited no significant differences between the groups. The study found that there was a significant difference ($p = 0.003$) in mean blood loss among the 400, 600, and 800 µg misoprostol groups, with values of 510.1, 470.5, and 402.1 ml, respectively. The administration of a higher dosage of misoprostol (800 µg) was found to be associated with a reduction in blood loss ($p = 0.004$). Less than 1% of the cases reported experiencing nausea and vomiting, and none of the cases displayed shivering. Pyrexia was observed across all groups, although a correlation was noted between lower dosage and a reduced incidence of pyrexia.

(4) **Conclusions:** Higher doses of misoprostol were associated with a significant reduction of postpartum hemorrhage, but some of its adverse effects might limit the patients' acceptability.

Keywords: postpartum hemorrhage, misoprostol, cesarean delivery.

OP.9.6

Correlations between cardiovascular comorbidities, functional status and vitamin D levels in elderly patients with dementia

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Abstract

Background: As dementia is an incurable, multifactorial neurodegenerative disease, we gathered and analyzed a number of patient characteristics, assessing possible correlations that may support early diagnosis and a more accurate prognosis for cognitively impaired patients. **Material and Methods:** We used standard clinical parameters (cognitive and functional status, comorbidities, and plasma vitamin D levels) in a study group of 162 patients aged above 55 years old. **Results:** We reported a higher incidence of cardiovascular and metabolic comorbidities in patients with severe or moderate cognitive impairment; a validated correlation between functional status, cognitive status, and serum vitamin D levels; and a more frequently associated profile of neurologic comorbidities in patients with a more significant cognitive deficiency. Our statistical analysis proved that there is a correlation between cognitive and functional statuses with serum levels of 25(OH)D, which increases with age, particularly in much older patients (>80 years old). Recent studies demonstrate the neurosteroid actions of vitamin D in the regulation of calcium homeostasis, its antioxidant and anti-inflammatory

properties, and the role in cerebral -amyloid deposition, as well as the neuroprotective action of vitamin D against neurodegenerative process associated with Alzheimer’s disease and cognition.

Conclusions: The present research adds data on the significant correlations of cognitive deficits with cardiovascular, metabolic, and neurologic diseases (and the lack of correlation with osteoarticular illness). Clinicians should make the best use of the current screening and assessment tools (such as the functional scoring of daily activities, cognitive evaluation, and the screening of risk factors). Our data may offer starting points for future in-depth analysis of dementia-modifiable risk factors.

Keywords: dementia; cognitive decline; cardiovascular risk; functional status; depression; vitamin D deficiency.

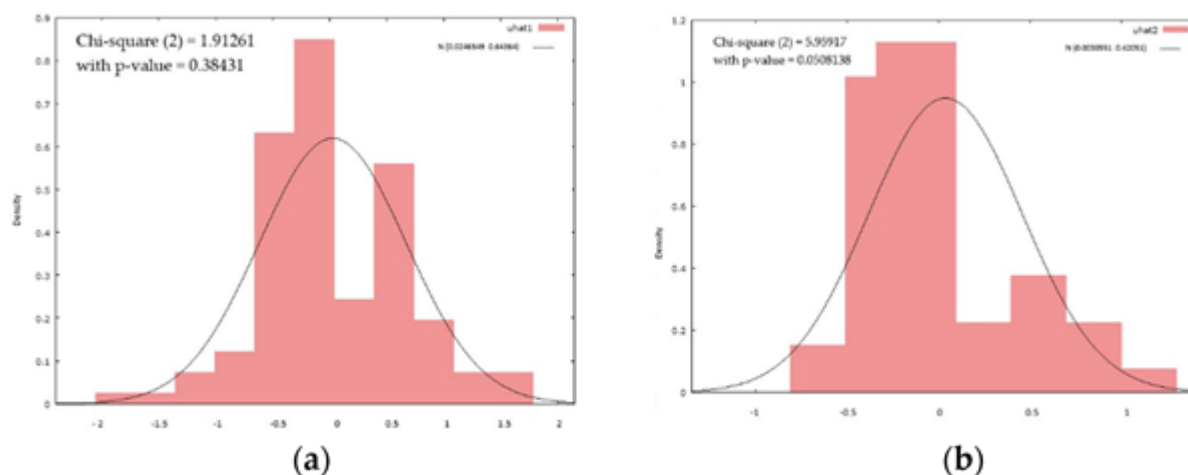


Figure 1. Histograms of Pearson model correlation of cognitive status in the (a) active group and (b) control group, showing a median Pearson correlation between the regression variables and dependent variables in the control group and a high dependence for some comorbidities (especially cardiovascular) and functional status in the cognitively impaired subgroup.

OP.9.7

The impact of the consumption of psychoactive and energizing substances on the health of children and adolescents

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Abstract

Introduction: In recent years, an increased incidence of presenting children (4-14 years) and adolescents (14-18 years) to the emergency room has been noted as a result of the constant and exaggerated consumption of energy drinks.

Material and methods: Patients between the ages of 4 and 18 were included in the study who presented themselves at the emergency room and the observation sheets of the patients were used to establish a rate of patients consuming energy drinks

Results: The National Institute of Public Health, in collaboration with the county DSPs, carried out in 2016 the study of the perception of the population from vulnerable age groups (as well as consumers) regarding energy drinks sold in Romania. 74% of subjects aged 16-18 years experienced nausea/vomiting (41%) and palpitations (40%) after consuming energy drinks. Subjects over the age of 55 had palpitations (37%), severe headaches (27%) or associated symptoms (23%).

Conclusions: The study is necessary for the implementation of a suitable diagnostic protocol for the targeted patients, so as to reduce the risk of complications that may occur as a result of excessive consumption

OP.9.8

Multisystem inflammatory syndrome: a new diagnostic, treatment or prognosis challenge in the paediatric practice

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Abstract

Introduction:

Three years have passed since the pandemic caused by SARS-CoV-2 has been officially declared by the World Health Organization (WHO). As a result, millions of COVID-19 cases in varied forms and thousands of deaths have been reported globally. COVID-19, the severe form of the disease, has been less frequent encountered in the pediatric population compared to the adults; however, at least two long-term effects have developed following the infection with SARS-CoV-2: Multisystem Inflammatory Syndrome (MIS-C) and Post-COVID syndrome.

MIS-C is a condition in which different body parts become inflamed, occurs in less than 0.01% of the children infected with SARS-CoV-2 and requires intensive care in 68% of the cases. The Clinical and paraclinical characteristics of MIS-C are both similar and distinct from well-known inflammation syndromes in children, including Kawasaki disease, Kawasaki disease shock syndrome, and toxic shock syndrome. However, the association between COVID-19 and MIS-C is still unknown, and many more studies are needed to highlight the clinical and paraclinical characteristics of the Multisystem Inflammatory Syndrome and its correlation with the infection caused by the SARS-CoV-2 virus.

Materials and methods:

Between June 2020 and January 2022, descriptive analyses have been performed that summarized the clinical aspects, the complications that needed surgical intervention in some cases, the results of the paraclinical investigations and the ongoing dynamic evolution of the patients with Multisystem Inflammatory syndrome.

Results and discussions:

Of the 551 COVID-19 patients admitted in the „Sf. Ioan” Clinical Emergency Hospital for Children, Galati, 15 children (8 girls and 7 boys) were identified with Multisystem Inflammatory Syndrome,

four (4) of them requiring hospitalization in the pediatric surgery ward, consequence of the multiple symptoms that were real medical challenges. Clinically, the respiratory (53.33%), gastrointestinal (60%), fever (73.33%), abdominal pain (26.6%), central nervous system (20%) and skin-related (20%) symptoms dominated. Paraclinically, acute inflammatory syndrome, coagulation disorders, glycoregulation, hepatocytolysis and significant radio-imaging changes were detected.

Conclusions:

The delay of the diagnostic and consequently the delay of the appropriate therapeutic treatment or the debut of an empirical one in order to improve the symptomatology, led to slow evolutions, caused by the multiorgans that have been affected. The surgical intervention aimed to improve some of the symptoms, but could not change the evolution of the disease with multiple complications.

It is absolutely necessary to elaborate an algorithm based on the corroboration between clinical and paraclinical data that could help the pediatric specialists in establishing a differential diagnostic between MIS-C and other clinical or even surgical conditions.

Keywords: COVID-19, SARS-CoV-2, pediatric population, Multisystem Inflammatory Syndrome (MIS-C)

OP.9.9

Long COVID – the heavy burden of the COVID pandemic on the adult population

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Abstract

Introduction:

The Post Covid Symptom, known colloquially as LONG COVID, is characterized by the sequelae after SARS-CoV-2 acute infection that have been defined by the World Health Organization (WHO) as a constellation of signs and symptoms, which appear approximately at 12 weeks post COVID-19 infection and persist for more than 2 months. LONG COVID affects a wide range of organs and systems, with up to 200 manifestations being described. These manifestations affect the lungs, brain, kidneys and the vascular or neuromuscular systems. Up to 70% of the COVID-19 survivors presented long-term complications associated with a significant reduction in quality of life. Up to date, most of the published research on the post-COVID sequelae highlights the issues in the adult population, with limited information on the pediatric population.

Materials and methods:

A retrospective and analytical study has been carried out on a group of 645 patients between the ages of 18 and 80+ in which we highlighted the prevalence of long-term COVID signs and symptoms. For this study, we distributed an online questionnaire based on 20 items focused on criteria such as age, gender, comorbidity, vaccine status, reinfection with COVID-19, and the period in which the infection occurred (dominant strain).

Discussion and results:

The prevalence of COVID sequelae within the study group differs by age subcategories (from 5.15% in the 70 to 80 year old subcategory, up to 28.26% in the 40 to 50 year old subcategory), as well as by gender (65,98% women versus 34.12% men).

In the scientific literature, many of the symptoms identified in this study have been associated, with LONG COVID, the five most frequent manifestations being: fatigue (68.65%), brain fog (41.79%), arthralgia (31.34%), headache (14.93%) and cough (11.94%).

Moreover, the constellation of LONG COVID manifestations varied from one patient to another based on the combination of some risk factors, such as feminine gender, comorbidities, vaccine status as well as the patogenicity of the virus (strain).

Conclusions:

LONG COVID represents a significant public health problem, and currently there are no guidelines to address its diagnosis and management. For this reason, protective measures are essential to prevent COVID-19 sequelae in the global population.

Of major importance is the understanding of the pathophysiology and symptomatology of LONG COVID in order to support the clinical management system, to establish rehabilitation programs, and to design guidelines and therapeutic research.

Keywords: COVID-19, constellation of manifestations, LONG COVID, adult population, WHO

OP.9.10

The white bear

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Abstract

INTRODUCTION

Try not to think of a white bear right now...You failed. That's an intrusive thought. The attempt to stop it is a thought suppression phenomenon. Experimental data show that suppression is often a viable mind control strategy (Abramowitz, Tolin and Street, 2001), but it is not a simple process (Wegner, 1994). Given the previous research conducted in doctoral studies on the basis of which it can be argued that the recovery of the polytrauma patient is influenced by psychological status

(PTSD, anxiety, depression), we decided to focus our attention on intrusive thoughts after the accident. Is the accident suffered a *white bear*? And if so, what are the consequences?

MATERIAL AND METHODS

This study started from the empathy towards the patient. Our oath as a doctor obliges us to constantly seek optimal solutions for a patient's well-being. However, health condition is not limited to the physical body, but the mental and psychological conditions, the environment, the length of recovery must be taken into account. The medical act is not limited to the life-saving gesture applied at a given moment. Yes, polytrauma requires prompt, safe, mathematical medical gestures, but the patient does not recover from this tragic episode in the near future. It takes time, patience, attention, coping mechanisms, psychological wellbeing, and a favourable environment to compete with the previous medical act in order to recover fully and as quickly as possible. In medicine, the duration of hospitalisation means financial costs, but recovery, mental well-being, translates into hidden costs, sometimes borne by the patient, sometimes by the health system.

This is an observational and cross-sectional study. The items that led to the production of the final database were collected through a questionnaire, which included 15 items, these representing the specific questions found in the White Bear Suppression Inventory. The questionnaire was administered to patients who suffered polytrauma and were admitted to the Emergency County Hospital "Sf. Ap. Andrei", Galati in the period 2015-2021.

CONCLUSIONS

Based on these ideas, this study has tried to add value to medical care. Considering polytrauma as a possible trigger for PTSD, considering recovery as closely related to coping mechanisms, we wanted to find in this pathway (polytrauma-recovery) the connecting element. Why is recovery easier in some cases? Why does the number of hospital days vary in the context of similar physical injuries? Why do cases of higher severity recover more easily than others with lower severity scores? Medically speaking, we can stop at pathophysiology, but in order to evolve, we have looked for other answers. We focused our attention on trauma and its psychological implications: rumination, nightmares, anxiety, obsessive thoughts related to the accident may be incriminated in the context of a more difficult recovery.

OP.9.11

Practices and updates in the management of long COVID

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Abstract

Introduction: Long COVID, also known as post-COVID syndrome or persistent COVID, is a condition that occurs in some patients who have experienced COVID-19 infection and who experience symptoms lasting more than 12 weeks after infection. The term "long COVID" merged in May 2020, but after more than 3 years since the pandemic, much about this condition is still a

mystery. While research on long COVID is still relatively new, there are already several practices and management approaches that have been shown to be effective in managing this syndrome. In this paper, we will explore some of these approaches, as well as the latest developments in long COVID management. One of the main approaches in managing long COVID is to address the specific symptoms of the patient and provide personalized care.

Materials and Methods: To achieve the proposed goals, a cross-sectional descriptive study was conducted to detect long COVID symptoms. For this study, a questionnaire consisting of 20 items regarding the manifestations presented by subjects following infections with the SARS-CoV-2 virus was composed and distributed online between January 2023 and March 2023.

Results and discussions: The paper presents the incidence of long COVID manifestations in the study sample among the general population. Of the total of 300 respondents, 84% had COVID-19 infection between March 2020 and November 2022, while 16% do not know or have not been tested. Additionally, 70% are women and 30% are men; among the predominantly reported symptoms were: 46% - cough, 40% - fever, 57% - headache, 50% - stuffy nose, 63% - fatigue, 49% - muscles aches, 23% - difficulty breathing, as well as other symptoms for more than 12 weeks after the first confirmed COVID-19 infection.

Conclusions: Studies conducted to date provide information that certain groups of people – such as women, smokers, and those who have had severe COVID-19 infections, are at higher risk of developing long COVID. A recent study that used machine learning – a branch of artificial intelligence (AI), revealed that there are actually four main subtypes of long COVID.

Additionally, SARS-CoV-2 is a virus that can affect the whole body, and individuals who survive SARS-CoV-2 infection appear to be at risk for a wide range of symptoms and conditions. We believe that large-scale studies are necessary to establish an appropriate management of general long-COVID symptoms, as the management of this condition is a complex public health challenge that requires personalized and multidisciplinary approaches.

Patients with long COVID can present with a wide range of physical and psychological symptoms that require symptomatic treatment and appropriate management.

Keywords: COVID-19 pandemic, post-COVID-19 syndrome, long COVID, long COVID management.

OP.9.12

Antibiotic resistance of *Enterobacterales* strains isolated from blood cultures in two hospitals from Galati County

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Abstract

Objectives: The purpose of this study was to evaluate the antibiotic resistance of *Enterobacterales* isolated from blood cultures of patients admitted to the Emergency Clinical Hospital for Children "Sf. Ioan" and the Clinical Hospital for Infectious Diseases "Sf. Cuvioasa Parascheva" from Galati.

Materials and methods: Between November 2013 - June 2022, 116 strains of *Enterobacterales* isolated from blood were analyzed from patients hospitalized in two hospitals in Galati. The identification of the isolated strains was done by classical, manual and automatic methods using the Vitek 2 Compact system analyzer. The testing of their susceptibility to antibiotics was carried out by the disc-diffusion method and by determining the minimum inhibitory concentration (MIC).

Results: The species isolated in order of frequency were: *Escherichia coli* (50.00%, 58 cases), with 12 strains (10.34%) ESBL+, *Klebsiella pneumoniae* (24.14%, 28 cases) with 6 strains (5.17%) ESBL+, *Enterobacter cloacae* (2.59%, 3 cases), with one strain (0.86%) ESBL+, *Klebsiella oxytoca* (2.59%, 3 cases), *Proteus mirabilis* (1.72%, 2 cases), *Serratia marcescens* (1.72%, 2 cases), *Pseudomonas aeruginosa* (0.86 %, 1 case). *Escherichia coli* showed resistance to piperacillin/tazobactam (7.14%), cefotaxime (17.14%), ciprofloxacin (18.57%), trimethoprim-sulfamethoxazole (34.29%); *Klebsiella pneumoniae* showed resistance to piperacillin/tazobactam and trimethoprim-sulfamethoxazole (35.29%), cefotaxime (41.18%), ciprofloxacin (26.47%), meropenem (11.76%), amikacin (8.82%).

Conclusions : The results of the study confirm the fact that systemic infections caused by *Enterobacterales* represent a current issue due to the seriousness of the immediate consequences, being difficult to treat and have increased severity.

Keywords: blood culture, *Enterobacterales*, antibiotic resistance.

OP.9.13

Device - aided therapies in advanced stage of Parkinson's disease

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Abstract

Introduction: Parkinson disease, one of the most common neurologic degenerative disorder of the central nervous system, is affecting approximately 1% of individuals older than 60 years and causing progressive disability that can be slowed, by treatment. The major neuropathologic findings are loss of pigmented dopaminergic neurons of the substantia nigra pars compacta and the presence of Lewy bodies and Lewy neurites.

Material and method: We present the case of a 64 years old male patient diagnosed with advanced Parkinson's disease stage 5 Hoehn & Yahr who was immobilized in bed and totally dependent on his wife. The levodopa oral therapy associated with subcutaneous apomorfine treatment that he had was no longer effective. He was admitted in Neurology Clinic of the County Emergency Clinical Hospital "Sf. Apostol Andrei" Galați, an levodopa-entacapone-carbidopa intestinal gel infusion trough LECIG pompe has been performed with a spectacular clinical evolution, but complicated with iliac and saphenous vein thrombosis which good response on heparin. Our patient was discharged after less

than two weeks, and an important part of his independence was regained thanks to this innovative treatment.

Results: The infusion via an intestinal tube immediately provides levodopa at the absorption site, rendering stable levodopa concentrations in plasma and thereby continuous drug delivery to the brain. Levodopa – carbidopa – entacapone intestinal gel efficiently reduces motor fluctuations and dyskinesias, but also some non-motor fluctuations. It thereby increases the quality of life in patients with fluctuating responses to oral dopaminergic drugs.

Conclusion: Continuous delivery of levodopa–carbidopa intestinal gel directly into the small intestine is showing promise as a treatment for patients with advanced Parkinson's disease.

Keywords: Parkinson disease, degenerative, innovative, device, prognosis.

OP.9.14

The impact of COVID-19 pandemic on pediatric onset type I diabetes

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Abstract

Introduction:

Before the Covid-19 Pandemic the most incriminated viral factor for new-onset pediatric type 1 diabetes were the Human Enteroviruses. Nowadays there are many studies reported to link the post-viral type1 diabetes to the Coronavirus infection. It is not always clear if those new cases are a simple matter of the acceleration of prediabetes, or new-onset diabetes that would not have occurred otherwise. Disruptions in macrophages caused by the infection along with exaggerated inflammatory response can play a role. Observations were made that SARS-CoV2 virus can enter the islet cells of the pancreas and damage beta-cells, triggering hyperglycemic episodes. Diabetes clinical presentation for adults during Pandemic tends to atypical hyperglycemia and potentially life-threatening diabetic ketoacidosis. Our study analyzed the new-onset pediatric type I diabetes from Galati region from January 2018 till April 2023.

Material and methods:

A retrospective pediatric population-based incidence study was performed with data from hospital records with new onset type 1 diabetes; they were divided into five groups according to the time of diagnosis: Group I, January- December 2019; Group II, January-December 2019; Group III, January-December 2020; Group IV, January-December 2021; Group V, January-December 2022, Group VI January-April 2023. Data regarding the frequency of onset of type 1 diabetes throughout the specified time gap were divided in age categories from 0-5(A),5-10(B),10-15(C),15-18(D) years old and sex categories. Clinical and paraclinical findings were examined (sensorium state, BMI, plasma glucose, HbA1c, arterial Ph, serum bicarbonate, urine ketones). Descriptive statistic methods were used for calculation of the frequency of the disease.

Result:

We identified 64 cases of type I new-onset diabetes in children between 2018 and April 2023; the number of new cases registered annually ranging from 4 to 16, noting an unusual increase in 2020 and 2022.

Compared to the average annual incidence at the national level, estimated at 10/100000 people, for pediatric cases in Galati County, in the pandemic years 2020 and 2022 we recorded an almost double incidence. Consistent with these data, the rate of hospitalizations for type I diabetes also increased during pandemic years. Moreover, we note that the frequency of new cases among hospitalized diabetes cases in children varied between 10 and almost 30%, with the highest share in 2020 and 2022. For the year 2023, the data are still incomplete.

Globally, the distribution by gender shows a slightly higher impact on account of girls, with the highest numbers noted in 2020 and 2022, with respectively 62.5 and 75%.

Although the average values of blood glucose and glycated hemoglobin persist predominantly in the pre-pandemic years, the forms of diabetes type I with moderate to severe ketoacidosis persist in the pandemic years specifically 2020 and 2022, with also the highest rates for severely underweight children.

Conclusions:

In conclusion, the incidence of new-onset type I diabetes is the maximum in the pandemic years 2020 and 2022. Although the data from 2023 are partial (4 months), the dynamics of the cases estimate the significant increase of cases in this group with a frequency of 1 case per month. There appears to be a female bias in newly diagnosed cases of type I diabetes in the pandemic years 2020 and 2022, compared to the other periods analyzed. The forms of type I diabetes ketoacidosis were the most resounding in the period of 2020 and 2022, respectively with the onset of the pandemic and the Omicron wave. Clarifying the role of COVID-19 in the emergence of new cases of diabetes in children requires more data, which will be provided by future studies.

OP.9.15

The impact of microRNA biology on head and neck carcinomas

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Abstract

Introduction. The rising incidence of cancer cases is a continuing source of concern for the medical community. There is a great deal of interest in examining the mechanisms underlying cancer activity

and identifying novel therapeutic approaches in light of today's knowledge and technology. Head and neck carcinomas, which include malignancies of the nasopharynx, oropharynx, oral cavity, hypopharynx and larynx, account for 5% of all human cancers. **Methods.** More than 50% of human genes are regulated by the family of 21–23 single-stranded nucleotide molecules known as microRNAs. A large number of genes downstream are controlled by each microRNA molecule, which can recognize several mRNA transcripts. The change of the cell cycle, cellular differentiation, proliferation, survival, motility, apoptosis, and morphogenesis that occurs as a result of microRNA activity has a role in the development of head and neck carcinoma. **Results.** Because metabolic reprogramming is a very dynamic process, it makes it easier for normal cells to turn into cancerous cells, which is a key sign of cancer. An altered metabolic pathway frequently seen in cancer cells is aerobic glycolysis. **Conclusions.** The mechanism alters how cell energy functions, reducing its effectiveness while promoting invasion, migration, and medication resistance. For this significant amount of energy, cancer cells need more glucose.

Keywords: microRNA, head and neck carcinoma.

OP.9.16

Cognitive impairment in patients with moderate and severe forms of COVID-19 in Romania: a longitudinal case-control study

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Abstract

1. Introduction

Previous influenza pandemics, as well as those caused by the SARS-1 and MERS coronaviruses, have been associated with long-term neuropsychiatric consequences in the affected populations. Recent studies support the hypothesis that the COVID-19 infection, caused by SARS-CoV2, can associate neurological and psychiatric manifestations, right from the onset, presented with taste and smell disorders, headaches, dizziness, altered state of consciousness, ataxia, convulsions or ischemic or hemorrhagic vascular accidents.

2. Materials and Methods

We conducted a prospective, case-control, randomized study, carried out between 1.08.2020-31.10.2021, in Clinic II of the Galati Infectious Diseases Hospital. In the study group we included hospitalized patients with moderate and severe forms of COVID-19, and in the control group patients who presented themselves during the same period in the ambulatory service for other infectious diseases, non-COVID-19. Both the patients from the COVID-19 group and those from the control group were evaluated by the questionnaire method, using the psychometric scales MMSE, MoCA and the time required to complete these scales. This paper describes the frequency of cognitive dysfunctions and their correlation with the epidemiological, clinical-biological and evolutive characteristics of COVID-19.

3. Results

137 patients hospitalized for COVID-19 and 42 people who constituted the control group participated in all stages of the study (baseline evaluation, after 6 months and after 12 months).

The demographic characteristics of the COVID-19 patients and the control group are similar, with no statistical differences regarding age, education level, occupation and risk behaviors.

COVID-19 infection with medium and severe forms of the disease is accompanied by cognitive dysfunctions evident in 25.5% of patients in the MMSE test and 34.3% in the MoCA score. Cognitive dysfunction in patients with COVID-19 was influenced by male gender, the severity of the COVID-19 infection, the degree of hypoxia and the association of anosmia. Global cognitive dysfunction in COVID-19 patients is significant compared to the control group, and is maintained 12 months after the acute episode.

4. Discussions

The frequency of cognitive dysfunctions in patients with COVID-19, highlighted by the decrease in the MoCA score, varies according to different studies and selection criteria from 17% to 80%.

These data are consistent with the results of our study regarding MoCA damage at baseline, in patients under 60 years of age, with moderate and severe forms of COVID-19.

5. Conclusions

Longitudinal assessment post-COVID-19 should clarify the type of cognitive disorders, frequency, severity and specific profile of cognitive dysfunction, taking into account the increased variability between individuals, which is given by contextual factors and has an impact on cognition.

Keywords: COVID-19, MoCA test, MMSE test, cognitive impairment, cognitive domains.

OP.9.17

Management of rheumatoid arthritis, a review of the literature

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Abstract

Rheumatoid arthritis is the most common rheumatic disease among connective tissue diseases. It is an autoimmune, inflammatory condition of unknown etiology that mainly affects the joints and then the extra-articular organs: lungs, heart, kidneys, eyes, digestive system, nervous system and skin. The management of rheumatoid arthritis requires a multidisciplinary approach, due to the complexity of the disease, which is based on an incompletely elucidated pathophysiological mechanism. Among the factors that can initiate the disease we can list: diet, endocrine dysfunction, biochemical disorders, climate, race, autoimmune diseases and infection. A proper diagnosis along with treatment is indispensable for the clinical management of the RA patient so that the inflammation cannot progress to cartilage and bone destruction and ultimately to major disability and long-term mortality. The 21st century marked a paradigm shift in the treatment of RA with the advent of disease-modifying antirheumatic drugs-DMARDs, a class to which conventional synthetic, biologic, and synthetic

targeted drugs belong. Administration of these drugs led to significant improvement in clinical symptoms of inflammation and progressive joint destruction. In this narrative review, through systematic literature review, we provide an overview of the progress of therapeutic management with DMARDs in the treatment of RA, for the induction of RA remission. A main objective, in the management of AR, is to adapt as much as possible the individualized therapeutic approach to each individual patient. Achieving the goal requires an early and accurate diagnosis associated with optimal personalized treatment to achieve better outcomes for RA patients.

Keywords: Rheumatoid arthritis, rheumatoid polyarthritis, DMARD therapeutic management.



OP.9.18

Incidence and prevalence of injuries in functional training

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Abstract

Functional training is a style of training that is based, mainly, on movements performed with the weight of one's own body, movements that are similar to those that a person does in a normal day. This type of training helps to increase metabolism and the cardiovascular system, which leads to the dispersion of adipose tissues in the body, to the improvement of aerobic and anaerobic systems, improving posture and the ability to perform daily tasks. CrossFit type training is a relatively new and unique type of training that combines functional training with weight lifting and gymnastic movements and which has proven to be very effective for improving the performance of athletes as long as it is performed in a specially designed space, in lonely conditions. Because both functional training and CrossFit training are relatively new workouts, the associated injury rates and incidents are not well known. The most frequently affected body locations reported in the studies were: shoulder, lumbar spine and knee.

Keywords: functional training, CrossFit training, injuries, incidents.

OP.9.19

Clinical and paraclinical characteristics of influenza virus infections in children

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Abstract

Influenza A and B cause an estimated 3-5 million cases of severe illness worldwide each year, resulting in 290,000-650,000 deaths. The aim of this study was to assess the clinical and paraclinical features of children who were hospitalized with influenza A and B viruses at the Emergency Clinical Hospital for Children "Sf. Ioan" Galati. The study was conducted on 1139 children aged between 0 and 17 years old, from October 17, 2021, to April 19, 2023. The researchers used qRT-PCR tests to detect the RNA of influenza A and B viruses, SARS-CoV-2, and RSV. Of the total sample, 3% (40/1139) were found to have Influenza A or B viruses. Among the cases, the majority were observed in urban areas (28/40), among male patients (28/40), and in the age group of 5-9 years old (18/40). In children with influenza virus, there were elevated levels of inflammatory markers and D-dimers. Overall, understanding the clinical and paraclinical features of influenza virus infection in children is crucial for early detection and appropriate management of the disease.

Keywords: Influenza A, Influenza B, children, qRT-PCR

OP.9.20

Salivary ceruloplasmin – marker for oxidative stress in patients with amalgam dental filling

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Abstract

Saliva is an important alternative diagnostic fluid with several specific advantages over serum. These include non-invasive and easy collection and related possibility to do repeated sampling. One known fact is that the saliva composition is affected by local oral status. This issue makes saliva very interesting for clinical biochemistry of oral diseases. Periodontitis, caries, oral precancerosis, and other local pathologies are associated with oxidative stress that leads to a compensatory increase in levels of saliva ceruloplasmin in patients with such imbalances. As an important diagnostic marker

over all, salivary ceruloplasmin has the premisis of becoming an analysis tool for the influence of dental filling, such as amalgam, on the oral environment.

The sample group was consisted in 10 pacients with amalgam filing but no other dental pathology. Saliva ceruloplasmin activity was determined by using ELISA kit, colorimetric detection method. Statistically, there was an increase in saliva ceruloplasmin levels detected, but further study is necessary, using a wider number of subjects.

Keywords: amalgam filling, oral environment, mercury

SECTION 10

ADVANCED RESEARCH IN PHARMACEUTICAL SCIENCES

OP.10.1

The antiviral and antimicrobial activities of quercetin: focus on prophylaxis and treatment of respiratory diseases

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Abstract

Quercetin is a large spread in nature flavonoid intensively studied in the past decades for numerous demonstrated activities: antioxidant, anti-inflammatory, antiviral, anticancer, neuroprotective, etc. With the last coronavirus pandemics, SARS, MERS, and especially Covid-19 has emerged the possibility of using the antiviral properties of quercetin in the treatment, attenuating the complications or prophylaxis of viral infections, including Sars-Cov-2. This paper summarizes the antiviral activity of quercetin and some derivatives as potential inhibitors against different viral mechanisms: virus entry, interfering with polymerases, inhibition of reverse transcriptase, proteases, or blocking virus assembly, based on in silico, in vitro, and in vivo studies. The main objective of this review, besides giving a broad picture of the pharmacological effects of quercetin against Sars-CoV-2 and other respiratory viruses, was also to document the use of this nutraceutical for antimicrobial properties as an adjuvant therapeutic agent in respiratory diseases. In the critical analysis of databases, we included studies that evaluate the effect of quercetin against Sars-Cov-2, or other types of respiratory viruses, which reported antiviral and antimicrobial activity. From a future perspective, quercetin can be included in more extensive empirical and clinical studies to evaluate its beneficial properties in the treatment or prevention of viral infections.

Keywords: quercetin, antiviral activity, antimicrobial, Covid-19, respiratory diseases.

OP.10.2

Theoretical aspects of antitumor activity in various chemical classes

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Abstract

Cancer is a complex disease and it is a significant barrier in maintaining increased life expectancy, causing, in Europe, 2.7 million new cases and 1.3 million deaths due to tumors in 2020. It is estimated that cancer deaths will become the leading cause of death in industrialized countries, with the incidence and prevalence of this condition continuing to increase.

The specialized literature on the classification and use of antitumor chemotherapy was studied. PubMed, ScienceDirect, Elsevier were analyzed to identify relevant data, in accordance with the proposed theme and subsequently selected hippuric acid derivatives with potential antitumor action.

The ideal anticancer drug would eradicate cancer cells without harming normal cells. Due to their variety, both in structure and therapeutic action, they can be classified in several ways, but nevertheless, these substances are particularly toxic, having adverse reactions with a major impact on health. Current research attempts to reduce toxicity and at the same time to enhance antitumor activity, by creating new synthetic compounds with anticancer action.

The major obstacle to therapeutic success is resistance to chemotherapy due to either the inability of the drug to reach the target, or the tumor is resistant to the action of chemotherapy or due to the mutations it undergoes after a successful cytostatic treatment.

Thus, the study opens new perspectives for the synthesis of new derivatives with increased antitumor potential, with high therapeutic activity and low toxicity, which could also decrease resistance to treatment.

Keywords: Chemotherapy; Antitumor; Cytostatic

OP.10.3

The biological activity of polyphenols extracted from the products and by-products obtained from grapes

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Abstract

This paper is a review of the accumulated evidence suggesting that grapes (*Vitis vinifera* L.) are rich in bioactive molecules that contribute to the proper functioning of the human body.

The fruit of *Vitis vinifera* (grapes) contains various biologically active compounds such as phenolic acids, anthocyanins, flavonoids and polyphenols (resveratrol).

The main biologically active and much-studied component of grapes is resveratrol, a natural stilbene derivative that has attracted and continues to attract immense attention among researchers in the biomedical field, due to the many biological properties it possesses, with an impact on human health and ailments.

In recent years, active constituents found in the fruit, seeds, stems, skin and pomace of grapes have been identified and some have been intensively studied. In this paper, we summarize the active constituents of the products and by-products obtained from grapes and their biological activities, including the antioxidant, antibacterial, antitumor, anti-inflammatory, anticariogenic activity as well as the cardioprotective effect.

Keywords: *Vitis vinifera*, polyphenols, resveratrol, biological activity.

OP.10.4

Bee venom, perspectives in therapeutic use

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Abstract

Motivation: The paper is a review of bee venom and its health benefits. Since the late 19th century, bee venom was known for its potential therapeutic uses of biomolecules. Efforts are being made to discover safe methods combined with modern delivery systems to minimize the occurrence of adverse reactions. To improve clinical and therapeutic applicability, special attention is paid to the use of bee venom in combination with modern medicine, a process mediated by synergistic effects.

Material and method: We looked at the current progress in studying the benefits of bee venom on the pharmacological effects and mechanisms of action following its administration, as well as new approaches to delivery and transport systems involving loading into nanoparticles as a delivery vehicles and the use of polymer microneedles for transdermal administration.

Results: The pharmacology of bee venom has been researched through in vivo and in vitro care studies that have demonstrated multiple effects: antimicrobial, antioxidant, antiviral, antitumor, cytoprotector, and antiarthritic. Transdermal delivery of melittin via polymer microneedles had good therapeutic efficacy and could become a new therapy with superior compliance. Nanoparticles have been shown to be effective for bioactive compounds, the venom could be safely transported and long-term, retarded preparations would be obtained.

Conclusions: The formulation of pharmaceutical products containing bee venom is still at the level of experimental studies requires close collaboration between researchers and clinicians to assess the safety and effectiveness of administration in the treatment of patients. Although they were proven therapeutic effects, there are potential side effects or allergic reactions which still limits the safety of the administration of bee venom or its components.

Keywords: Bee venom, melittin, microneedles, nanoparticles

OP.10.5

Sulfonamide compounds - promising antidiabetic therapeutic agents

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Abstract

A very widespread chronic disease, namely Diabetes Mellitus, affects a considerable number of people worldwide, in Europe 1 out of 11 adults suffering from diabetes, and the predictions for the coming years being gloomy due to the dramatic increase in clinical cases of diabetes, as well as morbidity. The latest research on this condition aims at the permanent development of new oral

antidiabetic drugs, from the need to meet the glucose control in a precise and efficient way by means of pharmacological tools. The design and synthesis of sulfonamide derivatives are new chemotherapeutic approaches, so the present study presents their progress regarding the potential therapeutic action for the treatment of diabetes. 1-(phenylsulfonyl)piperidine-3-carbonitrile and vildagliptin are new sulfonamide derivatives of pyrrolidine and piperidine; 5-(3-chlorophenyl)-1,3,4-oxadiazol-2-amines and 2-cyano-N-(5-substituted-oxadiazol-3-yl)pyrrolidine-1-sulfonamides are sulfonamide derivatives of 1,3,4-oxadiazoles, these being only a part of the new promising antidiabetic agents obtained by chemical synthesis and reported in the current specialized literature. *In vivo* and *in vitro* characterization methods were used to evaluate new sulfonamide compounds, proving their ability to significantly reduce elevated glucose levels. In conclusion, the versatile behavior of the new sulfonamide compounds have attracted the attention of many researchers in the medical-pharmaceutical field. Because of their low toxicity and superior efficacy, thousands of sulfonamide structures are still under development and investigation.

Keywords: antidiabetic, sulfonamide derivatives, synthesis, diabet mellitus.

OP.10.6

Selenium: An antioxidant with a critical role in anti-aging

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Abstract

This paper reviews scientific research on anti-aging, with a special focus on the antioxidant role of selenium, an essential trace element, and highlights the latest findings on the mechanisms and potential health benefits associated with preventing or delaying age-related diseases. The anti-aging effects of selenium are attributed to its antioxidant properties, which protect cells from oxidative damage caused by free radicals. The antioxidant ability of selenium is due to the activity of selenoproteins and plays a key role in redox homeostasis. Since the beginning of time, people have been looking for means that can increase life expectancy, natural methods of rejuvenation, and "life without death". In recent years, this branch of medicine has developed exponentially, and researchers have focused on scientific studies in search of solutions, diets, and anti-aging drugs that will give the best possible results. Aging is caused by the accumulation of cellular senescence in various organs and tissues. An oxidation-reduction imbalance leads to excessive production of reactive oxygen species (ROS) or decreased elimination of ROS, resulting in impaired cellular functions and cell senescence through impaired intracellular biomolecular functions.

The current state of anti-aging research is not very extensive, but research on aging is growing as the elderly make up a larger share of the population, focusing on reversing and inhibiting the aging process.

Keywords: selenium; aging; antioxidant effect; aging-related disease; reactive oxygen species;

OP.10.7

Microcapsules with essential oils and their benefits in the oral cavity

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Abstract

The paper is a review of essential oils, microcapsules with essential oils, with applicability in the oral cavity.

Essential oil encapsulation technology has become an increasingly popular method in dentistry due to its anti-inflammatory, antimicrobial, and analgesic properties. Essential oils can be used in various dental treatments, such as periodontal therapy, endodontics, and tooth decay treatments.

Having a retarded effect, microcapsules with essential oils can be used to improve the effectiveness of dental treatments, thus increasing the duration of action and reducing the necessary frequency of application. They can also be used to reduce the side effects of active substances because their release is controlled and gradual.

Encapsulation of microcapsules with essential oils in suitable compounds, such as silica nanoparticles or calcium hydroxide, can increase their stability and bioavailability, which can improve the therapeutic effect. These compounds can also be used to protect oils essential by external factors such as humidity, light, and oxygen.

The most commonly used essential oils in dentistry are peppermint oil, tea tree oil, oregano oil and eucalyptus oil. These essential oils are known for their antibacterial and anti-inflammatory properties, which makes them useful in the treatment of gum inflammation, dental infections and bad breath.

In conclusion, essential oil encapsulation technology is a promising way to improve the effectiveness of dental treatments and reduce the side effects of active substances. Essential oils such as peppermint oil, tea tree oil, oregano oil and eucalyptus oil can be successfully used in dentistry for their antimicrobial and anti-inflammatory properties.

Keywords: Essential oils, microcapsules, nanoparticles

OP.10.8

The spontaneous flora of Dobrogea - A source of active principles used in medicine

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Abstract

The area of Dobrogea is a special area in terms of the spread of medicinal plants, very fertile due to the soil and the atmosphere. The sea is a factor that helps to diversify the flora, it helps it to take root

and come to life, in various forms or species of plants. The present work aims to present some of the plants with importance for the pharmaceutical field.

Taraxacum Officinale L. (Papadia) is one of the plants widespread in the Dobrogea area and is used to treat dyspepsia, spleen, liver disorders, hepatitis and even anorexia. In Europe, North America and Asia it has been used to treat leukemia and breast cancer .

Serpylli herba (wild thyme) is also found in the spontaneous flora of Dobrogea, having antioxidant, antibacterial and anti-inflammatory effects.

Sambucus Nigra (Black Elderberry) is widely found in the spontaneous flora. The phytotherapeutic principles found in elderberries are known for their antiviral, antioxidant and antidepressant properties, but they also have a great impact on obesity. It has also been shown that elderberries have the ability to destroy coronaviruses.

Cotinus Coggygia (Smoke tree), a medicinal plant used in skin and mucous membrane injuries. In vivo and vitro studies show that it has anti-inflammatory, antibacterial, cytotoxic, antioxidant, antidiabetic and hepatoprotective properties .

Hypericum perforatum L. (St. John's wort) is one of the best known plants for its applications in medicine. The main constituents of this plant, the hypericins, have proven their effectiveness in mild to moderate antidepressant episodes. They also have an antiproliferative effect. Flavonoids, tannins and xanthones help to use the preparations obtained from *H. perforatum* in gastrointestinal, hepatobiliary and skin diseases.

Our work will focus on the physicochemical, pharmacological, microbiological properties of active principles, highlighting their health benefits.

Keywords: *Taraxacum Officinale L.*, *Serpylli herba*, *Cotinus Coggygia*, *Hypericum perforatum*, plants.

SECTION 11

ECONOMIC MODELS AND STRATEGIES OF COMPETITIVENESS

OP.11.1

The contribution of European Funds to social businesses development

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Abstract

The European Committee for Economic and Social Affairs (CESA), the Organization for Economic Cooperation and Development (OECD), and the Group of Experts of the European Commission for Social Entrepreneurship (GECES) have identified access to financing as a key political pillar in the development of social enterprise ecosystems. Social enterprises are entities that prioritize a social mission while develop to their commercial activities. They look for funding from a variety of sources to start, operate, and expand, including the public sector, philanthropic foundations, impact investors, as well as major financial institutions. With all of these, social businesses frequently face obstacles in this process, more so than traditional, capitalist businesses built on traditional investors. It is possible to fall short of meeting all of the predetermined, fixed financing criteria set by the major financing providers. Additionally, there is a shared understanding and knowledge among lenders on the risks and costs associated with investments in social enterprises. The paper aims to establish what is the contribution to the development of social businesses brought by the sources of European financing through the programs dedicated to the social economy. The research was based on the answers to the questionnaire applied to a number of 143 founders of social businesses in Romania. The results showed that a number of 140 respondents benefited from European funds for the establishment of a social economy structure, within the three calls launched by the POCU financing programs. More and more attention paid to the social economy in the programs and funds made available by the European Union. However, even where funding is available, a number of social economy organizations state that they cannot access funding due to lack of capacity - information and knowledge, human resources - or inconsistencies between different legal environments. Administrative rules and methodologies often differ from program to program.

Keywords: social enterprises; funds; social economy; social mission

OP.11.2

The impact of the national institutions supports in encouraging the social economy development

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Abstract

Lack of collaboration between social economy entities negatively influences partnerships with local public administration. It succeeds partially or not at all in establishing a common list of priorities - jobs, reducing poverty, increasing the quality of life - and managing the commons - unused land or buildings, local resources. The partial response of the legislative framework to the needs of social economy entities requires assessment by type of entity in order to simplify and reduce bureaucratic procedures. The analysis of institutional construction with an impact on the social economy is not complete without mentioning the platforms and networks representing the interests of social enterprises. The purpose of this paper is to identify the extent to which the relevant institutional actors, representative organizations, organizations specialized in financing social enterprises, networks and centers specialized in the social economy, support the activities of social economy entities. The research is based on the answers to a questionnaire applied to a sample of 143 respondents, managers of social enterprises in Romania, leaving open opportunities for further research. From the perspective of the support provided by the public administration for social economy entities, we distinguish two lines of action related to the functioning mechanisms of social economy entities and those of their promotion. If those in the first category are regulated by the legislative framework - approvals, opinions, certifications, the second involves a proactive attitude on the part of the public administration towards the achievement of social benefit. According to the concept of projected and planned social development, the role of public institutions tends to move from solving current problems, applying legal regulations to orientation towards building the future.

Keywords: social entrepreneurship; impact; support; social economy

OP.11.3

Electoral districts and voting areas delimitations in the electoral process management

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Abstract

Delimiting electoral districts and voting areas is a crucial process to ensure fair representation in a democratic system. Regularly delimiting electoral boundaries is necessary to prevent population inequities across districts. The choice of delimitation practices can significantly impact election outcomes, making it crucial to establish a formal structure and set of rules for carrying out the delimitation process. Different factors, including the size of the country, physical features, and financial resources, can influence the choice of delimitation methods. Voting areas are contiguous geographic areas where all voters are assigned to the same voting or polling station, promoting voting integrity and efficient resource allocation. However, this approach requires accurate recording of geographOP.11.4ic location information and precision in managing voters' lists. While some jurisdictions allow voters to choose their preferred voting station within their electoral district, this can pose challenges in estimating the number of potential voters, staffing and material supply, and multiple voting controls. This research emphasizes the importance of properly delimiting electoral districts and voting areas to ensure fair representation and efficient election administration.

Keywords: Boundary delimitation, electoral districts, voting areas, polling places, voting integrity, resource allocation.

OP.11.4

The behavior of state institutions in the management of the COVID-19 health crisis

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Abstract

Until the recent crises, it was considered that governments, institutions and national organizations are able to communicate effectively in times of crisis, as well as to implement the necessary measures,

given that they know the mentality and habits of their own citizens. The fact that some states have managed these crisis situations surprisingly well has generated lively reactions among political and economic analysts and researchers. This research is focused on the comparative analysis of the situation in three states, respectively on the way in which the organizations and institutions involved in the management of the Covid-19 crisis. The factors that influenced the behavioral changes of state institutions during the pandemic are analyzed and comparisons are made between the socio-economic measures to support economic agents and the population, taken by the governments of the states in question, to determine the causes that generated such different results in mastering the pandemic situation.

Keywords: health crisis, management, mentality, pandemic situation

OP.11.5

Case study of smart city development in Romania

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Abstract

Amid the increasingly acute need for systematization and urban social management, Romanian cities are facing transformation attempts, their desideratum being to reach a new level of comfort and safety offered to citizens. All these aspects are in line with the sustainable development goals through the need to create the least polluted cities that offer a healthy standard of living to citizens. Starting from the sustainable development desideratum obtained by orienting urban areas to the needs of the citizen and the community, we intend to analyze through the dispersion method the level of development of smart cities in Romania. The results of the study consist in the realization of a ranking of the Romanian smart cities.

Keywords: smart cities, sustainable development, dispersion method

OP.11.6

The development of the social economy in Europe in the context of the global economic crisis

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Abstract

The economic crisis triggered by the pandemic and continued by the economic recession resulting from the geopolitical conflict worsened in 2023, generating a series of economic bottlenecks and reduced growth rates in European economies amidst financial banking instability. Currently, the

social economy is under threats of security amid rising unemployment and inflation. Based on the Social Economy Action Plan, we aim to analyse possible directions for the recovery of the social economy in terms of employment and social inclusion through statistical analysis of economic and social indicators reported by Eurostat. The results will be useful for the identification of social policies for the recovery of the European social economy and will highlight the main directions for its sustainable development.

Keywords: social economy, sustainable development, social policies

OP.11.7

Analysis of regional disparities from the perspective of the digital economy in the Industry era 5.0

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Abstract

The digital economy is a major objective of the future development of the European area and is included alongside other strategic objectives in the European Union's 2030 and 2050 Agenda. According to the Digital Economy and Society Index (DESI) in the European Union, the Nordic countries (Finland, Denmark, Netherlands, Sweden) are ranked first in the European Union, while Romania ranks last in the 2022 ranking. We propose to analyze the 4 areas of the digital economy (human capital, integration of digital technology, connectivity and digital public services) in a mix correlated with regional indicators of sustainable development with the intention of transferring the national ranking to the regional level and to obtain a ranking of regions with digital potential. The methods of the study consist in the restructuring of the DESI ranking and the regional reclassification based on the criteria of correlative ranking of the digital economy indicators in correlation with sustainable development indicators. The results of the study will form the basis of a proposal for public policies to accelerate digital development in disadvantaged European regions.

Keywords: regional disparities, digital economy and society index, digital economy

OP.11.8

Analysis of the sustainable development of the energy sector in Europe in the current geopolitical context

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Abstract

Europe has experienced an unprecedented energy crisis since the outbreak of the geopolitical conflict amid energy import blockages from Russia, the European market has faced significant increases in energy product prices that have led to rising inflation and have forced a shift towards alternative sources of energy supply. The alternative sources targeted are fossil fuels sourced from other sources but also accelerating investments in the efficiency of the energy sector, increasing the share of renewable energy in total energy and other sources of clean technology as an alternative to Russian products used for energy production in Europe. We aim to analyse from a sustainable perspective the new European energy mix in relation to the Green Deal objectives. The analysis is based on the use of Eurostat reports in a descriptive-statistical manner to identify correlations between the effects of the energy crisis and the effects of sustainable economic development in the medium term. The proposed solutions will form the basis for the configuration of a development panel based on the current European guidelines adjusted after the identification of economic vulnerabilities.

Keywords: energy crisis, statistical methods, sustainability, renewable energy

OP.11.9

Solutions to reduce urban traffic congestion - study on the North-South Corridor optimization through the implementation of intermodal terminal network

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Abstract

Urban traffic congestion is one of the most consuming time issues nowadays. Since this matter is on an ascending path, and time in traffic is unproductive, it's compulsory to find out and implement solutions to reduce the time of urban journeys. The purpose of this study is to analyze the main reasons of urban traffic congestion in urban areas and to present solutions for decreasing the time of getting from one point to other in the city. The paper focuses on a solution with a major impact that has several components, among which I mention:

- the investment component (it is a solution that involves large infrastructure works, but which can be financed from non-reimbursable European funds),

- the organizational component (involves a more detailed analysis of the changes that must be implemented in urban public transport),
- and the most difficult component, the component of changing the mentality of citizens (the component that is the most difficult to achieve but without which we will not be able to reach the defined goals)

For getting more practical I have use as case study Focsani City, and I propose this approach that complementary with other solutions cand help achieve our goals.

Keywords: urban transport, Focsani City, traffic congestion.

OP.11.10

COVID-19 pandemic as a catalyst for the digitalization of public services in Romania

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Abstract

The COVID-19 pandemic accelerated processes that were evolving slowly, such as automation, digitization, or the implementation of remote work, all over the world, including in Romania. Although progress is obvious, Romania is still on the last place in the EU in terms of digital public services. The aim of our research is to identify the factors that influence the process of the public service digitization acceleration in Romania, in Covid-19 pandemic and after. The study is based on questionnaire analysis, data's being processed for statistical analysis with the SPSS software, version 23. The correlational study highlights a strong correlation between Covid-19 pandemic and the acceleration of public services digitalization in Romania.

Keywords: public services, digitization, COVID-19, EU4Digital, Romania.

OP.11.11

What skills influence the training level of public administration employees to adapt to current changes

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Abstract

We all live in a century of speed, in a period in which there are many uncertainties, but which has brought many changes and new challenges, and all of this is also happening in the public administration. This paper presents a study about the competencies that influence employees and managers in public institutions, in their opinion, and how prepared they are for the future. In the framework of this research, I set out to verify the effects of the indicators of several skills: digital,

communication, intrapreneurial and fundraising on the preparation of employees for the future of work.

Keywords: public administration, digital competences, communication competences, intrapreneurial competences, fundraising competences

OP.11.12

The influence of leadership styles and burnout in healthcare system

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Abstract

The purpose of this paper is to analyze the relationship between leadership styles and the occurrence of burnout syndrome in healthcare employees, to identify the leadership style that accentuates the effects of burnout syndrome among employees, and to explore prevention methods that can be used to combat burnout syndrome. Leadership involves decision-making mechanisms within an organization, and the way in which a leader makes decisions and delegates tasks can lead to burnout, affecting the physical and mental health of employees in healthcare system, and can have long-term negative effects on the organization, leading to decreased productivity and employee safety. Among the ways to combat burnout from the perspective of leadership styles among healthcare employees, we can mention: empathy towards their own employees and their emotions, staff training, delegating tasks so that employees feel motivated at work and also explaining work tasks, not just executing them, so that the employee has an overview of the final goal of the activity.

Leaders play an important role in minimizing burnout in their employees, and they should implement these measures to combat the effects of this syndrome, so that the team is more motivated to perform tasks, creating a favorable work environment.

Keywords: leadership, burnout syndrome, employee, work environment

OP.11.13

The impact of digitization on the performance of services in public institutions

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Abstract

The digitization process offers numerous opportunities for improving the efficiency of activities in public organizations. By creating and using an effective model for evaluating the level of digitization of public sector organizations, both the establishment of the current framework regarding the introduction of modern technologies and the application of innovative approaches in specific activities will be aimed at, as well as the identification of "digital" reserves for increasing digitization. The

paper provides an overview of the most widely used dimensions of digital maturity measurement, pointing out that most existing models provide an incomplete picture of digital maturity, that the cultural attributes that reflect a digital culture are not systematically integrated, and that digital maturity models specific to public institutions are poorly represented. It also highlights the need to intensify research on the maturity of digital transformation as a holistic concept that must be put in relation to the performance of services within public institutions.

Keywords: process, digitization, performance, public services

OP.11.14

Drivers and barriers to sustainable tourism development in the cruise industry

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Abstract

This study aims to investigate the drivers and barriers to sustainable tourism development in the cruise industry, utilizing the bibliometric software, VOSviewer. A comprehensive literature search was conducted to identify relevant studies on the topic, and a total of 75 articles published between 2010 and 2022 were selected for analysis. The bibliometric analysis revealed that the most frequently cited keywords in the literature were sustainability, cruise tourism, and environmental impact. The results also indicate that consumer demand, regulatory requirements, and reputation and brand image are the primary drivers of sustainable tourism development in the cruise industry, while the high cost of implementation, lack of infrastructure, limited awareness, and competitive pressures are significant barriers. The study contributes to the understanding of the factors influencing sustainable tourism development in the cruise industry and highlights the need for cruise companies to adopt sustainable practices to meet the growing demand for environmentally responsible tourism. The study also demonstrates the usefulness of bibliometric software, such as VOSviewer, for analyzing large volumes of literature and identifying key research trends and themes.

Keywords: sustainable tourism, cruise industry, competitive pressures, drivers, barriers

OP.11.15

Paradoxical progress: investigating the reluctant entrepreneur's resistance to change and barriers to digital technology adoption in the digital era

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Abstract

In the age of digital transformation, the adoption of innovative technologies is crucial for entrepreneurs to maintain competitiveness and drive growth. However, a paradox emerges as a significant number of entrepreneurs display resistance to change, hindering the full potential of

technological progress. This study delves into the underlying factors contributing to this reluctance, seeking to unravel the complexities of entrepreneurial hesitation in the context of the digital era. Drawing on existing literature, we seek to identify and analyze key barriers to digital technology adoption, their underlying motivations, and the broader implications for entrepreneurship and economic development. By examining the interplay of psychological, sociocultural, and organizational factors, the study aims to provide a comprehensive understanding of the paradoxical nature of entrepreneurial resistance to change in the face of rapid technological advancements.

The investigation aims to provide a comprehensive understanding of the paradoxical nature of entrepreneurial resistance to change, despite the apparent advantages of embracing digital advancements.

The analysis acknowledges that entrepreneurial hesitation to adopt digital technologies may stem from a variety of sources, each with distinct implications for business success and sustainability. Recognizing that entrepreneurs operate in diverse contexts and industries, the discussion will address the importance of understanding the unique challenges and opportunities faced by different entrepreneurs in their journey toward digitalization. Furthermore, the role of external forces, such as market dynamics, regulatory environments, and competitive pressures, will be considered in shaping entrepreneurs' attitudes and decisions regarding digital technology adoption. By examining the interplay between internal and external factors, this analysis aims to provide a more nuanced understanding of the barriers and motivations underlying entrepreneurial resistance to digitalization. By addressing the multifaceted nature of this resistance, the research will contribute to a more nuanced appreciation of the challenges faced by entrepreneurs in the digital age. Ultimately, this research will facilitate the development of targeted interventions and support systems for entrepreneurs, aiming to foster smoother transitions into the digital era. The insights gleaned from this study will serve as a solid foundation for further exploration and research on the dynamic relationship between entrepreneurship, technological innovation, and resistance to change, enabling stakeholders to better address and mitigate this paradox in the future.

Keywords: resistance, entrepreneur, innovative technologies, digital age

OP.11.16

Findings from bibliometric analysis - key elements of digital transformation in COVID-19 era

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Abstract

Digital transformation and COVID-19 are a relatively new topic, therefore little is known about their interactions and impacts. With the widespread adoption of digital technology in society and business, a recognized research area called "digital transformation" has evolved. This analysis illustrates how significant events, like COVID-19, have an impact on some organizations' functionality and outcomes. Through a bibliometric analysis based on information taken from the Web of Science database, the paper aims to provide a comprehensive view of this topic and reveal the shared viewpoint among academics. The authors used VOSviewer for appropriate evaluation and visualization of the bibliographic materials to carry out this task's bibliographic mapping in this area.

Additionally, it aims to identify the key clusters, key topics, and a research trend in this area related to studies on digital transformation. Graphical studies show the co-authorship, keyword co-occurrence and network of significant researchers related to digital transformation. This study summarizes the majority of the key elements of the field's research on digital transformation and lays the foundation for shaping its future.

Keywords: digital transformation, technology, bibliometric analysis

OP.11.17

Correlations between causes, attitudes and benefits regarding food waste in the HoReCa sector

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Abstract

Food waste is one of today's most pressing issues. It can happen at any step along the agri-food supply chain, from agriculture to final consumption (mostly in public food services – HoReCa - and families). The HoReCa industry has been identified as having a high potential for food waste. This industry generates a substantial amount of waste, with food waste accounting for roughly half of it. Understanding the causes that lead to food waste is critical because it is important to apply the most suitable managerial initiatives to prevent and reduce their effect. Several types of HoReCa units are well aware of the need to reduce food waste because it results in financial benefits from lowering food costs and saving money, improving the reputation of the business in the community, attracting new customers. The aim of this paper is to establish some latent variables (regarding food waste causes, managerial initiatives, benefits resulted) and their correlations in a conceptual model.

Keywords: food waste, HoReCa, managerial initiatives.

OP.11.18

Analyzing the entrepreneurial behavior of horse lovers through a qualitative approach using Leximancer

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Abstract

The horse industry is an industry that offers multiple opportunities to entrepreneurs to face economic and environmental changes. This study is based on a qualitative analysis of the information provided by entrepreneurs in the equine sector to expand knowledge about sustainable entrepreneurship and

sustainability strategies in the world of horse enthusiasts. For this research, structured interviews with representatives of the equine industry from different countries were used, and data were analyzed through the Leximancer program. Also, through the Theory of Reciprocal Determinism, it was found that entrepreneurs in this sector are aware of the potential of this industry, promote themselves in this direction and support each other to strengthen their self-efficacy.

Keywords: equine entrepreneurship, horse industry, Leximancer, entrepreneurial behavior, horse enthusiasts

OP.11.19

The opportunity and importance of quality assurance in higher education institutions in Romania

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Abstract

The purpose of this paper is to analyze the impact of quality assurance on the labor market in the direction of the development of competitive and sustainable human capital. Quality assurance in higher education institutions is crucial to ensuring the students receive a high-quality education that prepares them for their future careers. In Romania the importance of quality assurance has been recognized by the government and in universities too. The development of the quality management system includes the implementation of European Standards and Guidelines for Quality Assurance in Higher Education. These guidelines provide a framework for institutions to assess and improve the quality of their programs and services. By adopting these standards, Romanian universities can ensure their programs meet international standard and are recognized by employers and other institutions around the world. Another opportunity for quality assurance in higher education in Romania is the increasing demand for skilled workers in the global economy. As the job market becomes more competitive, employers are looking for graduates who have the skills and knowledge necessary to succeed in their programs of high standards of quality. In this situation Romanian universities can help their graduates to meet as many criteria as possible in the job market and be more attractive for the employers from around the world. In conclusion, quality assurance in higher education institutions is essential for ensuring that students receive a high-quality education that prepares them for their future careers. In Romania, the implementation of European Standards and Guidelines for Quality Assurance in Higher Education, help the universities to contribute at the increasing of qualified workers in the global economy and to maintaining their reputation.

Keywords: higher education, quality management, performance, reputation

OP.11.20

A comparative analysis of entrepreneurial ecosystems in Jordan and Romania from “5C” model perspective

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Abstract

Entrepreneurial ecosystems play a significant role in the development of any economy. Public policies oriented toward the evolution of national entrepreneurial ecosystems and their interaction with foreign ecosystems require attention from practitioners, academics, and decision makers. This paper empirically explores the pillars of “5C” model: Capital, Connections, Climate, Coaching and Culture from a comparative perspective, by analyzing the dynamics of each pillar in line with their relationship with the others, in the case of entrepreneurial ecosystems from Romania and Jordan. Findings reported in this study highlight that a combination of the pillars of “5C” model led to the development of entrepreneurial ecosystems in these countries, using qualitative comparative analysis method. Implications for decision-makers are addressed through actionable solutions able to offer boosters for entrepreneurial ecosystems in these target countries.

Keywords: entrepreneurship, capital, connection, culture, coaching, climate

OP.11.21

The Romanian social enterprises evolution in European Financing Framework

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Abstract

The European Union plays a special role in the Romanian economy, because financing through its mechanisms has created a more favourable environment for the establishment and development of the social economy sector. In addition to the development of the already started activities, a particularly important role for the social economy in Romania was played by the granting of European funding starting in 2020, for the establishment of new social enterprises. The paper is focused on the contribution of the financing granted to the establishment, but especially to maintaining the newly established structures on the market. The research was based on the answers to the questionnaire applied to a number of 143 founders of social businesses in Romania. The results show that out of the 143 respondents, 140 benefited from European funding to establish social enterprises, but also the fact that 49 of them, so more than a third, would definitely not repeat this process. This fact shows that financing is not the only factor that influences the establishment and development of social enterprises, but there are barriers and challenges on other levels as well, which call into question the

desire to continue the social activity. It is necessary to continue the research because, the novelty of the term in the Romanian legislation, the lack of access to opportunities, the awareness and the strategic approaches for the promotion of social enterprises in the social economy sector, remain key challenges for the acceleration of social entrepreneurship, which require additional investigations.

Keywords: social enterprises; European funds; social economy; social mission

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SECTION 12

CONTEMPORARY CRITICAL APPROACHES ON ROMANIAN LITERATURE

OP.12.1

Culinary memories- a literary treat of Ioana Pârvulescu's essays

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Abstract

Culinary memories are not only meant to revive the taste buds or to put a smile on someone's face, but they can represent an occasion for an intrinsic meeting of writers.

Through the volume of essays *Intelectuali la cratiță. Amintiri culinare și 50 de rețete*, published in 2012, by the Humanitas Publishing House, the author Ioana Pârvulescu succeeds in bringing to light gastronomic memories from apparently past times through simple and sophisticated culinary recipes, referring to all regions of the country.

The literary treat reunited 20 guests, chosen by chance: 10 men and 10 women, each one with unique culinary stories, Ioana Pârvulescu being herself a contemporary Scheherazade.

The volume can be used as a cookbook, a book of memories, a life story or a banquet, where anyone is happily invited, according to the writer herself.

The choice of this volume of essays was due to its theme - THE GASTRONOMY, which brought together prominent writers.

Our article aims to identify both favorable and unfavorable critical reception of this volume of essays from literary and cultural periodicals, starting with April 2012 (month and year of release) to December 2012. This is the period following the release of the volume. It is used a comparative approach of the relevant articles, as a proof of Ioana Pârvulescu's essayistic talent, also expressed through the large number of favorable reviews.

Keywords: intellectuals, culinary memories, critical reception, periodicals

OP.12.2

Bogdan Petriceicu Hasdeu - in search of the intimate diary from the beginning of the 19th century

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Abstract

In the pioneering stage of the intimate diary, each author discovers the species on his own. The rules of diary writing are not difficult to follow, and foreign models offered the Romanian writer several alternatives to follow. Bogdan Petriceicu Hasdeu's diary does not summarize the facts, but obeys the law of narrative. The writer recounts a dramatic moment in his biography, the way he entered military service. Fiction is found in the text, although the events related have a factual basis. In this diary there is a gap between the time of experiencing the events and the time of recording them. Although the starting point of the diary is the events experienced by the author, it is not a conventional one, but a fragment of a picaresque novel. In a unique way, the text respects the "autobiographical pact" theorized by Philippe Lejeune, in the sense that there is a complete identity between the author, the narrator and the protagonist of the events presented. The writing proves important, as it contains one of the first meditations in Romanian literature on the poetics of the genre, the intimate diary sliding towards the autobiographical narrative.

Keywords: diary, autobiography, biography, diary, identity

OP.12.3

The social-political vision in Magda Isanos' journalism

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Abstract

Although she is known, in particular, due to the poems that are of special sensitivity, Magda Isanos did not only create lyrics, but also practised in the dramatic and epic sphere, offering the literary public, among other things, journalism.

Due to her publicism, we discover the critical nature of the young creator, her interest for literature, but also for the political debate, the totalitarian regime, its consequences.

We discover a young poet who fights until the last moment, not only with death, not only with her own destiny, but also with the injustices suffered by certain personalities in the cultural field or even communities from lower social categories.

"Ivan Turbină, story for children", "G. Călinescu - Otilia's Enigma", "Reading with surprise", "Compassion for fascists", "Answer to a young man" are some of the titles that encompass Magda Isanos' journalism and that reveal the author's ways of writing and thinking.

Exegetes believe that her publicity could have been richer if certain articles had not perished as a result of the bombardment in 1944, but the remaining ones, although they are few in number, show Magda Isanos' concern for beauty, for truth, for faith, fundamental moral values which are expressed in her lyrical texts.

Keywords: moral, journalism, social.

OP.12.4

Continuity and novelty in G. Adameșteanu's latest novel – *Voci la distanță*

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Abstract

Gabriela Adameșteanu's novel focuses special literary contemporary strategies and specific elements used in the character's profile. Paratextuality, syntax of characters, a special relation with the History are the main focus theme of her new novel.

Keywords: character syntax, contemporary writing, Gabriela Adameșteanu .

OP.12.5

The valences of the poetic discourse in "*Ultrasentimente*" by Adrian Păunescu

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Abstract

From the title of the "*Ultrasentimente*" Volume, Adrian Păunescu suggests the idea that it is full of emotion, passion and extreme sensitivity, feelings that are amplified to an intense, often exaggerated level.

With a diverse structure from a thematic point of view, it addresses a series of topical themes for the '60s generation, such as: love with its variations of unrequited love, erotic love or spiritual love; the family in which he follows the relationship between parents and children, as well as family conflicts; the nature; time that has the role of highlighting how we can stay true to our own values, regardless of the changes imposed by time; politics and society because it evokes the struggle for freedom and social justice.

The Volume is notable for its rich intertextuality, using references and allusions from universal literature to highlight certain emotional and thematic aspects of his poems, which suggests that Adrian Păunescu is an author who draws inspiration from universal literary works, building his , thus, his own poetic work. The elements of intertextuality with: Shakespeare's tragedy "*Hamlet*", through the

character Ophelia, the novel "The Old Man and the Sea" by Ernest Hemingway, "Don Quixote" or "Robin Crusoe" are noteworthy.

The "Ultrasentimente" Volume by Adrian Păunescu cannot be explicitly associated with a literary current, because it presents the inner experiences of the poet, which could be associated with romance by evoking a mysterious and romantic atmosphere, based on intense emotions and strong visual images, but also of modernism rendered by experimenting with unconventional metaphors and images, which suggest a complex and dynamic inner world.

Keywords: Adrian Păunescu, the '60s generation, intertextuality

OP.12.6

Panait Cerna – the aesthetics of poetry

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Abstract

Many of the studies undertaken on Panait Cerna's work have focused on the volume of poems, mentioning only in passing the theoretical concerns of the young Dobrogean poet. Although Cerna himself states "Poetry before everything", the two studies on Eminescu and Faust, as well as the doctoral thesis "Lyrics of Ideas" present him as a theoretician with a demanding critical discourse and an intellectual pedagogy, having origins precisely the personal demands on one's own poetic creation.

The studies in Berlin and Leipzig focused on the deepening of German idealist philosophy make Cerna tributary to the conception of Hegel, but also of Kant, and as a result, Panait Cerna attempts a redefinition of traditional poetic concepts through the prism of new ones: poetic unity is beyond the abstract, it is a concrete totality.

For the end of the 19th century - the beginning of the 20th century, Panait Cerna can be credited with having left the first treatise on poetics in Romanian culture, which led to the contextualization of the idea that Cerna is a deeper and more interesting theoretician than a poet.

Keywords: poetics, Panait Cerna, study, theorist, literary critic

OP.12.7

"Jurnalul Suedez" - Gabrielei Melinescu, from obsession to lucidity

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Abstract

"Jurnalul Suedez" by Gabriela enhances the specific of the confessional writing by pointing out its obsessive themes and a particular authorial profile.

Keywords: exile, journal, obsessive themes.

OP.12.8

Self projection in diarist writing

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Abstract:

This article proposes an analysis of the concept of an intimate diary and its appearance in the literature. The emergence of this type of literature intrigues, so it takes more than a century for it to become a literary genre in its own right. Starting from the definition present in the dictionaries according to which the diaristic genre is a minor literary genre, the intimate diary fascinates and seduces, ensuring a calm and suggestive conversation, seen as a friendly complicity between the writer and his audience. Considered by literary criticism a third actor of the intimate diary, the character in the eyes of the public is identical to the author. Studies have shown that in a narrative diary there is not a single character who disputes the text.

The existence of several selves and several voices leads to a distinction between the biographical self and the fictional self, the author not identifying himself with any, nay, he becomes a combination of the two. The fictional self is conscious, elaborate and receives a name, compared to the biographical self that is represented as a voice of the author.

Keywords: diary, biography, character, voice.

OP.12.9

Fănuș Neagu - the celebration writing

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Abstract

A celebratory thought leads us to the writing legacy left by Fănuș Neagu, and if we ask ourselves why, great stories come to mind, the articles with the glue readers in the newspapers, as he himself admits that he writes for the simple reason that he loves life and people. From all his writings, both fiction and journalism, it is clear not only that he loved life, but also that he lived it to the full, with its joys and sorrows. His writings are an interweaving of the everyday topos with influences from the imaginary and memories from Brailean space. Even if the shadows of metaphysical sadness appear that follow us all, in fact, in our existential space, reading his writings we go back in time, to childhood or adolescence and cheer up. In his work, Fănuș Neagu, creates life, atmosphere, characters, analyzes conflicts and emits ideas of value, approaches literary themes and motifs and even projects a certain political atmosphere of the texts. That is probably why the academician and literary critic and his friend, Eugen Simion admires him, considering him and graciously calling him „the luck of the Romanian language”, and we make this luck a celebration.

Keywords: Feast, literary heritage, great stories, loves life and people, the luck of the Romanian language

OP.12.10

The influence of modern Western writing on Romanian literature in the '60s

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Abstract

The writer attached to the ideology of the time, less out of conviction, but, above all, out of fear or interest, was oriented towards its identification, invective and liquidation, in whatever social environment he was: bourgeois, rural, intellectual. The predisposition of some writers for fun and purity, stylistic refinement, led to the avoidance of formal and compositional clichés, to the return of archetypes in the structure of the work. To ignore, through an isolated detachment from the group, to impose, in times of vigilant partisan control and social and moral restrictions, an irreproachable human conduct, to shape your life and work by cultivating the spirit of freedom and an aristocratic attitude, in the noble sense of the word - all these contributed to the creation of authentic writings, of a chosen artistic value.

Keywords: young writers, artistic vision, renewal intentions, narrative technique, mythical

OP.12.11

Documentary theater in Moldova in 1844 – From text to Performance. A Moldavian Rehearsal by Costache Caragiali or *Us and Us Again* – The Story of a Failure

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Abstract

In the first part of this paper, we will attempt to provide the context of the theatre situation in mid-19th century Moldova, a period of significant political, social, ideological, and cultural upheavals. In this context, we will also try to give a brief analysis of the artistic life of Costache Caragiali, a playwright, actor, director, and teacher who was one of the founders of the National Theatre of Romania, the first theatre director of the Great Theater (today's National Theater), and a pioneer in Romanian drama. In the second part of the paper, we will focus on the analysis of the play *A Moldavian Rehearsal*, which is considered perhaps the first documentary theatre text in Romania. This text captures the story of one of the first theatre troupes in Romania. Caragiali wrote a documentary play that presents the political and social events of 1844, but his attempt to stage it failed due to organizational and financial problems. The article explores the moment when Caragiali decided to write the play *A Moldavian Rehearsal* and the moment when director Cristian Ban managed to recontextualize the events of 1844 with the troupe of actors from Galați, and how a text that is 179 years old proves to be relevant, authentic, and representative for the society of 2023.

Keywords: theater, documentary, Romania, context, social, political

OP.12.12

Vasile Alecsandri and his writing

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Abstract

After a preliminary perusal of the specialized critical bibliography, since the profile of the writer and of his texts is continuously recomposed with theoretical-methodological tools, we will identify a new possibility of reading/interpreting Vasile Alecsandri's entire work. We have identified the fact that Alecsandri has, like few other poets, the ability to express bliss, happiness, which should not only be attributed to his material life, but also to his spiritual life: "March 8", "A Night in the Country", where jubilation follows the flight of fantasy.

The poet makes a fundamental contribution to the creation of the poetic language of Romanian literature, to its enrichment, by moulding expression to the demands of rhythm. By the breadth of his work, by the multilaterality of his themes and by the complexity of the directions and tendencies that run through it, the writer is for Romanian literature exactly what Victor Hugo was for French literature in the same era.

Keywords: literature, prose, historical events, historical periods, poetic language.

OP.12.13

Critical perspectives on *Cuțitul japonez* - Răzvan Petrescu

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Abstract

Răzvan Petrescu's *Cuțitul japonez* is a collection of short stories atypical for the contemporary literature by means of using special strategies and themes to develop his fictional universe.

Keywords: short stories, contemporary literature, Răzvan Petrescu

OP.12.14

Considerations of literary critics regarding the poetics of Ionel Teodoreanu's novels

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Abstract

Over time, Ionel Teodoreanu's literary creation has drawn the attention of literary criticism, not only at the level of chronicles and/or points of view (both pros and cons) expressed in periodicals or within public cultural events. His literary style and the themes approached, his more or less controversial perspective of the world represent objects of analysis for important and interesting volumes of literary criticism. This article aims to present the most resonant points of view of literary critics regarding the poetics of Ionel Teodoreanu's novels. novel, poetics, criticism voices, metaphor, reverie.

Keywords: novel, poetics, criticism voices, metaphor, reverie.

OP.12.15

Discursive and pragmatic aspects of dialogue in the novel *Fabulous Treatment* by Mircea Nedelciu

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Abstract

The paper aims to analyze from a pragmatic perspective a dialogue from the novel *Fabulous treatment* by Mircea Nedelciu. Pragmatics transforms dialogical discourse into a vast ceremonial; the dialogue is like a game that allows changing the lines (speech acts) of the partners interposing each other. The main features of dialogue between which there is a relationship of interdependence are cohesion, coherence and progression. For the success of a dialogue, the principles of interaction, commitment and cooperation must be respected. The rationalization of dialogue is achieved through the (relative) competence of the participants to intervene at the level of dialogue or metadialogue and through the justifying power that oversees the functional coherence of the communication mechanism. Metadialogue arises as an extension of the critical function and is in a continuous process of self-regulation.

Postmodern literature presents a significant evolution in the expression of dialogical discourse: a strong tendency to reduce the boundaries between the author and the readers is easily observed; the writers address the readers from a position of equality, and the readers are directly involved in the pages of the novels, becoming not only witnesses, but sometimes accomplices in the events and conversations between the characters of a literary work. To highlight these aspects, I will analyze a conversation in which the main character Luca interacts with other characters of the novel; apparently chaotic (due to the violation of punctuation rules, total freedom of expression and the mixture of narrative plans, voices and codes), the dialogue nevertheless has an organization determined by factors internal or external to the conversational activity.

I will also highlight the fact that literary characters can be characterized not only through the traditional means of characterization (through the language used), but also from the perspective of their communicative behavior.

Keywords: conversation/discussion, transmitter, receiver, conversational roles, constituents of conversational structures.

OP.12.16

Contemporary feminine writing: Adriana Babeți

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Abstract:

About being a female philologist, Adriana Babeți speaks in interviews but also in a few confessional pages from *Tovarășe de drum* or *Intelectuali la cratiță*, some anthological volumes. In the absence of a promised, self-reflexive novel, there are a few pages left from *Sarsanela* or *Amintiri din bucătărie* and some life philosophy hacks from her *Prozacs*. Her masterpiece book is an essay on the *Amazons*, a model of research and composition, which conquered, in a tour de force rarely surpassed, all possible national distinctions: it was declared the Book of 2013 and awarded the Prize of the Cultural Observer magazine, the Prize for critic of the Romanian Writers' Union, the Grand Prize of the Romanian General and Comparative Literature Association for the best comparative study of the last twenty years.

Keywords: Adriana Babeți, feminine writing, contemporary literature.

OP.12.17

„Theodoros” - un roman-ancră pour l'univers de la création de Mircea Cărtărescu?

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Resumé

Si l'écrivain contemporain se projette dans le rôle du navigateur de longue course qui vise à traverser, par son œuvre, les mers et les océans des lettres universelles, le rôle de la critique littéraire serait d'identifier les types de bateaux qui composent la flotte d'un écrivain de longue course. Mircea Cărtărescu a récemment témoigné dans un interview que sa flotte comprend de petits canots de sauvetage, mais aussi des croiseurs, des sous-marins et des navires à passagers. Quel type de bateau représente le roman „Theodoros” pour la flotte de Mircea Cărtărescu ? Désigné „roman-total” par le créateur lui-même, „Theodoros” est, entre autres, une narration à plusieurs étages, qui peut être lue comme un pastiche du texte biblique, mais aussi comme une tentative d'écrire un pseudo-roman historique ou une petite histoire épistolaire de la littérature roumaine. Le protagoniste, Tudor, traverse

par son destin de type papillon des expériences transformatrices qui font de lui le témoin des guerres qui ont changé la face du monde des deux derniers siècles. Le critique littéraire Răzvan Voncu voit Theodoros comme un „personnage carnassier”. Celui-ci devorera-t-il son „auteur végétalien”?

Des mots-clés: roman-total, narration à plusieurs étages, pastiche, „personnage carnassier”, roman pseudo-historique

OP.12.18

Myth and myth-deconstruction in the literature of secondary worlds by means of interviews

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Abstract

The literature of secondary worlds rewrites myths, which update issues of the contemporary world, and the interviews with the authors of the genre literature offer clues about the laboratory of creation, real keys to reading.

Keywords: myths, interview, secondary worlds

OP.12.19

Glimpses of the cultural life of the Town of Galați (1918 – 1948)

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Abstract:

Our paper provides a diachronic perspective on the effort of the intellectuals from Galati to the spiritual growth of the city on the Danube. The activity of some local personalities of the time is highlighted, moments from the activity of some cultural societies as well as journals and newspapers from the period we take into consideration.

Keywords: culture; local culture and personalities; cultural societies, journals and newspapers;

OP.12.20

**Literary exile – wondering the space of creation or on the identity
obsession**

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Abstract

The literature of exile focuses on special mechanisms of rendering the scriptural profile and its inner crises.

Keywords: exile, literature, identity.

SECTION 13

CULTURAL SPACES: RETROSPECTIVE AND PROSPECTIVE VIEWS

13.1. English Literature, Linguistics and Translation Studies

OP.13.1.1

Visual metaphors in COVID-19 related internet memes

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Abstract

The COVID-19 pandemic completely changed our lives and for a long time it changed the way people interacted. Socialising in real life became difficult, even impossible from time to time (during the lockdowns). People turned their focus on the machines (phones, tablets, computers, etc.). The only socialising available was online and Internet memes flooded the social networks.

Our study looks at Internet memes as they were both a form of stress release and communication. The Internet memes selected for our study were created with the aid of cinematography and most of them have captions written in English. They were carefully selected in order to belong to the first period of the pandemic (March – August 2020). We consider this period to be the crisis period as no treatment or cure was available besides masks and lockdowns.

The research questions addressed are the following: (1) What does meme interpretation depend on? (2) Can they have the same effect upon receivers that do not share the same background knowledge with the creator(s) of the internet memes?

In the current study we use both qualitative and quantitative methods. As a type of quantitative research we have used questionnaires which can prove our hypothesis that the receivers of the internet memes are able to interpret them regardless of the knowledge they might or might not share with the creator(s) of the internet meme. The quantitative method helped us measure people's perception of the metaphorical usage embedded in the Internet memes used in our research.

Keywords: Internet meme, COVID-19, metaphor, multimodality.

OP.13.1.2

Conceptual metaphor and blending at work in the financial-banking language

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Abstract

This paper aims to explicate the contribution of metaphor (and metonymy) to the meaning of some financial-banking terms. The study is underpinned by two most reliable and complementary theoretical instruments: the conceptual metaphor theory (Lakoff 1987, Lakoff and Johnson 2003, Kövecses 2010, etc.), and the conceptual blending theory (Fauconnier and Turner 2002, Coulson 2001, Oakley and Coulson 1999, etc.). We will apply these theories along with the theoretical constructs that accompany them (mental spaces, idealized cognitive models, domains, etc.) so as to explain metaphor- and metonymy-laden terms such as *account balance*, *alligator spread*, *bridge loan*, *debt ceiling*, or *tight money*. Cognitively, they are complex abstract concepts resulted from the combination of simpler concepts, on their turn resulted from the partial projection of cognitive models characterizing more concrete source domains onto target domains and/or from mappings within a single conceptual domain.

Keywords: conceptual metaphor, blending, financial-banking language.

OP.13.1.3

Professional knowledge and cognition development through translation for the secondary technological schools graduates

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Abstract

Translation proves to be an efficient updated instrument for the development of the professional and critical thinking of the secondary technological schools graduates. We provide a brief theoretical and research overview on the role of the applied language class which trains translation capacity skills. Results from a questionnaire study among students of technological schools and their potential employers suggest the pragmatic relationship between the expected educational process outcome and the individual professional performance in terms of specific knowledge and practical skills derived from text translation activity. The function of translation practice is extended to the need of after graduation continuity of professional knowledge and cognition capacity skills.

Keywords: language training, instrument of translation; adult cognition, metacognition, professional skills

OP.13.1.4

Linguistic structures with persuasive functions in political discourses in English and Russian languages

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Abstract

Political speech represents one of the most current forms of communication, which involves an interaction between the sender of the message (the political personality) and the addressee or receiver of the message (the audience, which, most of the time, is represented by the voting population or another community of political personalities). The political discourse was chosen as the object of this paper, because it combines *par excellence* several fields of linguistics: syntax, semantics, theory of argumentation, pragmatics, rhetoric, critical discourse analysis. Also, another descriptive element is the degree of cultural immersion in the argumentative structure of the discourse.

In this paper, the approach to political discourse is from a syntactic point of view; its objective is to highlight the recurrence and importance of some linguistic structures with persuasive function in the construction and delivery of the discourse, but also in the decoding and interpretation of the message by the audience. Fragments of speeches in English and Russian will be analyzed, covering the American and Russian cultural space, respectively. The motivation for the choice of the two geographical spaces lies in the linguistic differences between English and Russian, which implies the different use of some specific linguistic units, such as adverbs of manner and personal pronouns, but also in the different cultural heritage, which is observed especially in the rhetorical techniques that are used.

The work will be structured according to the following plan: the introduction, which will include the research objectives, the analysis tools, the research questions that will be addressed in the work; a part in which the political discourse will be described as a communication unit, its functions and characteristics from the perspective of the way of construction and the typology of the disseminated message, observations on the particularities through the prism of the entire spectrum of analysis: syntax, semantics, theory of argumentation, pragmatics, rhetoric. We will consider the syntactic value of some grammatical units, such as adverbs and pronouns, as well as the semantic value and, the most important aspect for achieving the objectives of the present paper, the pragmatic value. This aspect will be followed by the actual application of these theoretical concepts already mentioned on a corpus of several speeches of some political figures from the entire political spectrum on several levels in the United States of America and the Russian Federation. We will then highlight the importance of the mentioned linguistic units and their recurrence in the previously mentioned corpus. Last but not least, we will mention some cultural elements that interfere with the semantics of the linguistic instruments that are used. Finally, we will draw some conclusions that will emerge from the actual analysis of the discourse corpus carried out in the work and that will try to answer the research questions.

Keywords: political discourse, communication, cultural implications, pragmatic analysis

OP.13.1.5

Euphemistic symbolspeak in american presidential spots

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Abstract

The account presented in the paper combines insights from verbal-centric and visual theories in arguing that Political Campaign Discourse exploits multimodal manipulation, with specific reference to American election ads. Symbolspeak, or deliberate distortion of reality designed via manipulation of (visual) language and other symbols, is a ubiquitous semiotic production in multimodal meaning making environments such as Political Advertising. The present work employs a theoretical splicing that builds upon politeness theory (Brown and Levinson 1987) with features of the (un)Cooperative Principle (Grice 1975) to identify and analyze visual euphemistic symbolspeak across several levels of multimodal discourse (van Dijk 2006). Respectively, the article investigates American political spot advertisements proving multimodal manipulation based on two primary focuses: firstly, by turning the spotlight on the concept of symbolspeak as an integrated manipulative tool for deception and illegitimate persuasion in political campaigning. Secondly, by triangulating a functional multimodal critical discourse study and applying this multidisciplinary framework to representative samples of 2016 and 2020 political multimodal advertisements from the U.S. A multimodal discourse-maker/designer encodes multimodal meanings in semiotic artefacts by choosing different elements in the linguistic and visual mode, and then makes all these elements interact with each other in order to manipulate through complementary semantic intersemiosis. The overall aim is to identify, analyze euphemistic symbolspeak representations constructed through multimodal discursive strategies and verbal-visual intersemiotic complementarity, and to expose the legitimation of hidden ideologies, values and stereotypes reflected on sociocultural structures.

Keywords: symbolspeak, visual euphemism, presidential campaign discourse, political advertising, (functional) multimodal critical discourse analysis, intersemiosis.

OP.13.1.6

Being in translation: Diaspora and translating rhizomatic experiences

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Abstract

The analogy of translation is more accommodating as it reflects upon the multifaceted situations of relocation, diaspora, and languages we live in today. In this critical article I propose to highlight often-quoted notions 'location' and 'dislocation' in translation theory as well as in the narratives of Indian (Here, by 'Indian' I mean whose ancestors belong to India) Diasporic Writers like Anita Desai, Bharati Mukherjee, Amitav Ghosh, Vikram Seth, Sunetra Gupta, Rohinton Mistry, Jhumpa Lahiri, and Hari Kunzru and so on. Many theorists of the academic discipline 'Translation Studies' as well as of 'Diaspora Studies' have explicated the notions like 'location or homeland', 'dislocation', 'relocation', 'displacement', and 'a feeling of loss of cultural identity and ethnicity' in their

deliberations often bereaving the loss of beauty and essence of the source text and culture. Therefore, it would be interesting to see how this analogy works. I also argue that the diasporic writers are the translated human beings who have translated their rhizomatic experiences, elaborating the transplantation of their lives in the country they are living in through their narratives.

Keywords: translation, diaspora, rhizome, Walter Benjamin, Gilles Deleuze

OP.13.1.7

A focus on Jane Austen's literature in the Romanian Doctoral Dissertations of the last twenty-five years

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Abstract

This paper presents the research on the approaches to Jane Austen's literature as they were unfolded in doctoral dissertations defended by Romanian authors during the last twenty-five years. The data on these approaches were extracted from the online records of BibliotecaNationala a Romaniei as well as many other universities (Ovidius University in Constanta, University of Craiova, Al. I. Cuza University, Iasi, Cantemir University, Bucuresti) and county libraries (V. A. Urechia Library in Galati, A.D. Xenopol Library in Arad). The investigation was designed for documentary and analytical purposes and it finally produced a systematic and complex framework. This framework will represent a milestone in the presentation of our dissertation intended to summarize the receptions of Jane Austen's novels in their Romanian versions. Using the methods of observation, the quantitative and qualitative analyses, textual analysis and the interpretation of proposed titles and related topics, all the data were classified in such an order as to determine the references to aspects of translation studies, bibliographical information and the outlining of a chronology. This chronology will facilitate the presentation of the direct receptions of Jane Austen's novels in Romania. It represents only one direction of our discussion which will further consider the indirect reception, through university coursebooks, dictionaries of authors and histories of English literature. Research of this type is both important and useful as it shows the interest of both Romanian scholars and laymen readers in English literature and its filmic representations.

Keywords: novels, criticism, translation studies, cultural impact.

OP.13.1.8

Subtitling multimodal texts: An analysis of key structural linguistic differences in climate documentaries on Netflix (A multimodal discourse analysis study)

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Abstract

Audiovisual translation is the translation of texts that are multimodal in nature where many modes come into play. Translators have to convey the meaning while maintaining equivalence between the different modes. This paper aims to explore the challenges of transferring certain linguistic structures such as adjective phrases and compounding in multimodal texts during the process of subtitling. It attempts to investigate how compounding and adjective phrases can be a challenge in the process of subtitling between Arabic and English due to the different nature of the structure of both languages. This study examines and categorizes the strategies used by subtitlers when dealing with the multimodal incoherence resulting from the different syntactic natures of both English and Arabic. This study is based on Hartmut Stöckl's (2004) categorization of core modes, submodes, their medial variants, peripheral modes and features. It also employs Kress and Van Leeuwen's Multimodal Discourse Analysis approach (2006). The paper investigates the subtitles of twelve climate documentaries aired on Netflix as case studies for analysis. The documentaries' original language is English and the subtitles are in Arabic. The subtitles of these documentaries are analyzed to find out how translators deal with syntactically different linguistic structures and the impact of the translators' strategies on the rendition of the multimodal texts. The analysis seeks to form a link between academic theorizing and the practical practices employed by subtitlers in the professional realm of subtitling climate-related productions by exploring the techniques they employ to maintain the balance between the modes of the audiovisual product.

Keywords: Audiovisual Translation, Multimodality, Subtitling Challenges, Climate Documentaries, Compounding, Adjective Phrases.

Op.13.1.9

Animals without borders: idiomatic expressions that (do not) travel

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Abstract

This paper investigates some idiomatic expressions borrowed from the animal world, discussing their possible correspondences in three languages: English, Italian and Romanian. Similarities can be based on common biblical, literary and/or mythological origins, as well as on similar forms of life (e.g. peasant life). There may be variations on the theme, or expressions that are very distant from each other, in such a way that a translator is required to make a considerable effort of creativity to restore the original image.

Studying the animal phraseology in the three languages mentioned, we try to detect in which cases idioms have maintained equivalent zoomorphic images (the same animal or a similar one in terms of taxonomy or behavior) or they have used other images related to the natural world. Or even, in which cases idioms have moved away from this world, thus showing a possible detachment from the peasant culture that generated some of these expressions.

The paper ends with a brief exploration of the phraseological bestiary in some non-Indo-European languages. This is to verify whether the Indo-European languages and, in particular, two neo-Latin languages such as Italian and Romanian, show greater affinities in animal idioms than those possible with other linguistic families.

Keywords: idioms, animals, English, Italian, Romanian languages

OP.13.1.10

“A wonderful and terrible drama”: Rewriting *Hamlet* with a totalitarian twist

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Abstract

Polonius, Romanian author Victor Cilincă’s farcical rewriting of *Hamlet*, is worth mentioning among the many postmodernist adaptations of Shakespeare’s works, despite the fact that it is virtually unknown to both theatregoers and critics. The play premiered in 1996, in Galati, having been ‘hidden’ in the writer’s drawer for more than a decade for fear that censorship might grasp its anti-totalitarian implications. In 2011, it was translated by Petru Iamandi for an American indie press.

Prefaced by a brief overview of black humour, drawer literature, and “refashioning of Shakespeare’s image along the lines of Communist ideology” (Colipcă-Ciobanu 2016: 26), in communist Romania, the paper focuses on the meta-dimension of the two-act play, as well as on the subversive aspects identifiable at the textual level.

Keywords: political humour, communism, drawer literature, intertextuality, *Hamlet*

OP.13.1.11

The pros and cons of distance translation teaching during COVID-19 and their reflexions on the psychological and cognitive side for both the student and the teacher

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Abstract:

The exceptional circumstances imposed by the sudden health crisis of Covid 19 in the world led to the closure of all places of gathering; schools and universities had a share in that. However, a solution has been

found, which includes e-learning and distance education, which communicate information in a very simple way to learners, by the use of technological tools, whether direct or indirect, in order for them to continue studying and not to suspend learning permanently. This is completely different from traditional education, and the focus of my interest lies on the pros and cons of distance translation teaching during Covid-19 and their influence on the psychological and cognitive side for both the student and the teacher.

Keywords: Translation didactics, distance learning, cognitive achievement, job performance.

OP.13.1.12

Translating Salman Rushdie. A cognitive perspective

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Abstract

The process of translation has always been dynamic and challenging, as well as the process of investigating metaphor. And when the two are analysed together, the challenge is even greater and the result is metaphor translation, an issue tackled by both traditional linguistic approaches and recently, by cognitive approaches. The main difference between them is that the traditional view sees metaphor as an exceptional employment of language while the cognitive one considers it a conceptual mechanism of reasoning. When it comes to translation, the research has experienced a still increasing interest for metaphor translation from a cognitive point of view in the last 20 years, the turn in Translation Studies leading towards a Cognitive Translation Theory.

Within this context, this paper aims at elaborating a cross-linguistic analysis from a Cognitive perspective, focusing on metaphors and metonymies utilized by Salman Rushdie in his novels *The Ground Beneath Her Feet* and *Two years, eight months and twenty-eight nights*. The translations to analyse are *Pământul de sub tălpile ei*, accomplished by Antoaneta Ralian and published in 2011 and *Doi ani, opt luni si douăzeci și opt de nopți*, accomplished by Dana Crăciun and published in 2015.

Keywords: conceptual metaphor, cognitive turn, translation method, metaphor translation.

OP.13.1.13

Challenges of academic writing with a special focus on doctoral students

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Abstract

Academic Writing and its specific features and constraints usually constitutes a genuine challenge to all students, either at beginner or advanced level, and it is particularly relevant to doctoral students who are expected to produce scientific research in adequate specialized English in their respective fields of activity. The present article examines these types of challenges and proposes a number of remedial solutions for possible errors.

Keywords: academic writing, doctoral studies, challenge.

OP.13.1.14

Difficulties in translating contractual english

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Abstract

Legal English poses multiple problems in point of translation, especially when dealing with the standardized languages of contracts. The present article focuses on the Sale and Purchase Contract as the most widely used binding document in legal practice, and the various challenges that may occur at various levels, such as the equivalence of specialized terms and collocations, the proper interpretation of modals, phrasal verbs, and mixed deictical elements, as well as the adequate decoding of syntax and the observance of stylistic constraints. The paper also explores the manner in which such difficulties can often lead to translations errors, providing possible solutions to punctual issues that may hinder communication.

Keywords: translation, contractual English, standardized languages.

13.2. French Language and Literature

OP.13.2.1

Communiquer avec et par le conte populaire acadien dans la classe de FLE

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Résumé

Par ses deux caractéristiques essentielles – l’oralité et la forme mouvante, inachevée – le conte populaire libère et nourrit l’imagination des lecteurs et peut constituer un support agréable et instructif dans l’activité déroulée au service de la pédagogie. Le terme latin *computare* qui se trouve à l’origine du mot « conte » signifie à la fois « raconter » et « énumérer » « des choses vraies » et « des choses inventées » pour transmettre aux générations futures un « message d’hier (...) à travers aujourd’hui » (Amadou Hampâté Bâ). Un univers qui fait réellement référence aux codes du conte est l’Acadie. La lecture de ces textes ouvre une porte vers le patrimoine folklorique de la Louisiane et suscite l’intérêt des apprenants sur des aspects identitaires et langagiers tout à fait originaux. Dans ce travail, nous allons nous pencher sur quelques aspects théoriques du conte (typologie, fonctions, visées) pour explorer par la suite les « énoncés universels partiels sur la condition humaine » tels qu’ils se dégagent de deux contes acadiens (*Monsieur Tortie* et *L’Habitation*). L’illustration des aspects socioculturels, communicationnels et pédagogiques de ces récits fera ressortir une micro-carte d’identité de l’Amérique francophone. La découverte des stéréotypes construits sur les éléments de cet univers sera suivie par l’énumération des mécanismes de fonctionnement textuel et par toute une série d’exercices visant la compréhension et l’articulation des récits en question.

Keywords: Acadie, conte, stéréotype, démarche didactique

OP.13.2.2

Le discours de propagande en tant que discours argumentatif biaisé

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Résumé

Dans cette communication on se propose de mettre en avant les caractéristiques rhétorico-argumentatives du discours de propagande qui distinguent ce type de communication politique du vrai discours politique. Pour ce faire, nous allons cadrer notre communication dans la théorie argumentative perelmanienne, dans la théorie des sophismes et de l’école pragmatodialectique d’Amsterdam. Le propagandiste construit la vraisemblance, le cœur de tout discours argumentatif, en faisant appel à des arguments qui feignent la raison et les relations logiques correctes, et cela pour persuader son public. Quand même, le côté rationnel de ses constructions logico-argumentatives et donc la vraisemblance, en fin de compte, se prouvent être, à une analyse discursive approfondie, biaisés par les défauts de raisonnement glissés à bon escient. Ces biais cognitifs permettent donc au propagandiste d’atteindre ses objectifs communicationnels, à savoir d’induire de manière frauduleuse

l'adhésion de son public aux thèses avancées. Simulant le rationnel, le propagandiste crée des réalités discursives alternatives qui ont le rôle de détourner la perception commune du grand public dans le sens désiré. Amplifié par le côté émotionnel, le discours du propagandiste ne fait que prendre en otage son auditoire, ne lui laissant aucune voie de dialogue et d'analyse des thèses avancées ; comme nous allons le voir, cela est possible grâce aux arguments biaisés manipulateurs qui dissimulent des réalités pour en reconstruire d'autres, plus séduisantes et plus vraisemblables aux yeux du public.

Mots-clés: discours argumentatif, Perelman, propagande, manipulation, raison

OP.13.2.3

Le texte authentique littéraire dans les méthodes didactiques de FLE en Roumanie

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Résumé

L'enseignement roumain a connu, les derniers trente ans, des mutations au niveau de la loi de L'Éducation avec des conséquences (en grande partie) négatives pour le niveau d'éducation des actants du processus d'enseignement-apprentissage-évaluation : les enseignants et les apprenants. Les situations sont devenues de plus en plus ardues : dissemblances majeures entre les conditions de vie dans les milieux urbain et rural, manque de manuels numériques et de techniques audio-vidéos pour l'instruction en virtuel. Quant aux contenus « scientifiques » des unités d'apprentissage, les mêmes si l'on veut promouvoir des méthodes modernes d'enseignement, l'accent est mis sur la grammaire au détriment de la littérature. Les manuels proposés par les maisons d'édition prennent les modèles des méthodes français de FLE en vue de s'adapter aux nouvelles réalités. Nous nous proposons, par la suite, une analyse des textes littéraires authentiques dans les manuels numériques roumains de langue française usités dans l'enseignement préuniversitaire pour les classes de lycée et collège.

Mots-clés: manuel(s), numérique(s), français, texte(s) littéraire(s), compétence(s)

OP.13.2.4

Femina et Pestis: Relecture poétique d'Éros et de Thanatos dans le roman Le rêve de Machiavel de Christophe Bataille

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Résumé

«Il n'y a pas de Renaissance, il n'y a pas de temps anciens mais il y a dit-on des images secrètes» affirme Christophe Bataille. L'objectif de cette communication est de mettre en exergue l'image poétique du couple oxymore Éros (la femme) et Thanatos (la peste), telle qu'elle ressort du roman de Christophe Bataille, *Le rêve de Machiavel* (2008). En nous appuyant sur la théorie des pulsions énoncée par Sigmund Freud dans *Au-delà du principe de plaisir* (1920) et sur le caractère poétique de

l'image décrit par Patrick Vauday dans *La matière des images. Poétique et esthétique* (2001), nous nous intéresserons à l'esthétique et à la fonction de la paire maladie-femme dans le récit poétique. La structure fragmentaire du texte, le recours à un mythe fondateur et l'utilisation d'un lexique pertinent constituent le point central de la communication qui permet l'émergence d'une réflexion esthétique de la mort épidémique et de l'amour érotique. Nous nous demanderons si le recours au couple mythique Éros et Thanatos représente, dans la vision de Christophe Bataille, un retour vers un passé déshumanisé de l'être humain ou une étape de transition vers un futur libérateur. Ce sont des réflexions dont la réponse réside dans la structure et dans l'interprétation littéraire de l'amour-mort, une paire qui ne cesse jamais de susciter l'intérêt du lecteur.

Mots-clés: Éros, Thanatos, femme, peste, poétique

OP.13.2.5

Approche actuelle du féminisme islamique à travers la parole d'Asma Lamrabet

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Résumé

«Il n'y a pas de Renaissance, il n'y a pas de temps anciens mais il y a dit-on des images secrètes» affirme Christophe Bataille. L'objectif de cette communication est de mettre en exergue l'image poétique du couple oxymore Éros (la femme) et Thanatos (la peste), telle qu'elle ressort du roman de Christophe Bataille, *Le rêve de Machiavel* (2008). En nous appuyant sur la théorie des pulsions énoncée par Sigmund Freud dans *Au-delà du principe de plaisir* (1920) et sur le caractère poétique de l'image décrit par Patrick Vauday dans *La matière des images. Poétique et esthétique* (2001), nous nous intéresserons à l'esthétique et à la fonction de la paire maladie-femme dans le récit poétique. La structure fragmentaire du texte, le recours à un mythe fondateur et l'utilisation d'un lexique pertinent constituent le point central de la communication qui permet l'émergence d'une réflexion esthétique de la mort épidémique et de l'amour érotique. Nous nous demanderons si le recours au couple mythique Éros et Thanatos représente, dans la vision de Christophe Bataille, un retour vers un passé déshumanisé de l'être humain ou une étape de transition vers un futur libérateur. Ce sont des réflexions dont la réponse réside dans la structure et dans l'interprétation littéraire de l'amour-mort, une paire qui ne cesse jamais de susciter l'intérêt du lecteur.

Mots-clés: Éros, Thanatos, femme, peste, poétique

OP.13.2.6

Les stéréotypes dans les manuels de FLE

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Résumé

L'enseignement du Français Langue Étrangère et de l'interculturel suscite de plus en plus l'intérêt des didacticiens et des chercheurs. Par ce fait, les enseignants / formateurs bénéficient de nombreux supports pédagogiques (en ligne, ou en format physique - les manuels). Notre propos porte sur ces derniers et leur représentation des stéréotypes. Les manuels représentent le fil conducteur d'une séance pédagogique et nombreux sont les formateurs / enseignants qui les utilisent. Dans cette intervention, nous allons nous intéresser à quatre manuels, de niveaux A1-A2, publiés et utilisés en France. Deux de ces ouvrages appartiennent aux *Éditions Hachette* et deux aux *Éditions Didier*. Nous allons analyser les exercices proposés ainsi que les stéréotypes qui en découlent, la représentation de la France (pays enchanté, romantique ou carrefour de la diversité ?), le choix des prénoms cités, la représentation des genres et des métiers.

Mots-clés: stéréotypes, manuels, FLE, interculturel, exercices

OP.13.2.7

La construction de l'ethos dans le discours politique féministe de l'espace francophone

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Résumé

La présente étude se penche sur le discours politique féminin, militant pour les droits des femmes et la parité des chances, et se propose de présenter une analyse discursive comparative portant sur des discours de ce type soutenus par des femmes politiciennes de l'espace francophone mondial. Bien que nos recherches aient mis en évidence une palette assez diverse de causes défendues par les locutrices, notre attention porte sur le discours des femmes engagées afin de défendre l'égalité entre les hommes et les femmes et de prouver, par leurs actes et leurs paroles, que les femmes sont aussi capables d'exercer les mêmes fonctions que les hommes. Dans la première partie de notre travail, nous avons en vue de faire un parcours chronologique de la notion d'*ethos* allant d'Aristote à la pragmatique contemporaine de Dominique Maingueneau, Ruth Amossy et Patrick Charaudeau. Ensuite, nous allons présenter une analyse discursive suite à laquelle nous envisageons de mettre en évidence les stratégies utilisées pour la construction de l'ethos militant ou l'image de soi que l'orateur se construit dans son discours pour contribuer à l'efficacité de son dire. Notre corpus contient des extraits tirés de six discours portant sur la parité des chances émergeant de l'espace francophone de l'Europe, du Canada et de l'Afrique, un espace inégal du point de vue politique et social, d'où l'intérêt de cette comparaison. En utilisant la méthode empirique d'analyse, nous comptons identifier des

ressemblances, mais surtout des dissemblances dans la manière dont le discours projette la construction de l'ethos.

Mots-clés: ethos discursif, discours militant, analyse du discours, condition de la femme, stratégie discursive

OP.13.2.8

Ethos d'identification dans le discours

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Résumé

Le discours des sites annonces se construit en fonction de plusieurs tactiques comme par exemple les modes d'interaction et en fonction de l'identité de ceux qui écrivent les annonces. Ainsi, l'ethos d'identification (Charaudeau, 2005) dans le discours persuasif semble-t-il illustrer les mécanismes de communication, à savoir la stratégie discursive et la force du contenu et de cette manière les annonceurs essaient de remuer le cœur de leurs destinataires en se construisant une image de soi crédible, légitime pour les faire adhérer aux services offerts. Dans cette étude on va analyser une quatre-vingtaine d'annonces tirées des sites www.aladom.fr, www.bebe-nounou.com, www.jemepropose.fr, www.kijiji.ca, www.kiwiiz.fr, www.leboncoin.fr, www.lesparticuliers.fr, www.paruvenu.fr, www.petitesannonces.ch, www.quefaire.be, www.seniorsavotreservice.com, www.servicemalin.com, www.topannonces.fr de trois domaines différents: les offres de services ménagères, de traduction et de garde – enfants. On respecte la classification de Patrick Charaudeau de l'ethos d'identification et on exemplifie la construction de l'ethos de puissance, l'ethos de caractère, l'ethos d'intelligence et l'ethos d'humanité. La cohérence et la cohésion de la construction d'une image persuasive de la personne qui offre ses services s'harmonisent avec les attentes et les valeurs de ceux qui les recherchent. En outre, l'étude des annonces issues de trois domaines différents nous permettra de faire ressortir la liaison directe entre la spécificité du domaine et un type particulier d'ethos d'identification.

Mots-clés: persuasion, ethos, identification, annonce

OP.13.2.9

**Construire sa crédibilité dans le discours médiatique écologique.
Réflexions sur l'éthos du spécialiste dans le discours médiatique écologique**

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Résumé

L'objectif de cette étude est d'identifier les stratégies discursives utilisées dans le discours médiatique français concernant les catastrophes écologiques. Plus précisément, l'étude se concentre sur les stratégies utilisées par le journaliste pour se construire une image favorable de soi dans le discours. Pour ce faire, nous utiliserons le cadre théorique de Ruth Amossy et Dominique Maingueneau pour investiguer les représentations des deux événements catastrophiques dans la presse, à savoir la pollution chimique de la vallée de l'Orbiel dans l'Aude (octobre 2018) et l'incendie à l'usine de Lubrizol à Rouen (septembre 2019). Le corpus comprend des extraits de deux journaux nationaux français *Le Monde* et *Le Figaro*, sélectionnés dans les six premiers mois après l'événement, traitant de ces sujets. Notre approche consiste à analyser la façon dont les journalistes se construisent une image d'expert afin de persuader les lecteurs et de leur induire certaines attitudes telles que la révolte contre les autorités, la pitié pour les citoyens, la solidarité pour la cause écologique. Enfin, notre étude finira par dégager l'éthos militant spécifique du discours écologique.

Mots-clés: analyse du discours, ethos, désastre écologique, stratégie discursive

OP.13.2.10

**Enjeux argumentatifs des informations chiffrées dans les articles de presse
sur le séisme d'Indonésie 2018**

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Résumé

Le tremblement de terre de 2018 en Indonésie, qui a entraîné des pertes humaines et matérielles dévastatrices, a été largement couvert par les médias. Les articles qui ont été publiés sur cette catastrophe naturelle ne sont pas seulement informatifs mais aussi persuasifs, utilisant diverses techniques pour présenter l'information. Cette étude vise à explorer les stratégies argumentatives usées dans les articles de presse sur le tremblement de terre indonésien, avec un accent particulier sur la présentation des informations chiffrées. Nous examinerons également l'impact de ces techniques argumentatives sur la compréhension des lecteurs des informations présentées. De plus, nous chercherons à révéler la portée de la couverture médiatique sur la façon dont le public perçoit l'événement. En effet, les chiffres peuvent être utilisés de différentes manières pour convaincre ou influencer les lecteurs. Tout d'abord, il convient de se poser la question de la source des chiffres présentés. Les journalistes peuvent adopter des données fournies par les autorités locales ou internationales, mais il est important de vérifier la fiabilité de ces sources et de les citer correctement.

Ensuite, la présentation des chiffres peut influencer la perception du public sur la gravité de la situation. Par exemple, si le nombre de victimes est présenté de manière isolée, sans comparaison avec d'autres catastrophes naturelles, cela peut donner l'impression que le séisme est moins grave qu'il ne l'est en réalité. Dans cette étude nous allons analyser les articles de presse sur le séisme qui a eu lieu en Indonésie 2018, publiés dans *Le Monde* et dans *le Point*. Le cadre théorique est offert principalement par: Dominique Maingueneau (1991) et Patrick Charaudeau (2005).

Mots-clés: nombre, persuasion, séisme, émotion

OP.13.2.11

Éric-Emmanuel Schmitt, pèlerin de la fiction ou modèle de l'écrivain du XXI^e siècle

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Résumé

Écrivain à succès, Éric-Emmanuel Schmitt est l'auteur d'une production fictionnelle abondante et protéiforme qui se compose de romans, de recueils de nouvelles, de pièces théâtrales. À cheval entre deux siècles, son œuvre figure avec force la question du pèlerinage entendue comme «un voyage [qui] est un déplacement vers l'Ailleurs mais d'une nature très particulière, car il est animé par la dévotion» (Herbert, 2016 : 27). Cette acception est particulièrement perceptible dans *La Nuit de feu* dont le titre en lui-même figure l'expérience mystique vécue par Blaise Pascal dans la nuit du 23 novembre 1654. En outre, l'espace diégétique (le désert) rappelant lui aussi un épisode biblique, et l'expérience mystique qui est associée à ce qui était censé être une « simple randonnée », configure indéniablement le récit dans une sorte de pèlerinage. Ce pèlerinage effectué par Éric-Emmanuel Schmitt au sud de l'Algérie, dans le désert du Sahara, est le point de départ du questionnement intérieur de ce dernier, un questionnement qui, justement, l'entraîne dans une quête de soi fort perceptible dans ses ouvrages de fiction. Une quête de soi qui l'induit à une profonde introspection : il cherche à savoir ce qui, d'un point de vue ontologique, le définit. Notre recherche se propose de démontrer que l'expérience mystique vécue par Éric-Emmanuel Schmitt à Tamanrasset (qu'il retranscrit dans *La Nuit de feu*) est à l'origine de la configuration même de sa production fictionnelle. En cela, il devient un pèlerin de la fiction en ce sens que soit ses textes constituent une sorte de réécriture de *La Nuit de feu*, soit ils ont, un lien étroit avec cette expérience qui le modela en tant qu'homme et en tant qu'écrivain.

Mots-clés: fiction, pèlerin, expérience mystique, introspection, quête de soi.

OP.13.2.12

Analyse géocritique de la présence de la ville de Paris dans les romans policiers de Georges Simenon

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Résumé

Le six avril 2019, j'ai participé à une balade littéraire organisée par la Bibliothèque historique de la ville de Paris, événement sous le nom „Maigret et Simenon”, parce le personnage, la ville et l'auteur sont à jamais liés. Le lieu de départ a été le portail de la Police Judiciaire, 36 quai des Orfèvres, lieu iconique parce que c'est ici le bureau de Maigret. L'arrivée : 21, place des Vosges, une des habitations parisiennes de Simenon, qui est l'écrivain aux 300 livres et aux 9 000 personnages, mais son personnage absolu est Paris avec son atmosphère de brouillard, ses trottoirs humides, ses rues désertes, ses ombres, ses lumières et sa poésie infinie. L'auteur y a situé soixante-trois enquêtes de Maigret sur un total de soixante-quinze. Comment imaginer rendez-vous plus mythique que de se retrouver devant le « 36 » sur lequel plane toujours l'ombre de Maigret ? Au 36, quai des Orfèvres, au pied de l'édifice, un panneau avertit le flâneur : *«Siège de la police judiciaire, rendu célèbre par le commissaire Maigret, personnage des romans de Georges Simenon, le quai des Orfèvres possède un riche passé historique malgré ses bâtiments du XIX^e siècle et sa tour d'angle, pastiche médiéval de 1911»* La balade littéraire a marqué le 30^e anniversaire de la disparition du romancier belge, ainsi que le 90^e anniversaire de la création par ce dernier du commissaire Maigret, l'homme du «36». Dans les enquêtes du commissaire Maigret on trouve de l'intuition, de la sagesse et de l'humanité, mais leur saveur plus forte est celle de l'atmosphère qui y règne. Comme l'explique Estelle Riquois (2007: 569), *« la ville du roman noir est un véritable protagoniste de l'histoire. Elle est totalement liée au roman qui ne pourrait se dérouler ailleurs. [...] Grâce à cette assise dans le réel, le monde de ces romans est concret, tout en restant non maîtrisable par les personnages. Le décor se joue d'eux et les enferme dans l'espace clos de l'action»* En effet, les romans de Simenon proposent une image de la ville de Paris, vecteur et personnage. La balade a révélé des secrets d'écriture et des témoignages inédits. La géocritique et l'analyse du discours sont les deux grands instruments méthodologiques que j'ai utilisés dans ma démarche. Les indices discursifs liés à l'espace géographique, aux couleurs, aux odeurs et aux sons de la ville ont défini un Paris inattendu. Sillonner Paris: *«c'est ainsi que le commissaire avait réussi la plupart de ses enquêtes: en montant des escaliers, en reniflant dans les coins, en bavardant à gauche et à droite, en posant des questions futiles en apparence, en passant des heures dans des bistros parfois peu recommandables»* (*La Patience de Maigret*, chap. III). Pour lui, Paris est un labyrinthe, un pouce encre par le service des empreintes digitales et posé sur une feuille blanche. Maigret est le flâneur qui marche d'un pas ni lent, ni rapide, enregistrant des images auxquelles il semble ne prêter aucune attention. J'ai flâné sur ses traces en enregistrant les détails et en m'imprégnant de l'atmosphère simenonienne, attentive à la «polysensorialité de l'espace» mis en évidence par Bertrand Westphal dans son livre *Pour une approche géocritique des textes*.

Mots-clés: littérature policière, approche géocritique, image de la ville, espace urbain, polar, Paris

OP.13.2.13

Intensification des qualités du produit dans le discours publicitaire de la restauration rapide

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Résumé

Devenue incontournable dans une époque où la globalisation et l’interculturalité envahissent notre espace personnel, la publicité amplifie et diffuse ce qui est déjà créé, veillant à adapter et interconnecter les stratégies discursives linguistiques et non-linguistiques au contexte socio-culturel actuel. En accord avec Adam et Bonhomme (1997: 19), on peut affirmer qu’à la base de l’argumentation publicitaire reposent des arguments rhétoriques visant à diriger le comportement d’achat du public-cible: «la rhétorique publicitaire doit être pensée en termes de persuasion et d’action (achat-consommation) plutôt qu’en termes de conviction et d’intelligence». Nous analyserons la double visée argumentative, en rapport au «faire savoir» et «faire faire», par des approches discursives au niveau iconographique, logico-linguistique, analyse de composition textuelle qui s’appuient sur un syncrétisme des codes visuel, chromatique, textuel allant à la rencontre du public destinataire, en étroite liaison avec l’analyse sémiolinguistique de Charaudeau (1995). Ce panorama nous permet de procéder à l’analyse du phénomène d’intensification des traits des produits qui font l’objet du discours publicitaire de McDonald’s, à travers des panneaux et des affiches publicitaires. On verra comment cet élément unificateur est rendu par des moyens linguistiques et iconiques à la fois.

Mots-clés: intensification, superlatif, symboles, message, discours publicitaire

OP.13.2.14

De la langue à la culture par l’héritage culturel dans l’enseignement du FLE

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Résumé

Vecteur de la culture, l’héritage culturel occupe sa place en tant que support didactique dans l’enseignement-apprentissage du FLE. Les manuels de FLE condensent dans leurs pages de nombreux éléments culturels d’une langue, un enjeu puissant dans le contexte qui vise à acquérir une autonomie de la construction du savoir. Les textes, les enregistrements/les transcriptions et les images constituent une source importante de représentations culturelles mise à la disposition des enseignants et des apprenants, en étant nécessaire pour définir la manière dont la culture y est figurée. Dans cette étude, on relève l’analyse des similitudes et des différences importantes dans la reproduction des éléments culturels de deux manuels roumains de FLE publiés à quelques années d’intervalle, après la Révolution de 1989. L’interculturel peut y être renforcé en mettant l’accent sur les symboles nationaux qui sont présents dans chaque culture et qui interprètent à la fois identité et appartenance.

Dans ce contexte, une question s'impose: est-ce que l'enseignement du FLE soutient ou entrave l'acquisition de la compétence interculturelle à travers les cultures et les langues?

Mots-clés: manuel, interculturel, enseignement du FLE, l'héritage culturel, analyse

OP.13.2.15

La construction discursive de la migration. Le cas de la crise des réfugiés de 2015

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Résumé

Cette communication s'interroge sur la nomination de la *crise des réfugiés* dans la presse écrite française, à partir d'un corpus constitué autour de deux moments clés pour la presse de l'année 2015 – la mort d'Aylan Kurdi (septembre 2015) et les attentats de Paris (novembre 2015). Plus précisément, nous avons en vue des articles parus dans le journal national *Le Figaro* en septembre et novembre 2015 traitant le sujet de la *crise des réfugiés*. La manière de désignation de l'événement, les variations et l'entourage immédiat des mots-clés *réfugié* et *migrant* orientent la perception du public et, en même temps, construisent à travers le discours un appel à l'action pour faire agir d'une manière ou d'une autre – *accueillir* ou *rejeter* les réfugiés. En s'appuyant sur les travaux de Sophie Moirand, Marie Veniard et Simone Bonnafous sur le discours de la presse en général et sur le sujet de l'immigration en particulier, nous visons à faire ressortir les stratégies discursives utilisées dans et par la presse française pour construire le discours sur le phénomène migratoire de 2015. Les différentes voix à travers lesquelles se construit le discours sur l'événement l'inscrivent dans une dimension dialogique. L'hypothèse qui sous-tend notre étude est que le discours sur les *actants* peut être construit à travers la dénonciation des responsables ou en induisant le sentiment de peur se référant à un autre événement – *les attentats*. Ainsi, le discours sur l'événement central – *la crise des réfugiés* – pourrait être considéré un interdiscours stéréotypé.

Mots-clés: discours, interdiscours, crise, réfugiés, migration, nomination

OP.13.2.16

Déchirer le voile: dire l'exil

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Résumé

Thème récurrent dans la littérature maghrébine d'expression française, l'exil est un sujet qui a fait couler beaucoup d'encre. Il englobe tout un processus de métamorphose psychologique, une épiphanie qui révèle les émotions les plus profondes: peur, rage, tolérance, courage. Notre analyse, non exhaustive, propose un point de vue différent dans l'étude de l'exil comme leitmotiv de la

littérature maghrébine francophone. Les recherches nous ont découvert ses conséquences sur l'identité des femmes exilées (rupture, hybridation, aliénation, oubli, etc.). Tout au long de notre étude, nous avons identifié un aspect devenu élément de liaison entre les œuvres des auteures choisies, Assia Djebar, Nina Bouraoui, Leïla Slimani: des phases dans le devenir des exilées. Ces étapes nous offrent la chance de dérouler tout le processus de l'exil de ces personnages féminins à la recherche d'un foyer sur l'autre rive : le choc de l'exil, l'aliénation, l'hybridité, la résilience.

Mots-clés: exil, aliénation, altérité, hybridité, recherche identitaire

OP.13.2.17

L'appel aux valeurs à l'étape de présentation du programme électoral et à l'étape de l'annonce des résultats des élections. Étude de cas: Emmanuel Macron (2017) et Klaus Werner Iohannis (2019)

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Résumé

Les valeurs, comme objet d'accord partiel ou unanime, permettent d'envisager un modèle de société à laquelle un orateur se rapporte, surtout un orateur politique, lors d'une campagne électorale, dans une complicité directe ou indirecte avec ses électeurs. Pour éviter le chaos, il est indispensable que ces valeurs existent et guident les comportements humains. Elles se manifestent dans tout discours argumentatif, y compris dans le corpus que nous avons choisi, constitué de deux étapes de la campagne électorale en France (Emmanuel Macron, 2017) et en Roumanie (Klaus Werner Iohannis, 2019): l'étape de présentation du programme électoral et l'étape de l'annonce des résultats des élections. On y fait appel «pour engager l'auditeur à faire certains choix plutôt que d'autres, et surtout pour justifier ceux-ci, de manière à les rendre acceptables et approuvés par autrui» (Perelman, Olbrechts-Tyteca, 2008: 100). Les valeurs représentent des outils de persuasion dont les hommes politiques se servent en vue d'emporter l'adhésion de l'électorat, de détourner des convictions et de mettre les indécis sur la voie souhaitée. La recherche de la persuasion ne vient pas d'un simple exposé, mais elle devrait être alimentée par un vécu, un caractère, une opinion personnelle, des propositions d'action. Cette étude se propose donc de repérer les mots-valeurs, les valeurs-clés dans les mesures d'action proposées par les deux candidats et, à partir de là, de souligner une certaine vision de la société. Les schémas discursifs utilisés laissent voir aussi un type d'éthos bien peaufiné au préalable.

Mots-clés: discours de campagne électorale, schéma discursif, valeurs, orateur politique

OP.13.2.18

Analyse descriptive du commentaire méta-argumentatif dans les blogues végétariens

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Résumé

Le végétarisme est un style alimentaire en vogue grâce à ses nombreux adeptes. C'est dans ce sens que les blogues végétariens tendent à devenir un genre discursif à part entière. Plus spécifiquement, la présente étude s'attache à analyser les niveaux méta-discursif et méta-argumentatif des interactions en ligne autour du sujet du végétarisme. Elle est fondée sur l'idée que les végétariens et les carnistes s'affrontent en défendant leurs propres arguments ou en attaquant les points de vue de leurs interlocuteurs. Cet affrontement dialogal s'effectue à travers plusieurs moyens linguistiques et argumentatifs que nous mettrons en relief. De surcroît, pour démontrer la validité, la pertinence ou la vérité de leurs propres arguments ou la non-pertinence, l'invalidité des arguments des autres, les locuteurs mettent en place plusieurs représentations spontanées (par exemple: *Tes autres arguments sont aussi très pertinents; (...) j'en avais un peu marre de m'en prendre plein les dents avec ce genre d'arguments foireux/ les arguments pertinents ne nous viennent pas immédiatement à l'esprit et on ressort souvent frustré de l'échange car nous n'avons pas su faire passer le message; tous les arguments sont bons pour devenir végétan et en parler permet de faire avancer les choses...petit à petit; Faites consommer des fruits et légumes pour leurs qualités mais de grâce éviter les arguments négatifs concernant les viandes et produits animaux. Je comprends parfaitement la vision que vous défendez, et je m'en rapproche sur certains points, mais s'il vous plaît, les arguments stupides ou de mauvaise foi...*) Dans le cadre de la théorie du discours numérique (Paveau, 2017), les réactions des débatteurs en ligne correspondent aux commentaires méta-discursifs. Et selon le modèle dialogal englobant de Cristian Plantin et de Marianne Doury (2001, 2002, 2003, 2005) il s'agit de la confrontation discursive entre les Proposants et les Opposants. Pour illustrer cette interaction numérique, nos objectifs sont: de repérer et d'analyser les commentaires méta-argumentatifs ajoutés dans six blogues par les lecteurs participants. Le but de cette démarche qualitative et descriptive sera de répondre à la question suivante: comment les locuteurs ordinaires construisent le discours méta-argumentatif autour du végétarisme à partir des «mots de l'argumentation» (Plantin, 1999 et 2016)?

Mots-clés: végétarisme, évaluation des arguments, blogue, pertinence vs non-pertinence, méta-discursif et méta-argumentatif

OP.13.2.19

**Emiettement identitaire et psychogénéalogie chez les écrivaines belges
Jacqueline Harpman, Dominique Rolin et Nicole Malinconi**

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Résumé

Les noms des écrivaines belges Jacqueline Harpman, Dominique Rolin et Nicole Malinconi sont intimement liés à une typologie de personnages pour lesquels l’émiettement de la personnalité dépasse les frontières normales de l’existence pour se transformer en un trait intergénérationnel, en une chaîne que personne n’arrive à rompre. Dans notre contribution, nous nous proposons de montrer de quelle manière le filon identitaire reste le maître mot de la vie des personnages et tisse des liens intergénérationnels qui touchent à une région plus secrète de la personne – l’inconscient – et celui-ci fait irruption dans le signifiant.

Mots-clés: identité, intergénérationnel, inconscient, perte identitaire

OP.13.2.20

Daniel Pennac ou le plaisir de lire

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Résumé

Auteur de grand talent, figure de proue de la littérature française, Daniel Pennac a connu le succès dès les années 1980 avec la saga de la famille Malaussène, huit volumes, dont le dernier, appelé *Terminus Malaussène*, a été publié en janvier 2023. À l’exception *Des chrétiens et des maures*, dont la majeure partie de l’intrigue se passe avant *Au bonheur des ogres*, les ouvrages présentent chronologiquement l’histoire des personnages. Toute la saga, ainsi qu’une foule de personnages minutieusement décrits et construits à travers les romans tournent autour de Benjamin Malaussène, le frère aîné d’une famille nombreuse, un caractère inspiré de l’essai du philosophe René Girard, paru dans les années ’80, *Le Bouc émissaire*. Ce sont souvent les différences de réalité qui nous font rire: la différence entre ce qu’un personnage veut faire et ce qu’il fait (maladresses et malchances), la différence entre ce qu’un personnage pense qu’il est et ce qu’il est (ce que les commentaires du narrateur peuvent révéler), des thèmes sérieux et les thèmes légers dans la façon dont il est traité entre le choix des personnages et le contexte (comique de situation). Chez Pennac, le lecteur passionné et fidèle à ses écrits est pleinement satisfait du comique de situation, des trouvailles de style, des jeux des mots et du langage familier, souvent argotique des personnages. De plus, l’intrigue policière se marie à merveille avec ses personnages atypiques et attachants.

Mots-clés: Saga Malaussène, comique, intrigue policière

OP.13.2.21

Les anamorphoses de l'écriture migrante

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Résumé

Le dispositif imaginaire de l'écriture migrante franco-qubécoise contemporaine s'articule d'une manière fractale, anamorphosante dans un jeu des plis, des spirales, des rhizomes ayant au centre une communication ondulatoire complexe de l'exil viscéral, de l'enracinement cauchemardesque et de la recomposition identitaire via l'acte d'écriture. Les anamorphoses de l'écriture migrante traduisent le mieux le passage des frontières du héros migrant, comme l'exilé de Dany Laferrière traversant «le pays réel» vers «le pays rêvé» ou l'exilée de Ying Chen changeant l'espèce. Le héros de cette écriture témoigne les violences de son pays natal, dénonce les atrocités commises par les dictatures et l'impérialisme, examine la conscience de l'Histoire et communique un destin brisé. C'est par le truchement des images anamorphotiques que la défiguration de leur destinée apparaîtra dans les textes de cette écriture. Les récits migrants contiennent une pléthore considérable d'expériences traumatiques sur lesquelles les personnages ont passé grâce aux souvenirs de l'enfance heureuse comme dans les écrits de Dany Laferrière ou de Wajdi Mouawad, aux périodes de résilience où les héroïnes de Kim Thúy et de Ying Chen se sont métamorphosées et ont pris le destin dans leurs mains, en sortant de la zone d'invisibilité dans celle d'existence visible, en trouvant le rivage libérateur.

Mots-clés: littérature, identité, écrivain migrant, anamorphoses

OP.13.2.22

S'enraciner à Montréal et écrire l'exil

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Résumé

Ville rhizomique par excellence, Montréal a toujours permis, voire a favorisé l'exil. En espace exilaire d'ouverture vers l'Autre, elle est devenue l'un des topos favoris de la migrance. Les écrivains d'adoption temporaire ou définitive témoignent d'une mémoire individuelle et collective. Montréal est un repère incontestable pour le foisonnement identitaire. Nous allons étudier de quelle manière (avec admiration et/ou passion ? avec peur et/ou intérêt ?) se situent sur cette scène montréalaise de multiples confrontations identitaires quelques écrivains célèbres tels que : Régine Robin, Sergio Kokis, Marco Micone, Naim Kattan, Kim Thúy, Dany Laferrière et la Roumaine Felicia Mihali, ainsi que leurs lieux privilégiés dans la grille de la géocritique. Nous aborderons la problématique de l'immigrant en voie d'acculturation qui doit apprivoiser un espace urbain truffé de provocations, de fragilités et de fragmentations.

Mots-clés: Montréal, rhizome, écriture migrante, identité, exil, Laferrière, Mihali, Robin, Thúy

OP.13.2.23

La terminologie des médias sociaux en français et roumain

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Résumé

Le présent travail analyse la problématique de la traduction de la terminologie des médias sociaux. La terminologie des médias sociaux en français et roumain est influencée par la croissance exponentielle des termes en anglais. Dans la plupart des cas le terme anglais devient le terme usité en français et en roumain, faute d'équivalent dans les deux langues. L'évolution du domaine entraîne la multiplication de ces emprunts. La traduction de ces termes est le plus souvent une tâche extrêmement compliquée, les termes obtenus par traduction étant souvent ignorés par les usagers de médias sociaux. Nous nous proposons donc d'essayer de trouver des stratégies pour une meilleure traduction de la terminologie des médias sociaux afin d'essayer d'implanter les termes traduits sur les réseaux sociaux et de limiter le nombre d'emprunts de l'anglais.

Mots-clés: traduction, terminologie, glossaire, médias sociaux, néologisme

OP.13.2.24

Réinvestissement de l'énoncé définitoire *Le vaccin, c'est...* dans le discours

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Résumé

Cette communication se penche sur l'analyse de la structure *le vaccin c'est...* figurant dans des titres d'articles centrés sur le débat pour ou contre la vaccination contre la Covid-19. La structure correspond à un énoncé définitoire copulatif, qui comporte un definiendum et une séquence définissante réunis par *être* par un verbe métalinguistique (Riegel, 1987: 30). De même, la structure est assimilable à ce que Robinson (1954: 19 sqq) appelle *définition descriptive*, ce qui revient à affirmer qu'on a affaire à un acte définitoire relevant des locuteurs et du discours ordinaire. Cette vertu de l'énoncé définitoire permet l'analyse des enjeux de son emploi dans le discours vu que la sélection d'une certaine séquence définissante pour un certain terme traduit une intention persuasive du locuteur, surtout dans le genre discursif médiatique qui a intérêt à orienter la réception du message transmis. Des énoncés tels *Le vaccin c'est non/la liberté/une panacée/les autres/un bien commun* instaurent de nouveaux usages référentiels pour le terme vedette, que les lecteurs sont convoqués à suivre dans leur lecture. Ces nouveaux usages servent de support au locuteur pour avancer son point de vue sous la forme d'une définition, exploitant ainsi le poids argumentatif de l'énoncé définitoire qui découle du fait qu'il légitime le passage du défini à une série ouverte de termes (Plantin, 2016: 194). Compte tenu de ces aspects, notre analyse s'attache à investiguer, du point de vue discursif, les séquences définissantes mises en exergue dans les énoncés *le vaccin c'est...* L'hypothèse qui sous-tend notre recherche est que ces séquences, qui traduisent des prises de position et des jugements, cachent derrière l'effort du locuteur de trouver la meilleure mise en

discours du nouvel usage référentiel proposé pour le terme *vaccin* afin de changer les représentations des lecteurs et emporter leur adhésion au point de vue avancé.

Mots-clés: définition, vaccin, discours médiatique, argumentation

OP.13.2.25

Dire et prétendre ne pas dire: le cas de la *prétéritio*n

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Résumé

Inventoriée parmi les figures macrostructurales de pensée (Laurent, 2001: 77), la *prétéritio*n est étudiée dans le cadre de la pragma-dialectique par Snoeck Henkemans (2009) en tant qu’outil de présentation par le truchement duquel le locuteur ajuste stratégiquement la discussion afin d’imposer son point de vue à l’auditoire. Cette étude est divisée en trois parties : premièrement, je vise à donner un bref aperçu du concept de *prétéritio*n, tel qu’il est envisagé dans les ouvrages de stylistique française ; par la suite, l’étude est dirigée vers la saisie des modalités à travers lesquelles la *prétéritio*n est réalisée dans le discours ; la dernière partie fait ressortir la fonction rhétorique de cette figure qui contribue à faire l’auditoire adopter le point de vue en jeu. Diverses prises de position sur la situation des Roms me permettent d’étudier le fonctionnement rhétorique de la *prétéritio*n dans un discours argumentatif où le locuteur se sert de cette figure soit pour introduire un point de vue sous l’apparence d’une affirmation à laquelle il n’adhère pas de façon qu’il ne veut pas la communiquer, soit pour avancer un argument à l’appui d’un point de vue sous la forme d’une affirmation qu’il prétend ne pas vouloir faire.

Mots-clés: *prétéritio*n directe ou indirecte, fonctionnement rhétorique, acte assertif, verbe de parole

OP.13.2.26

Pratiques innovantes de l’enseignement plurilingue au Mali: conception et élaboration d’outils optimisant le transfert linguistique de la langue nationale vers le français

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Résumé

La notion de transfert est devenue, de nos jours, le cheval de bataille, la cible de tout apprentissage significatif en matière d’éducation plurilingue. Malgré que sa conceptualisation varie souvent d’un auteur à l’autre, sinon d’une tradition théorique à une autre, le principe commun aux systèmes scolaires africains ayant adoptés l’enseignement bilingue, est que «l’apprenant déjà scolarisé en L1 n’ait pas tout à apprendre de zéro en entrant en L2. Il devra utiliser ses savoirs et savoir-faire déjà disponibles pour agir ou produire dans une nouvelle situation. Car la perception d’une ressemblance peut lui permettre d’étendre à la L2 ce qu’il sait faire en L1 qu’il connaît déjà.» (Elan, 2014 : 9). Il

n'est pas aisé pour un enseignant de changer des pratiques scolaires du jour au lendemain, surtout lorsqu'il n'est pas initialement formé à la méthode qu'on lui demande d'appliquer en classe, comme c'est le cas pour nos enseignants des classes bilingues. De ce point de vue, la présente étude vise principalement à proposer des modèles de pratiques pouvant optimiser le transfert d'une langue à l'autre. Ainsi, la principale question à laquelle notre problématique renvoie est la suivante: les pratiques d'enseignement utilisées par les maîtres sont-elles favorables au transfert des compétences de la langue nationale au français? Pour ce faire, nous élaborons des outils pédagogiques susceptibles d'aider à leur mise en application. Nous nous proposons, donc, d'étudier les plurilinguismes à partir de l'analyse des pratiques d'enseignement du français fondées sur la comparaison avec la langue nationale.

Mots-clés: enseignement, éducation, système scolaire, outils pédagogiques, compétence(s).

SECTION 14

HISTORY, SOCIETY, ECONOMY AND SPIRITUALITY IN THE ROMANIAN TERRITORY

OP.14.1

Propaganda and fake-news in current mass-media. Controversies and interpretations concerning `identity`, `nation`, `nationalism`, `statehood` and `sovereignty` in the case of Ukrainians/Ukraine

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Abstract

Globalism and globalisation have opened new directions in the issue of war as well. Moving away from a traditional, strictly military confrontation, today conflicts imply a diverse arsenal of means, spanning from strategic intimidation with arms of mass destruction to diversionist acts and even mass misinformation operations and manoeuvres. Experts use the term `hybrid war` to name this new type of confrontation, and the Russian Federation's aggression towards Ukraine makes no exception. Our study follows misinformation campaigns carried through digital platforms and social networks, which have continuously countered key concepts concerning the formation of the Ukrainian nation and state. The use of truncated history and its subjective interpretation is, on one hand, meant to validate Russia's aggression, on the other, to create confusion amongst Ukrainians and to weaken the international community's support of Ukraine.

Keywords: misinformation; hybrid war; Russian-Ukrainian war; propaganda; history of Ukraine.

OP.14.2

The material condition of the secular clergy from Wallachia during the XVth–XVIIth centuries

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Abstract

Not all the secular clergies had the same material condition. There were very significant differences between the clergies from the rural area and those from the urban area. The secular clergies didn't receive any payment nor monthly remuneration, and they had to earn their living through their own work. Those from villages earned their living by practicing agriculture, gardening, cropping grapevine and fruit trees, animal breeding, beekeeping and so on. The clergies who didn't own land, or the parishes that didn't have land properties, had to work on the boyar estates. The documents show us that many secular clergies managed to buy land properties. Those who managed to purchase land properties, were ministers in the villages of the wealthy peasants and those from the urban area. The situation was not equal among the priests from the rural area because some of them could only buy

fields, whereas the others could get estates. The clergies from the urban area bought land properties, especially in the suburban areas, then, they also had the chance to buy estates in the villages. The secular clergies couldn't buy land properties, they had to learn and practice different crafts such as building wooden churches, church painting, wood carving, calligraphy, bookbinding, printing and so on.

Keywords: the Orthodox Church, relations between the State and the Church, the clergies

OP.14.3

Representations of Tatars from the Romanian historical space in fiction writings

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Abstract

In the *Encyclopedia of Imaginaries in Romania*, coordinated by Corin Braga, in the volume dedicated to the "Historical Imaginary", lacks the topic of the "Tatars" from the chapter dedicated to the "Foreigner", an ethnic group emphasized by Nuredin Ibram as having a common history "for over nine centuries" with the Romanian majority. It is an absence that has its explanations. It is in any case certain that the representations (of Tatars) connected to political, national, social, economic, cultural-literary or ideological-philosophical considerations or clichés are rich. One can start with folklore studies, with the concrete, direct, multilateral investigation of oral literary creation, as Simion Florea Marian did, moving from legends, ballads and historical stories to geographical legends in which Tatars and Turks are also "discoverers and founders on Romanian soil" and we finally arrive at the modern literature. Here, from 18th-century to contemporary writers, such as Mircea Cărtărescu, Tudor Ganea, Elena Netcu, without forgetting Mihail Sadoveanu, Gala Galaction, Zaharia Stancu etc. created more or less memorable characters or representations, confirming that "the Romanians' images of the foreigners with whom they came into contact over the centuries contain numerous distortions, clichés and stereotypes, positive or negative as the case may depend sometimes to the era", as written in the aforementioned "Encyclopedia". In the present study, an important space is given to an almost monographic novel, "Cara-Su", the masterpiece of the writer I. Valerian.

Keywords: Tatar community and personalities, history of the imaginary, literary representations, history of Dobrogea, I. Valerian, "Romanian orientalism"

OP.14.4

A step into the past. Dimitrie C. Crăciunescu

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Abstract

While the representatives of noble families from many European states were given the priority place in the great golden book of history, those from the imperial provinces remained not only in the shadow of the great ones but also forgotten decades later by their fellow citizens.

In the future, we can only hope that the information discovered following the research of a consistent number of documentary materials will lift the veil of nothingness and allow us to rekindle society's interest in the Crăciunescu family. Dimitrie C. Crăciunescu, a devotee of the "Junimea" society and the "Convorbiri Literare" magazine, was born on March 1, 1840 in Chisinau and died on March 13, 1908, in Cahul. Gheorghe Bezviconi, the biographer of many prominent personalities from Moldova, wrote that Crăciunescu herself told the story of her father, that his grandfather, Trifon Crăciunescu, moved from Craiova to Molodva, where he obtained the degree of boyar. His son, Constantin, the father of the "junimist", was raised to the nobility in 1843 by Mihail Vodă Sturdza and married Sultana, the sister of the Bessarabian poet Ion Sârbu. Dimitrie C. Crăciunescu studied at the Regional High School in Chisinau, from which he graduated with a silver medal in 1857. Under the Romanian administration, Crăciunescu was county prefect and deputy in the IV Cahul college, In 1878, he was elected president of the County Standing Committee, in which capacity he served for 30 years.

Keywords: Cahul, Crăciunescu, winemaker, agrarian reform.

OP.14.5

The Maritime Danube, Danube Delta and the Double Border (1914-1918)

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Abstract

The period of the First World War was a real challenge for the border of the Maritime Danube and the Danube Delta. Thus, a real security structure was created for Tulcea county at the border: the organization of border guard troops, provisions regarding free movement on the Danube, the actions of the Tulcea security brigade, the actions of the Delta security service, solving some cases of espionage, measures to combat smuggling, the actions of the gendarmes regarding the elimination of bandits from the area near the border, the ongoing military operations. Also, with the occupation of Dobrogea by the Central Powers, the Maritime Danube and the Danube Delta know a double border, to the north with Russia and to the south with the Central Powers. One aspect of our study is occupied by the abuses of the Bulgarian-German administration on the border of the southern part of the Maritime Danube and the Danube Delta.

Keywords: The Maritime Danube, Danube Delta, border, security, espionage

OP.14.6

Romanian military operations to control the retreating Bolshevik troops towards Russia (Nov. 1917 - Mar. 1918)

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Abstract

After the October Revolution of 1917, the Russian army on Romanian territory disintegrated and began its retreat home. A large part of the Russian soldiers, who in the meantime had become Bolsheviks, escaped from the control of their commanders, and, on their way to the Dniester, began to commit a series of crimes against the population and civil institutions, namely destruction, robbery, rape and even murders. Sometimes they attacked military depots or seized trains on which they boarded and headed for the border to Russia. Other times they entered into armed conflict with the Romanian troops who were trying to ensure the protection of the population and the guarding of strategic objectives. To put an end to this anarchic situation, the Romanian army took a series of measures that led to the neutralization of the Bolshevik groups and taking control of the disorganized, retreating troops.

Keywords: Romanian army, Russian army, October Revolution, Bolsheviks, crimes against the population and civil institutions.

OP.14.7

N. Steinhardt at the security investigations

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Abstract

Among the intellectuals who suffered repressive measures from the Security during the communist regime in Romania, was N. Steinhardt. Hostile to collaboration and compromise with the far-left totalitarian regime, N. Steinhardt went through a period of marginalization and interruption of publishing and editorial activity for three decades, he preferred, with dignity and loyalty - in exchange for freedom at the price of betraying some intellectuals whose "fault" was reading, interpreting and spreading some literary works –, the detention regime, accepted jobs far inferior to his intellectual and professional training and endured, in the last 30 years of his life, constant surveillance by the police political from communist Romania. The relations between N. Steinhardt and the Securitate can be analyzed in three distinct stages: preliminary to the arrest (December 1969-January 1960); from the period of detention (January 1960-August 1964); after release from the prison system (August 1964-March 1989). During these years, as a result of the investigations and interrogations taken by the Security bodies, several statements given by N. Steinhardt resulted, those in the first two stages being strongly impregnated with the "aulic language" of the Security which converted the words of those investigated into the language communist dogma.

In the investigations that preceded his arrest, six individual statements and one during the trial were recorded, but we learn about the interrogations taken during the detention from the memorial volume Jurnalul fericirii, since the Security Archives do not keep their results. After his release from prison, between N. Steinhardt and the Securitate, there were several moments of heightened tensions on the occasion of the detention and other confiscation of the Happiness Diary or the ban on relations with some members of the Romanian exile. Therefore, from this post-detention period, 18 other statements given by N. Steinhardt are preserved, most of them revealing the observance of the "7 commandments" that the author of the Happiness Journal theorized regarding optimal behavior in front of an abusive body and discretionary, such as Security.

Keywords: N. Steinhardt, communism, Security, repression, investigations, statements.

OP.14.8

Humanisation of detention conditions in the Romanian penitentiary system post communism

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Abstract

After the Revolution of December 1989, Romanian society has underwent fundamental transformations. These have contrasted however with the hesitance to change of the penitentiary system. Only after more than a decade that's been shaken by post- communism have the effects of the sanctions imposed by international regulations concerning the defense of human rights and of the fundamental freedoms he posses been observed in the people within the prisons of Romania. The new legislative changes have fundamentally changed the living conditions within prisons, the rights of those who have been deprived of freedom, and the services that they have access to during their time serving their sentence, thus humanising the Romanian penitentiary system. In spite of the aforementioned changes, issues concerning under-funding, precarious logistics, overcrowding, discrepancies in state criminal policies, and the perspective through which Romanian society views the prison environment constitute permanent challenges and require systemic change.

Keywords: penitentiary, Human Rights, penal politics, detention conditions, contemporary history

OP.14.9

The “infodemic” and the COVID-19 pandemic: The role of public authorities, mass-media and civil society in the Republic of Moldova and Romania in combating the “infodemic” phenomenon in the period 2020-2021

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Abstract

During the COVID-19 pandemic, the information space in the Republic of Moldova and Romania was subject to a massive and unexpected wave of false information, a phenomenon associated with the notion of "infodemic". The concept of "infodemic" assumes that this kind of information has such a high speed of propagation that it can take on the proportions of a real pandemic, which contaminates public opinion. In the control of some entities of bad faith, the "infodemic" becomes a dangerous tool, capable of undermining national security and stability, as well as the citizen's trust both in journalistic materials and in the measures taken by public authorities, unbalancing the journalist-citizen partnership public authority. Therefore, we propose to present some theoretical aspects from the journalistic and communication area, legislative elements, but also casuistry, all aimed at making us understand the need to fight against the phenomenon of fake news in the Republic of Moldova and Romania, which meant a real challenge for these two countries. The study is based on the "infodemic" applied in the context of the pandemic associated with COVID-19 from the period 2020-2021.

Keywords: infodemic, pandemic, public authorities, mass media, citizens, Republic of Moldova, Romania.

SECTION 15

ADVANCED RESEARCH IN HUMAN MOTRICITY AND
KINETOTHERAPY

OP.15.1

Definition and assessment of proprioception: a literature review

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Abstract

Background: In recent years, the field of body movement research in all daily activities: physical education and sports, performance sports, leisure motor activities but also in medical recovery has undergone a considerable change due to the understanding of the role that sensory information has in motor acts, plays in neuroplasticity through use-dependent mechanisms. Currently, both "proprioception" and "kinaesthesia (kinesthesia)" continue to be used as terms in the published literature. However, professionals in fields such as neurology, neurophysiology, neuropsychology, sports and exercise medicine, and orthopedic surgery have different interpretations of the two terms. We consider that the concept of proprioception has gained particular importance for the promotion of task-specific neural development is argued to be proprioception. To perform functional movements in daily activities, physical and sports education, performance sports, in motor activities in free time, but also in medical recovery, proprioceptive sense information of different mechanoreceptors is collected.

Purpose: This study aims to do a literature review on the definition and assessment of proprioception.

Method: Data selection, collection, and analyses were performed following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. Search Strategy and Data Sources three international databases (PubMed, Scopus, and Web of Science). In each database, a search was conducted taking into account a predefined combination of keywords.

Results: A total of 9268 records (1649 from PubMed; 2825 from Scopus; 4762 from Web of Science; and 32 from other sources) were identified. After removing duplicates (n=6,372), 2,896 records were screened based on title and abstract. A total of 284 records were assessed for eligibility by full-text reads. Finally, 176 articles matched all inclusion criteria and were included in the qualitative synthesis.

Conclusion: The first definition of proprioception was published in 1906 by Charles Scott Sherrington, in a compendium of ten of Sherrington's Silliman lectures, in which the author declared that proprioception is "... the perception of joint and body movement as well as position of the body, or body segments, in space", Sherrington determined the nature of the postural reflex and its dependence on the gravitational stretch reflex and located the relevant stimuli in endogenous receptors, which had previously been shown to be sensory organs. Proprioception, described in specialized literature as the "sixth sense" is also called kinesthesia (or kinesthesia), a term introduced in 1887 by Henry Bastian, term derived from two Greek words "kinein" (movement) and "aisthesis" (sensation): "I mean the body of sensation that results from or is directly caused by movements . . . kinesthesia. By means of this sensory impression complex we are familiar with the position and movements of our limbs. . . through it the brain also gets a lot of unconscious guidance in the performance of the movement in

general." To perform functional movements in daily activities, physical and sports education, performance sports, in motor activities in free time, but also in medical recovery, proprioceptive sense information of different mechanoreceptors is collected. Most researchers who have studied this aspect recognize the centrality of proprioception sense to understanding human movement and, for example, there is ample research demonstrating that significant processing of proprioception sense can play a critical role in performance sport.

Keywords: proprioception, kinesthesia, literature review.

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OP.15.2

Correlation between spinal static disorders and gait case presentation

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Abstract

There is a strong correlation between gait, plantar pressure, dental occlusion, and oculomotor and spinal static disorders, which is supported by postural measurements using the Free Med baropodometric system and the Spine 3D spinal static analysis system.

The case chosen as an example is that of a 16-year-old teenager who has been wearing customized foot supports since age 2, with gradual deterioration of her spinal statics and gait, despite the physiotherapy treatment she has received over time (10 physiotherapy sessions, twice a year).

The choice of a personalized therapeutic plan consisting, in this case, of physiotherapy, electromyographically-assisted elongation, and correction with personalized plantar orthosis, carried out by us using the VulcanX1 milling machine and Easy Cad software, led to remarkable results in a short time.

Analysis of gait, balance, and statics of the thoracolumbar spine before and at the end of the rehabilitation program reveals the effectiveness/ineffectiveness of the treatment. The duration referred to in this presentation is almost six weeks. An important aspect is an application of a treatment program as complete as possible, in the office, under the direction of a physiotherapist (3 sessions of 60 minutes/week), associated with physical exercise at home (4 sessions/week, with exercises imposed by the specialist physiotherapist, on days when not present at the clinic).

Keywords: valgus foot, posture, physiotherapy, plantar orthosis, personalized therapeutic plan.

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OP.15.3

Promotors inducing positive effects on articular nutrition

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Abstract

Articular nutrition refers to the process of nourishing and supporting the health of the joints in the body. Joint pain and stiffness are common problems, particularly with age. Healthy joints are essential for movement and mobility and play a key role in maintaining overall physical health. Promotors for articular nutrition including appropriate diet and therapeutic exercise are beneficial for joint health, can help reduce inflammation, support cartilage growth and repair, and alleviate joint pain. Therapeutic exercise can have a positive effect on articular nutrition by promoting joint health and reducing inflammation. Regular exercise can also help maintain a healthy body weight, which can reduce the load on the joints and alleviate joint pain. Oswestry Low Back Pain Disability Questionnaire and a perception questionnaire regarding the possibility of diet change and therapeutic exercise adherence were applied. A total of 23 subjects' outpatients (10 women and 13 men, aged between 61 and 82 years, period 01.11.2021-31.08.2022) known with low back pain were investigated regarding the degree of disability. Low back pain caused minimal disability on 3 (13.04%) subjects, moderate disability was registered on 5 (21.75%) subjects, severe disability on 6 (26.09%) subjects, maximum deficiency on 3 (13.04%) subjects, and total disability on 6 (26.09%) subjects. The adherence outcomes with four choices. The result "Yes" referred to six (26.09%) subjects with minimal disability (2), severe disability (1), maximum deficiency (1), and total disability (2). Result

“**Probable yes**” referred to six (26.09%) subjects out of which moderate disability (3), severe disability (2), and total disability (1). Result “**No**” summed seven (30.43%) subjects with minimal disability (1), moderate disability (2), severe disability (2), and total disability (2). Result “**Possible no**” summed four (17.39%) subjects with severe disability (1), maximum deficiency (2), and total disability (1). SPSS analyses (Pearson correlation) highlight that men (71-75 years) registered a positive strong correlation between **maximum deficiency** and “**Possible no**” change in diet, and exercise adherence. Total disability responders answered with a “**Probable yes**” option but the dependence on their careers is decisive. The present research is extremely useful to emphasize other important promoters are education regarding changing dietary patterns and maintaining a safe and effective exercise program tailored to the individual's needs and abilities. Further interventions are based on offering information and collaborating with careers for implementation to ensure adherence to these actions for each patient.

Keywords: Articular nutrition therapeutic exercises, diet, Oswestry Low Back Pain Disability Questionnaire, disability

OP.15.4

Recovery of rotator cuff dysfunction after physical exertion using ozone therapy and physiotherapy

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Abstract:

The presence of pain due to shoulder dysfunction can have many causes, from trauma and physical exertion (especially in athletes), to degenerative conditions of the shoulder joint or cervical spine. Local inflammation (tendonitis, bursitis), subacromial impingement, adhesive capsulitis, and frozen shoulder, are all causes of functional impotence and spontaneous pain or pain in movement, common in adults.

The pain may subside on its own or under (non)steroidal anti-inflammatory treatment and physical rest within a few weeks, or it may worsen to the point of locking (freezing of the shoulder). As steroid treatment can lead to tendon rupture, presenting a high risk, especially for athletes who use the shoulder (tennis, swimming, gymnastics, weightlifting, shot put or javelin throwing, etc.), a salutary solution seems to be ozone treatment, administered locally in the form of periarticular and/or intra-articular infiltrations, associated with physiotherapy.

The oxygen-ozone gas mixture, with its anti-inflammatory, analgesic, and muscle-relaxing effects, which are almost instantaneous, increases the local oxygenation of the affected tissues, eliminating the excess lactic acid accumulated by muscle-articular dysfunction.

Although joint rest is recommended by many specialists, the daily association of movements (especially in the direction of the deficient, limited ones), has synergistic effects with the administration of the gas mixture, favoring a shorter recovery period.

In addition to the rapid reduction in pain (as measured by the verbal numerical scale), the measurement of the range of movement of the affected shoulder, compared with a healthy one, supports the effect of the treatment.

Keywords: frozen shoulder, tendonitis, ozone therapy, physiotherapy.

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OP.15.5

Responsiveness quality of life assessment

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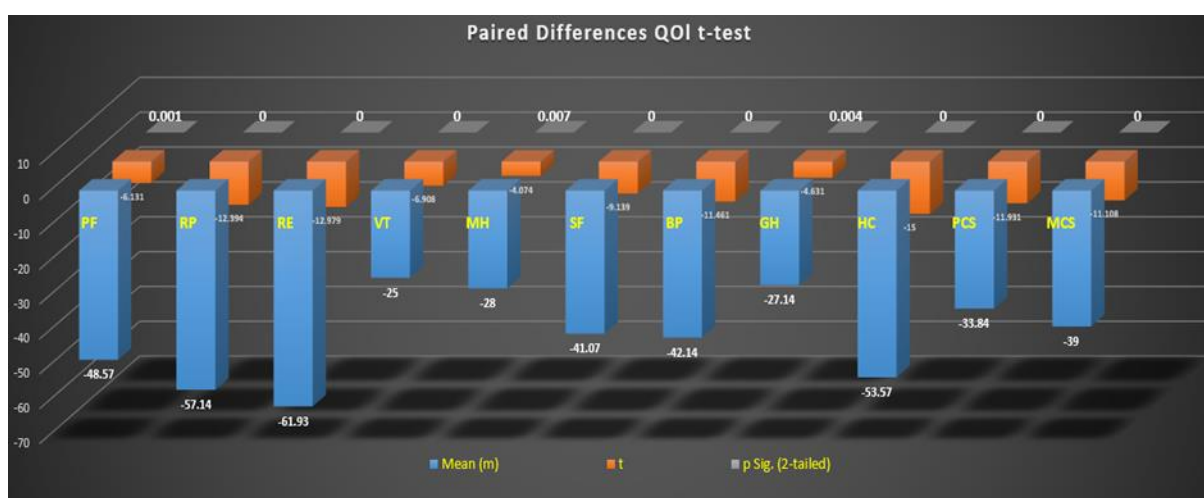
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Abstract

Quality of life (QoL) is a complex concept. WHO's the definition of health is "a state of complete physical and mental social well-being, and not merely the absence of disease and infirmity" (WHO, 1948). The research group consisted of seven subjects out of which three men and four women, mean age of 51.86 ± 11.82 , BMI mean of 29.34 ± 6.43 (overweight), presented with a physiotherapy indication for gait rehabilitation from the specialist physician from whom informed consent was obtained. The physiotherapy program implying a horizontal stationary bicycle rehabilitation program was applied for eight weeks for each patient immediately after discharge at home (April 2022 - November 2022). At T0 before beginning, the rehabilitation program was the first evaluation with SF-36 OrthoToolKit, and after eight weeks of physical therapy considered as a T2 period. SF-36 averaged items of the nine domains of interest (physical functioning PF, bodily pain BP, role limitations due to physical health problems RP, role limitations due to personal or emotional problems RE, emotional well-being MH, social functioning SF, energy/fatigue VT, general health perceptions GH, Health

Change HC) followed by physical and mental components summarized. Responsiveness was assessed using SPSS statistics based on parametric and nonparametric tests. The T-test for paired samples proved significant results ($p < .05$) for each subsequent scale. PCS and MCS calculation process was based on the z-score for the first eight scales reported to the general population. Effect size (Partial Eta Squared) based on z-score $\eta^2 = .432$ physical components and $.534$ mental components – large effect. Nonparametric tests such as Wilcoxon Signed Ranks Test and sign test assessed the difference of QoL items at T0 and T2, mean ranks 4, sum = 28, and improved outputs after the rehabilitation program. Z Statistics Test Overall QoL shows statistical significance $p < .05$ with $p < .011$ for RE and HC, $p < .014$ for RP, $p < .016$ for SF, $p < .017$ for VT, BP, and PCS, $p < .018$ for PF, MH, GH, and MCS. QoL outcome measuring eight criteria proved a positive impact of intervention implying a horizontal stationary bicycle rehabilitation program on patients.

Keywords: Quality of life (QoL), responsiveness, gait rehabilitation, physical components summarized (PCS) mental components summarized (MCS).



OP.15.6

Study concerning the scientific measurement of human laterality by using a specially manufactured device

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Abstract

Background: Laterality represents the functionality of a part of the body in an unequal way, due to the fact that there is a difference in the development and distribution of functions in the cerebral hemispheres. The teacher or coach can detect laterality by observing students/athletes in normal conditions, in daily activities, with which hand they write, with which hand they throw the ball, with which foot they hit the ball. **Purpose:** The purpose of this study is to analyze the possibility of scientifically measuring the human laterality with the help of a specially manufactured device. **Method:** The computerized evaluation with the help of the modified Batak system consists in generating a command from the computer, through the specially designed software, represented by a

sensor that will light up on the device. The subject will have to touch the respective sensor as quickly as possible, thus measuring its reaction time accurately. A number of 60 subjects participated in this study, of which 15 practice contact sports (boxing, MMA), 10 practice athletics (throwing events) and 35 handball.

Results: Using the modified Batak device, statistically significant differences were identified between subjects in terms of recorded performance.

Conclusion: The classic methods of measuring human laterality are not exactly the most efficient and accurate, so that, for optimal results, it is advisable to use the innovations in the field.

Keywords: scientifically measuring, laterality, specially constructed device, Batak, contact sports, athletics, handball.

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OP.15.7

Study on the evolution of junior weightlifters 9-12 years old from Romania in order to develop a selection model

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Abstract

The purpose of this paper is the comparative analysis of the indicators of performance results and the evolution of the number of junior weightlifters between the ages of 9 and 12. This comparative analysis was used for the results obtained by the junior weightlifters at national competitions in Romania from 2018-2022 with a total of 319 athletes: 197 boys and 122 girls. The results of the study highlight the following: in 3 out of 5 years, girls own a superior performance than boys (body weight/kg ratio); among the boys we notice a decrease in the number of athletes but also a decrease in performance; among the girls we notice an increase in the number of athletes, but at the same time a slight decrease performance.

We conclude that we have better performances among girls compared to the performance of boys, but also a decrease in performance in recent years for both categories, results that require the need for a selection system specific to the sports branch weightlifting.

Keywords: statistical analysis, indicators, weightlifting, performance, sport selection

OP.15.8

Study concerning the improvement of laterality by applying modern training programs, based on an innovative device

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Abstract

Background: Laterality refers to the existence of the functional predominance of one part of the body over another, the dominance of one part of the body over the other. Right-handed people have the location of the main brain controls in the left hemisphere, and left-handed people in the right hemisphere. This refers to a normal laterality. However, this lateral dominance must be perceived as a relative functional dominance, one cannot speak of either 100% right-handed or 100% left-handed. **Purpose:** The purpose of this study is to analyze the possibility of registering an improvement in human laterality through the application of modern training programs, based on an innovative device. **Method:** We have implemented the device modeled after the Batak system, which is a specially designed equipment to improve hand-eye reaction time, coordination and muscle endurance, which allowed subjects to train in sports environments using high-performance simulators. A number of 60 subjects participated in this study, of which 15 practice contact sports (boxing, MMA), 10 practice athletics (throwing events) and 35 handball. **Results:** Using the modified Batak system, there were recorded improved results at the final test compared to the initial test. **Conclusion:** In order to achieve optimal results, the use of modern technologies and equipment is a step towards the evolution of training, regardless of the targeted sport.

Keywords: laterality, modern training programs, Batak system, contact sports, athletics, handball.

OP.15.9

Injury and prevention in weightlifting kids training

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Abstract

Weightlifting training has become a popular training method among children and teenagers, in school, in recreation centers and sports training halls. However, the growing popularity of weightlifting training among children and the complex nature of some training programs raise new questions and concerns about the safety of this type of training among the children, but even so there is substantial interest from the coaches of children, of physical education teachers and of sports medicine professionals regarding to the best techniques to maximize safety and improve effectiveness. In this article, the incidence, severity and etiology of the injuries are reviewed, the factors are identified for

risk factors in weightlifting, and strategies for injuries and injury prevention in weightlifting training among children.

Keywords: training, weightlifting, kids, injuries, performance

OP.15.10

Effectiveness of virtual reality in reducing kinesiophobia. A systematic review

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Abstract

This comprehensive review synthesizes evidence from 18 distinct research studies which examine various virtual reality strategies for alleviating kinesiophobia in people with chronic pain or musculoskeletal issues. These methods included but were not limited to exposure therapy and cognitive-behavioral techniques. Our analysis highlights several positive outcomes with respect to using virtual reality driven interventions for treatment seeking populations suffering from fear of movement/ activity. While some VR interventions lasted just one session and others up to eight weeks, they all shared a remarkable success rate at reducing kinesiophobia based on findings from this systematic review. As such, future research must be dedicated towards determining which types of VR interventions prove most effective given such broad differences in duration among current studies. The rapid advancements of virtual reality (VR) technology have revolutionized several industries, including education and entertainment. However, beyond these domains, the medical field has also begun to incorporate this innovative technology into their treatment interventions for various health concerns worldwide.

Keywords: virtual reality, kinesiophobia, musculoskeletal disorders, chronic pain, intervention, effectiveness, systematic review.

OP.15.11

Football fans culture a multifaceted phenomenon

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Abstract

Football fans culture is a multifaceted phenomenon that encompasses various beliefs, rituals, and behaviours associated with the sport of football. Abstractly, it can be seen as a subculture with its own norms, values, and symbols that distinguish it from mainstream culture. At the core of football fan culture is a deep passion for the game, which often manifests itself through highly emotive displays of support for teams, such as singing, chanting, and flag-waving. Fans also demonstrate their allegiance

through the wearing of team colours and the display of team logos and other symbols. Beyond this, football fan culture is characterised by a sense of community and belonging among fans, with social interaction playing a key role in the fan experience. Fans gather together before, during, and after matches to share their love of the sport and support for their team, creating a shared sense of identity and camaraderie. The culture is also influenced by a long and rich history of the sport, with particular clubs and rivalries often having deep-rooted historical significance. This historical context often informs the rituals and traditions associated with specific clubs and fan groups. Football fan culture is not without its controversies, however. Some fans have been known to engage in violent or anti-social behaviour, leading to negative stereotypes and perceptions of football fans more broadly. Nonetheless, for the majority of fans, football is a positive force in their lives, providing a sense of community, identity, and shared passion.

Keywords: Football fan, culture, passion, clubs.

OP.15.12

Systematic review: the influence of physical activity on the HPA axis in chronically stressed people

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Abstract

This systematic review investigates the influence of physical activity on the hypothalamic-pituitary-adrenal (HPA) axis in chronically stress individuals. Chronic stress has been linked to dysregulation of the HPA axis, which may contribute to the development of the stress-related diseases. Physical activity is a well-known intervention for reducing stress, but its effects on the HPA axis in chronically stressed individuals are not well understood. Through a comprehensive search of electronic databases and careful screening of studies, this review aims to synthesize the available evidence on the relationship between physical activity and the HPA axis in chronically stressed populations. Moderate exercise has been shown to have beneficial effects on the HPA axis in chronically stressed individuals. Studies have demonstrated that moderate exercise can lead to a reduction in cortisol levels, which is a key hormone of the HPA axis. Additionally, regular moderate exercise has been shown to improve overall stress resilience and increase the production of endorphins, which are the body's natural painkillers and mood enhancers. These findings suggest that moderate exercise can play an important role in regulating the HPA axis and reducing the negative effects of chronic stress on the body. Therefore, the promotion of moderate exercise as a stress management strategy may be a valuable tool for individuals experiencing chronic stress.

Keywords: HPA axis, physical activity, stress.

OP.15.13

Football fans a significant impact on the economic models of the sports

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Abstract

Football fans can have a significant impact on the economic models of the sport, both at the club and national levels. At the club level, football fans are an important source of revenue through ticket sales, merchandise, and sponsorship deals. Successful clubs with a large fan base can generate significant revenue, allowing them to invest in player transfers and other infrastructure. Clubs can also benefit from the loyalty of their fan base, who may be more likely to purchase season tickets or pay higher prices for merchandise. However, football fans can also be a significant cost for clubs, particularly in terms of stadium security and safety measures. Stadiums must be maintained to a high standard, and clubs may need to invest in additional security measures to prevent violence or other disruptive behavior from fans. Clubs may also be fined or penalized by football governing bodies for the behavior of their fans, which can result in significant financial costs. At the national level, football fans can impact the overall economic model of the sport through their support of national teams and international competitions. Major events like the World Cup or European Championship can generate significant revenue for host nations, both through ticket sales and tourism. The economic impact of these events can be significant, with estimates suggesting that the 2018 World Cup in Russia generated over \$14 billion in economic activity. Overall, the economic impact of football fans is complex and multifaceted, with both positive and negative effects on the sport. While clubs and governing bodies must manage the costs associated with fan behavior, they can also benefit greatly from the loyalty and passion of football fans, who are a key part of the overall economic model of the sport.

Keywords: revenue, financial costs, football fans, economic impact.

OP.15.14

Operationalizing physical literacy in Europe: the state of research, policies and practices

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Abstract

Background: Physical literacy (PL) is a concept built on the monistic philosophy that considers that the human being should not be seen as being built of mind and body (dualism), but a whole that has several dimensions. These dimensions are: physical, cognitive and affective/psychological. This vision makes PL a lifelong journey that should be recorded rather than focusing on evaluating physical performance. **Purpose:** This study aimed to evaluate and compare the operationalization of

the concept of PL in Europe from three areas of perspective: research, policy and practice. **Method:** First, a group of experts on the PL concept was identified to represent 25 European countries (max. 2/country). The experts prepared reports on the current state of the concept in their country. Then, the documents were subjected to a comparative analysis, from which ten themes were identified. In order to revalidate these themes, a quantitative survey was also carried out. **Results:** The analysis of country reports generated by specialists showed that the operationalization of the PL concept is, in most countries, at the stage of conceptual discussions. The main barriers refer to the existence of competing approaches, translation issues and national traditions. However, experts anticipate an increase in the popularity of the concept in the coming years. **Conclusion:** To be able to penetrate the area of policies and practices, the concept of PL needs more empirical evidence through long-term studies and experiments to prove its effectiveness.

Keywords: physical literacy, active lifestyle, health.

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OP.15.15

The perception and perspective of teachers and students on the implementation of new fitness equipment in the physical education lesson

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Abstract

Background: Human healthy living habits are influenced by socio-economic, cultural and environmental conditions, and a major influence is from family and individual personal habits. Improving the situation requires the development of an infrastructure that supports physical activity. The main tasks of environmental design are to create an environment that supports physical activity, to create opportunities for society to move physically and to motivate individuals to engage in physical activities. **Purpose:** This study aimed to assess the perception and perspective students and high school teachers on physical education class in the context of introducing new fitness equipment in physical education lessons. **Method:** In the study, 1357 students of IX-XII classes and 143 high school physical education teachers were involved who responded to 14 and 17 items that evaluate the proposed subject **Results:** Based on the answers provided, the correlation between teachers and students is confirmed as the introduction of new fitness equipment increases the degree of interest of the physical education class. Students and teachers show interest in the change, 43.7% and 56% of them, respectively, consider that the introduction of the TRX as training equipment makes the physical education lesson more attractive. **Conclusion:** It is opportune to implement new fitness equipment in the lesson of physical education.

Keywords: Physical education classes, TRX, fitness, questionnaire.

OP.15.16

Modeling, simulation and certification of statistical data applied on community doping management

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Abstract

Background: Doping or administration of substances for purpose of improving the performances in various sport has a long history becoming, in some part of the world, a major public health issue and a threat for the life of athletes. WADA, as the policy maker and the supervisor of the implementation of the doping policies world wide uses a Bayesian model to analyse the possibility of doping based on the data in the athlete haematological passport, or more commonly athlete biological passport (ABP).

Purpose: This work aims to validate the theoretical model developed previously trough statistic data.

Method: Our approach aims to validate theoretical mathematical models based on statistical techniques of collection and simulation of data trough sociological questionnaires applied on athletes. In this paper, a theoretical mathematical method is used to compare field collected data with the previous reached one.

Results: The model is based on non-linear equations as result of comportamental model with quantitative time dependent evolution of them. **Conclusion:** The result validate the set of data used as an input and empowered the preliminary idea that the community spreading of doping could be an issue to approach on preventing doping in sports. All this will help create better education, prevention and management procedures to avoid community speeding in antidoping context.

Keywords: doping in sport, compartmental models, anti-doping policy, modeling and simulation, data fitting

III. POSTERS

SECTION 1

ADVANCED RESEARCH IN MECHANICAL AND INDUSTRIAL ENGINEERING

PP.1.1.

A review of fatigue life prediction of fiber-reinforced composites (FRP)

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Abstract

This paper aims to describe how the research work has approached the field of fatigue and durability of fiber-reinforced composites. Various theories address this subject, the most common being in terms of S-N curves and constant life diagrams (CLD), both of which are based on rigorously studied mathematical models. To synthesize and expose a comprehensive picture of the most recent reference publications, this review essentially summarizes six criteria of reviews: the main constituents of a fiber-reinforced composite material, the basic properties and applicability of composites in various industries, the damage and/or failure mechanisms of composites under fatigue loading, fatigue life prediction methods, analysis of an experimental model under constant amplitude loading and its fatigue behaviour and interpretation of experimental outputs. Furthermore, there are outlined the materials that compose the examined composite design, the geometry of the specimens, and the range of loads related to the described experimental model. Subsequently, the analysis and post-processing of the results are summarized to describe the advantages and disadvantages of these concepts. The implemented assumptions and the difficulty in application, represent the qualitative criterion of the tests, the necessity of the experimental data quantified by the number of S-N curves required to apply each CLD model, and at the end, the accuracy of the predictions quantified by the accuracy of the predicting new S-N curves, are also evaluated and debated to provide the most reliable and useful model or method according to the objective of the analysis.

Keywords: fiber-reinforced composites, fatigue loading, fatigue life prediction, S-N curves, constant life diagrams (CLD)

PP.1.2.

Mechanical tests in static and dynamic mode on aluminum samples

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Abstract

The purpose of this paper is to describe how static and dynamic mechanical tests can be performed on aluminum samples to evaluate their mechanical properties. The research activity addressed various mechanical tests to show the behavior of the metal under their action. Various theories approach this subject, the most common ones refer to the static resistance test: stretching, compression, bending, twisting, shearing or contact pressure. As for dynamic tests, they are resilience and mechanical or fatigue resistance. The mechanical tests are carried out with the aim of determining the properties that show the behavior of the metal under the action of statically or dynamically applied mechanical loads. A statically applied load increases gradually from zero to a certain value. A dynamic request is characterized by the sudden application of loads. In static tests, aluminum specimens can be slowly loaded to failure or permanent deformation, and load-strain data are recorded during the process. This data is then used to determine the strength limits, load-deformation curve and other mechanical properties. In dynamic testing, aluminum samples may be subjected to rapid loading or vibration and data is recorded during the process to determine the natural frequency, vibration damping factors and material behavior under sudden stresses such as impact. These static and dynamic mechanical tests on aluminum samples are used to assess the quality of the material and to identify possible deficiencies or weak points. This information can be used in the development of stronger and more reliable materials and structures. In general, static and dynamic tests on aluminum samples are used to validate and build their theoretical mechanical models of material behavior, as well as to develop new models for material behavior under different loading and deformation conditions.

Keywords: mechanical tests, static regime, dynamic regime, aluminum samples, material behavior, load deformation curve.

PP.1.3

Experimental research on the efficiency of air filters used in passenger cars

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Abstract

Recently due to the climate change more and more emphasis is placed on the importance of pollution. In the urban crowded areas, besides the exhaust gases it has been measured an important number of particles which are coming from the braking process. Even though the cars are equipped with a variety of air filtration systems, some of these particles due to multiple factors enter into automotive cabin. This may expose the drivers that are spending a lot of time into the cabin at a high risk of

developing respiratory diseases. Thus, the aim of this paper was to compare the efficiency of different commercially available cabin air filters against particles resulted from the braking process. The tests were carried out in laboratory environment using a dynamometric stand which is equipped with a measuring device for particle emissions. The results may provide important indications on the control of air in the vehicle cabin environment released from the braking process.

Keywords: brake pad, wear debris, pollution.

PP.1.4

Main yarn analysis for a model with unidirectional yarn panel under ballistic impact

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Abstract

This study presents two unidirectional yarn models, at meso level, impacted by a 9 mm full metal jacket (FMJ) bullet, at a velocity of 400 m/s on meso-layered composites are compared. The direction of the threads is repeated (0°/90°). The model has four layers of threads. In this paper two cases with the same material properties for the yarns, the same geometry, the same materials, the same bullet, the same impact velocity, but with different contact conditions are discussed (a model with only friction between yarns and between bullet and yarn and a model with friction between yarns and friction between bullet and yarns, using CZM (cohesive zone model).

Keywords: finite element method, impact model, cohesive zone model (CZM), 9 mm FMJ projectile, aramid yarns, friction.

PP.1.5

Influence of polymer concentration on permeability properties

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Abstract

Polymer membranes have been used successfully for waste water treatment in various industries (food industry; textile industry; medicine; pharmaceutical industry; water treatment). A wide variety of polymers can be used in the manufacture of polymeric membranes (polyvinylidene fluoride – PVDF; polyetherimide – PEI; polyacrylonitrile – PAN; polysulfone – PSF; polyethersulfone – PES), each with individual properties. In the last years many researchers were tried to improve the membranes properties like, permeation, retention capacity and fouling resistance. One of the most important factors of influence is the polymer concentration which affect the permeation properties and the retention capacity. Increasing the polymer concentration, the porosity and the pore size are decreasing. This effect decreases the membranes permeability but increase the retention capacity. In

this paper were made a study to establish the optimum concentration of the polymer in view to obtain higher retention without decreasing the permeability. This effect is possible if the porosity is increasing without affecting the pore size.

Keywords: water treatment, permeability, polymeric membranes.

PP.1.6

Analysis of roll decay motion and the role of stabilizing fins

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Abstract

Roll motion is a well-known problem in the maritime industry that causes seasickness to passengers and crew members and can lead to safety issues of the vessel. The constant swaying of the ship from side to side makes it difficult to perform day-to-day operations and can also result in cargo shifting, making the situation worse. This phenomenon is a significant challenge for ship designers and operators, who must take steps to mitigate these effects and ensure the safety and comfort of those on board. An effective solution to reduce the amplitude of roll motion on ships is to install certain onboard systems, such as stabilizing fins, anti-roll tanks, or gyro stabilizers. These systems work by generating a damping force that acts in opposition to the roll motion, thereby reducing its amplitude and minimizing its impact on the ship's stability and overall performance.

The present study provides a comprehensive overview of roll motion on ships and how it can be effectively mitigated using stabilizing fins. The fundamental physics behind roll motion which is caused by external forces represented by waves, wind, and currents acting upon the vessel is first analyzed. Then, is outlined the general process of solving the problem of roll motion, starting with the analysis of roll decay on a hull using computational fluid dynamics (CFD) software. This process involves modeling the hull's natural roll motion and analyzing its response to different external forces. Valuable insight into the performance of the vessel and areas for improvement are determined by conducting a roll decay analysis.



Figure 1. Fin turbulence

PP.1.7

Wind potential analysis in the northwestern part of the Black Sea

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Abstract

This paper presents a comprehensive study on the wind potential along the Romanian Black Sea coast. The study used data collected from multiple automatic weather stations located in the northwestern part of the Black Sea and provided by the Maritime Hydrographic Directorate, covering a period of 13 years. Monthly averaged wind speed values from all stations were analyzed to determine the wind patterns in the area. Additionally, maximum wind speed values were assessed for each month, and a final average was determined to highlight the most suitable months for strong winds. This work reveals two significant findings: firstly, the southern part of the Romanian Black Sea coast exhibited greater wind speed values than the northern part. Secondly, the winter season, particularly December and February, was found to be the most energetic season in terms of wind speed. Overall, the study underscores the importance of conducting research to better understand the wind potential of the Black Sea using different sources of information. This type of research can help inform decisions related to the development of renewable energy sources and contribute to a more sustainable future.

Keywords: wind regime, Black Sea, dynamic environmental conditions.

Acknowledgement: This work was carried out in the framework of the research project DREAM (Dynamics of the RESources and technological Advance in harvesting Marine renewable energy), supported by the Romanian Executive Agency for Higher Education, Research, Development and Innovation Funding – UEFISCDI, grant number PN-III-P4-ID-PCE-2020-0008.

PP.1.8

Assessment of the wind and solar energy potential in the area of the Brates Lake, Romania

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Abstract

The south-eastern part of Romania represents a major source of renewable energy, being expected the development of some important projects, such as the 200 MW solar-wind capacity that will support the activity of the Liberty Galati steel plant. By using several reanalysis datasets was possible to highlight the expected wind and solar resources from the vicinity of the Brates Lake area, that for example in the case of the solar irradiance can reach an annual average of 158 W/m². The performances of several onshore wind turbines of 2 MW were considered for evaluation, including also a state-of-the-art wind turbine of 6.2 MW that is planned to be installed in the future projects.

Several hub heights were taken into account, being expected a minimum of 12.69% for a 2 MW system operating at 80 m. In the case of the solar panels, the Brates Lake surface was covered by floating systems, the proposed scenarios gradually increasing from 10 to 40%. Beside the assessment of the electricity production, the amount of evaporated water saved by the presence of the floating solar farm was also estimated.

Keywords: Romania, lake environment, floating solar project, wind turbine, MERRA-2.

Acknowledgement: This work was carried out in the framework of the research project DREAM (Dynamics of the REsources and technological Advance in harvesting Marine renewable energy), supported by the Romanian Executive Agency for Higher Education, Research, Development and Innovation Funding – UEFISCDI, grant number PN-III-P4-ID-PCE-2020-0008.

PP.1.9

Testing a hypothesis – amino acids modified epoxy resin as vitrimer

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Abstract

As it is very well known, the polymer materials taxonomy includes two major classes: the thermoplastic polymers (or plastics) and the thermoset polymers (including elastomers and rigid polymers often called resins). The difference between the two classes is determined by the type of the chemical bond that ensures the polymer network structure. In the case of thermoplastics these bond are hydrogen bonds or van der Waals bonds, while, in the case of thermoset polymers these bonds are covalent. A new class of chemical compounds, called vitrimers, is gaining more and more attention due to their ability to behave as thermoset polymers but showing the formation easiness of thermoplastics (modifiable by heating). Some studies showed that trans-esterification could be the key of such materials (especially epoxy resins). This is an investigation on possible utilization of amino-acids as agents to determine trans-esterification of an epoxy resins. The results are partially confirming the hypothesis and determine the continuation of studies.

Keywords: epoxy resin; aspartic acid, phenylalanine, methionine.

PP.1.10

Tensile properties of vegetal powders modified epoxy resin

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Abstract

Nowadays it is easy to notice a worldwide care for environment especially due to the food industry and alimentary habits of humans. Food processing is generating huge quantities of by products that

are added to the alimentary waste. Also the advances in biochemical studies are sustained by the progresses registered in data processing and high technologies. In this regard there are many studies aiming to product nano-structures by using byproducts of food industry and/or alimentary waste as an alternative to diminish the amount of unutilized materials. It is known that the presence of nano-structures inside matrices determines, due to the interphase processes, dramatically changes the properties of the final material. For this study the byproducts of food processing of four types of fruits were used to obtain epoxy resin matrix composites (each product aside but, also combinations of the products). The tensile behavior of composites was evaluated and the results are encouraging the investigation continuation.

Keywords: epoxy resin; food processing byproducts, tensile behavior.

PP.1.11

Effects of magnetic field applied during polymerization on the electric properties of an inorganic agents modified epoxy resin

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Abstract

Excepting PANI (poly aniline) all the polymers are electrical insulators and that is restricting their application area. Anyway PANI is an expensive polymer and, for now, is used only for laboratory analysis. There are some ways to increase the electric conductivity of polymers (some of the tested already) by dispersing conductive powders or electrolyte solutions into the polymer matrix. In this study we have investigate the possibility of increasing the electrical conductivity of an epoxy resin by placing inside the polymer network some conductive ions (through mixing the pre-polymer with a solution of inorganic salts). As it is known the metallic ions shows not only electric properties, but also magnetic properties and it would possible to obtain different results in the case of natural polymerization and the polymerization in the presence of a magnetic field. The results we are presenting are, of course, affected by the reduce number of samples and they cannot be certified in the absence of other tests.

Keywords: epoxy resin; inorganic agents, organic solvent, electric conductivity.

PP.1.12

An analysis of failure of glass fiber fabric reinforced epoxy composites under tensile loading

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Abstract

Perhaps the most known composites are the so called GFRP (glass fiber reinforced polymer). In this case it is, generally, about fiber reinforced polystyrene. At CCDCOMT, since de beginning, the studies were focused on epoxies, extremely stable polymers with high chemical resistance and low shrinkage during formation. The present study aims to identify the influence of glass fiber orientations on the failure mechanisms and, of course, on the strength of glass fiber reinforced epoxy resin. The study views materials formed with three types of fiber glass fabrics with various distributions of these inside the materials with Epiphen RE4020-DE4020 epoxy system as matrix.

Keywords: epoxy resin; glass fiber fabric, tensile strength.

PP.1.13

Water absorption behavior of epoxy composies

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Abstract

Amongst the composites the ones obtained by adding into the matrix some other substances to change the basic behaviour of the polymer matrix are called, at CCDCOMT, modified polymers or modified composites. The present study regards composites obtained by mixing an epoxy resin with the base of an acrylic material (a mineral powder) and bentonite. Manufacturing these materials aimed to improve the epoxy resins responses at various mechanical loadings tacking into account the fact that, generally, epoxy resins are fragile. Being fragile when they are used to form fiber reinforced composites they fail and are determining the fibers cut leading to the complete failure of composite material or structure. Of course modifying the epoxy resin its water absorption behaviour is changed and the aim of this study is to identify these changes.

Keywords: epoxy resin; mineral powder; bentonite.

PP.1.14

Concrete composites

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Abstract

As byproducts of composites industry the whiskers are, probably, the most significant representatives. They consist of short fibers resulting of cutting fibers or fiber fabrics (glass fibers, aramid fibers, carbon fibers) and they are usually used as fillers to reduce the polymer amounts for some applications. The price of such byproducts is much lower than the price of long fibers or fabrics even there are methods to recycle them. The present study aimed to identify the way these byproducts might change the concrete behavior when they are added to the initial formulation of a standard concrete. Three ratios of byproducts (for each one of the three types of fibers) were used to modify the concrete, and the byproducts were whiskers, long fibers and patches.

Keywords: concrete; glass fiber, aramid fiber, carbon fiber.

PP.1.15

A tribological analysis of epoxy-silicone mixtures

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Abstract

The advantages of the silicone resins are recognized especially on friction reduction applications and molding. They are thermoset polymers with slightly elastomer like properties. In fact, nowadays the most of sealing elements are made of silicone rubber taking into account its chemical and thermal stability. On another hand, the epoxy resins are also recognized for their excellent properties along with their hazardous effect (due to the BPA – bisphenol A – presence). The epoxy resins are excellent matrices for fiber reinforced composites, but due to the rigidity of epoxies these composites are failing when the matrix fails and the fibers are failing because of the scissor effect of the matrix pieces resulting from fracture. This study is an attempt to combine the high adhesive properties of an epoxy resin with the elastomer like properties of silicone resins by mixing them into a single material. To ease the mixture between the two basic components of polymers, the silicone resins base were mixed (1:1 volume ratios) with the base on an epoxy novolac modified poly vinylester resin. At the end the materials are ternary mixtures polymerized in the presence of epoxy resin hardener. The tribological properties of these materials were investigated with pin-on-disk setup having three metals counterparts (disks).

Keywords: epoxy resin; silicone resins, pin-on-disk, wear resistance.

PP.1.16

RCP scenarios-based evaluation of future wind speed evolution

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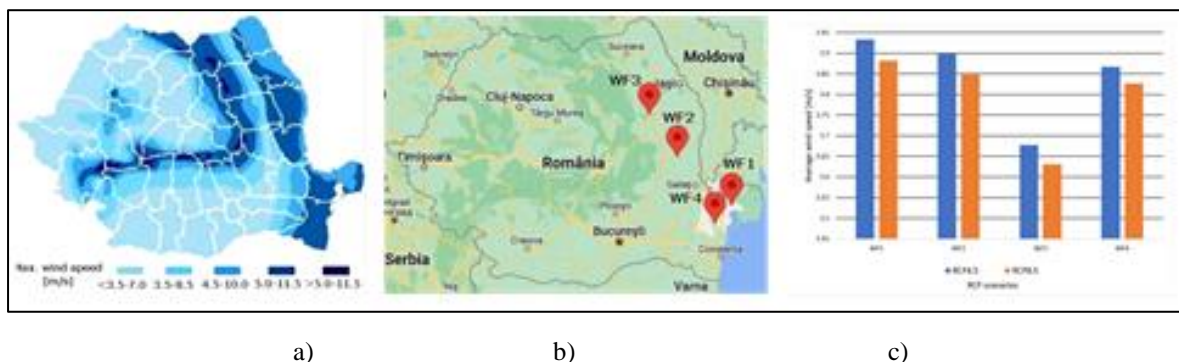
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Abstract

The paper presents an evaluation on long-term range of the wind energy availability in existing Romanian wind farms. Taking into account that the main parameter in wind turbine efficiency is the wind speed and the permanent climate changes, in the wind speed changes occurs too. Knowing that the estimated life-time of a wind turbine is around 20 years, an analysis of the predicted wind speed for the 30-year period 2020-2050, based on RCP4.5/8.5 scenarios, allowed to evaluate the opportunity to maintain and develop the wind farms in the same areas or start new investigation in order to find new appropriate places for the future wind energy extraction.

Keywords: wind farms locations, wind speed evolution, RCP scenarios.



a) wind speed distribution over Romania; b) wind farms locations; c) future evolution of wind speed

Acknowledgment: This work was carried out in the framework of the research project DREAM (Dynamics of the REsources and technological Advance in harvesting Marine renewable energy), supported by the Romanian Executive Agency for Higher Education, Research, Development and Innovation Funding – UEFISCDI, grant number PN-III-P4-ID-PCE-2020-0008.

PP.1.17

Wind energy evolution assessment for Republic of Moldova

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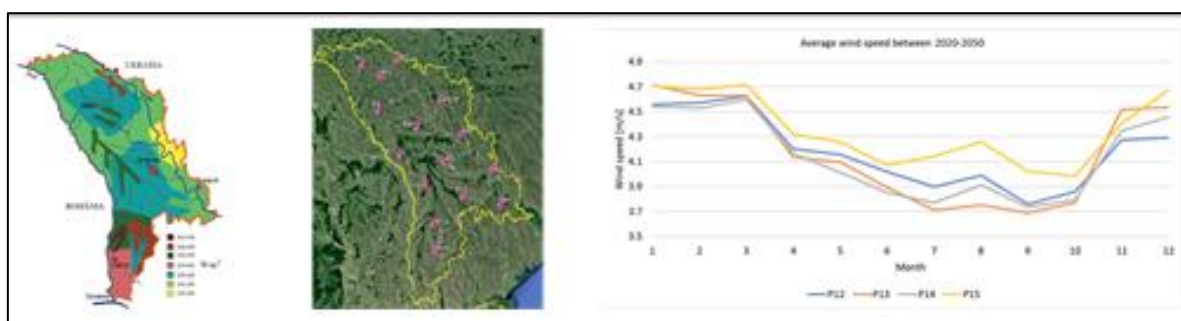
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Abstract

In the paper is presented an analysis of the wind energy future evolution in the Republic of Moldova. Starting from the tendency of increasing the renewable energy sources in the global energy portfolio of the Republic of Moldova, a study of the evolution of wind potential in the future period of time is necessary. Based on the analysis of the historical wind speed values recorded between 1990-2020, several locations were chosen as possible wind farms placement. An analysis of the predicted wind data for the 31-year period 2020-2050 based on RCP4.5 scenario, allowed to identify the optimal areas for the wind energy extraction in the Republic of Moldova.

Keywords: wind speed, long term analysis, location efficiency.



a) Distribution of wind power over Republic of Moldova; b) chosen locations; c) wind speed evolution

Fig.1

Acknowledgment: This work was carried out in the framework of the research project DREAM (Dynamics of the REsources and technological Advance in harvesting Marine renewable energy), supported by the Romanian Executive Agency for Higher Education, Research, Development and Innovation Funding – UEFISCDI, grant number PN-III-P4-ID-PCE-2020-0008.

PP.1.18

Transport networks - the importance and contribution to the development of society

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Abstract

The paper presents some considerations regarding the societal impact of transport network and its contribution to the development of society and economy. Transport represents a field of social and

economic activity by which material goods and people are moved in space, vehicles, and special installations on certain circulation paths, to satisfy the material and spiritual needs of societies. The evolution of transport was imposed by the constant development of production factors. Many of the discoveries of science and technology, more or less spectacular at the time, were used to develop and modernize the transport infrastructure, capable of offering a wide range of services in a shorter time. Romania has a national transport system located to a large extent at the level of average standards of conventional transport systems in Europe, capable of meeting the needs of domestic and international users. Public transport infrastructure, including roads, railways, waterways, sea and river ports and airports, ensures the connection of all localities to the national network and international transport systems. The strategic policy on sustainable transport in Romania is largely aligned with European policies defined in the Transport White Paper and supports the global objective of ensuring the sustainability of transport. Road transport networks ensure the movement of people and goods in space. These networks can be classified according to the size of the area: local network (rural or urban), interurban network, national network and continental network. Roads are road transport routes, being narrow and continuous portions of land, arranged for the movement of vehicles and pedestrians. Roads can be classified according to layout: beaten, cobbled or constructed (paved or asphalted). There are different types of roads depending on their utility, including public roads in localities (streets, communal roads, roads, boulevards, alleys) and roads between localities (national roads, motorways, European roads). There are also exploitation roads that are private and belong to commercial companies or kings in the fields of agriculture, forestry and mining. Nodes in road transport networks include stations, which are specially designed places where passengers get on or off public transport, and bus stations, which are spaces that include parking lots and buildings where activity is coordinated.

PP.1.19

Human lower limb forward kinematic analysis

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Abstract

The aim of this paper is to present a method for analyzing the human lower limb 3D motion. This requires the body to be completely determined. A body is completely determined in a triortogonal system if the position of the origin of the local reference system as well as the directions of the axes relative to the global reference system are known. This paper presents the research on the human lower limb forward kinematics methods for establishing the displacement vector. More precisely, for this study, the anatomical system in question is approached as a space mechanism characterized with 6 degrees of freedom.

Keywords: human lower limb, forward kinematic, displacement vector.

PP.1.20

Remodeling the safety of the naval operations into the Black Sea using an evolutionary algorithm

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Abstract

The Black Sea is a sea basin prone to maritime accidents due to its features related to shipping or naval activities in an environment influenced by anthropogenic activities and physical features or personnel training. None of less, the environmental sustainability of naval operations is considered a key factor during the planning process and execution. Even though the Black Sea is a semi-enclosed basin, economic and naval activities are dynamic, and threats like significant wind and sea heights or sea-deriving mines are often present. Based on a mathematic model and an evolutionary algorithm, we have analyzed the possibility of increasing the capability of conducting and safety of naval operations into the Black Sea basin. The paper appraised the opportunity of using an evolutionary algorithm to support the crew in enhancing the operation`s safety and reducing its cost with a lower environmental burden.

Keywords: Black Sea, evolutionary algorithm, safety, mathematical model, operation.

Acknowledgment: This work was carried out in the framework of the research project DREAM (Dynamics of the REsources and technological Advance in harvesting Marine renewable energy), supported by the Romanian Executive Agency for Higher Education, Research, Development and Innovation Funding – UEFISCDI, grant number PN-III-P4-ID-PCE-2020-0008.

PP.1.21

Offshore hydrographic and oceanographic monitoring using ocean drones

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Abstract

This presentation highlights the advantages of using maritime unmanned systems (drones) for offshore environmental and climate change monitoring. The acceleration of access to renewable energy sources is an essential factor in addressing the climate change crisis. Offshore wind farms and other types of renewable energy solutions offer a source of clean and sustainable energy, similar to their onshore counterparts. In recent years, there has been a significant advancement in the development of maritime unmanned technology, leading to the adoption of autonomous methods for conducting hydrographic and oceanographic surveys in offshore environments. This technology offers several advantages, including global accessibility and control, minimizing personnel risk, and enhancing data accuracy and precision. In addition, offshore wind installations have seen a rise due to the higher and more consistent wind speeds in these locations. Continuous monitoring of these

offshore wind farms and associated installations is necessary to evaluate their environmental impact and future power generation efficiency. Numerous companies are currently exploring unmanned systems as a solution, and new prototypes are being tested in multinational experimentation exercises, such as the REPMUS exercises series conducted annually in Portuguese waters. This study presents some of the innovative environmental monitoring solutions tested in an operational context.

Keywords: maritime unmanned systems, hydrography, oceanography, offshore windfarms, REPMUS exercise, climate change.

Acknowledgements: This work was carried out in the framework of the research project CLIMEWAR (Climatechange IMPact Evaluation on future WAVE conditions at regional scale for the Black and Mediterranean seas marine system), supported by a grant of the Ministry of Research, Innovation, and Digitization, CNCS—UEFISCDI, project number PN-III-P4-PCE-2021-0015, within PNCDI III.

SECTION 2

ADVANCED INVESTIGATION METHODS IN ENVIRONMENT AND BIOHEALTH

PP.2.1

An overview on phytoremediation of urban wastewater by using microalgae biomass

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Abstract

Photoautotrophic microalgae are well known for their high capacity to fixate CO₂ during photosynthesis. Considering the anthropogenic pressures exerted on water resources and the various pollutants that end up in the water, the ability of microalgae to utilize nutrients from organic or inorganic sources, can be applied as an effective technique to treat wastewater. Wastewater effluents contain high amounts of carbon, nitrogen and phosphorus, which are a valuable source of nutrients necessary for algal growth. This fact alone can mitigate the high expenses reached while cultivating microalgae, wastewater representing an inexpensive culture medium with large-scale applications. In this paper we will review the effectiveness of microalgae production in integrated rearing systems using urban wastewater as growing media.

Keywords: wastewater, phytoremediation, microalgae.

PP.2.2

Wastewater treatment using micro-algae – A review

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Abstract

Micro-algae are well known for their high capacity to fixate CO₂ during photosynthesis. Considering the ecological pressures on water sources and the miscellaneous pollutants that end up in the water, the ability of micro-algae to utilize minerals from organic or inorganic sources, can be applied to treat wastewater. The presence of carbon, nitrogen and phosphorous in wastewater effluent ensures a valuable supply of nutrients for efficient algal cultivation. This fact alone can mitigate the high expenses reached while cultivating micro-algae, wastewater representing an inexpensive culture medium with large-scale applications. In this paper we will review integrated systems of micro-algae cultivation and wastewater treatment, and their effectiveness.

Keywords: wastewater quality, statistical methods, Danube River.

PP.2.3

The study on the possibility of using sewage sludge in the ecological reconstruction of contaminated sites from the oil industry

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Abstract

Increasing amounts of sewage sludge are generated by the growing number of municipal wastewater treatment plants. For this reason, solutions are being sought for the elimination or utilization of sewage sludge. One field of activity that pollutes important land surfaces with hydrocarbons is the oil industry. In the ecological reconstruction of contaminated sites from the oil industry, natural geological resources are used to fill the excavations resulting from the decommissioning of some equipment and installations. For the decontamination of soils polluted with petroleum hydrocarbons, bioremediation technologies with the help of microorganisms are used on a large scale. From the results of the tests carried out in the present study, it appears that sewage sludge has microbiological, agrochemical and geotechnical characteristics, which could make it possible to use for the ecological reconstruction of contaminated sites from the oil industry. Thus, it would be possible to capitalize on the sludge in the oil industry.

Keywords: bioremediation, contaminated site, decontamination, ecological reconstruction, sewage sludge.

PP.2.4

The economic and environmental impact of the Valea Marului waste deposit, the composting station and the transfer station in Tecuci municipality

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Abstract

From an economic and environmental point of view, investments in a high-performance waste management system are vital and of major importance at the level of the entire county. The main purpose of this study is to identify the factors that influence both the environment and the population, but also the impact of this system on the economy of the Municipality of Tecuci. According to this study, we have found that since the entire waste management system will be 100% operational, the negative impact felt by the population of Tecuci will be less and less, and from an economic point of view, this will be reflected in the decrease of the tax sanitation.

Keywords: economic, investment, environment, waste management system, composting.

PP.2.5

A methodology for the microplastics analysis in the Lower Danube sediment

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Abstract

Freshwaters represent the main transport pathways for microplastics (MPs) in marine ecosystems. Although most MPs are found in the surface layer of water, MPs have been identified throughout the water column, as well as in sediments. In the present study, a methodology of isolation and identification of MPs from the sediment samples collected from the predeltaic and deltaic areas of the Danube River was applied. In order to isolate the MPs, density separation was performed before organic matter removal. Zinc chloride (ZnCl₂) solution was used for density separation and hydrogen peroxide (H₂O₂) was used for the digestion of organic matter. To confirm the presence of MPs, the samples were analyzed using micro-FTIR spectroscopy. The methodology used in this study was effective for the MPs analysis in the sediment collected from the Lower Danube sector.

Keywords: microplastic, sediment, isolation, methodology, micro-FTIR.

PP.2.6

Methods of extraction and analysis of pharmaceutical compounds from fish tissue

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Abstract

In the aquatic ecosystem, pharmaceuticals have direct toxic effects on aquatic biota and the capacity to accumulate in tissues. Due to the complexity of the matrix, the extraction of pharmaceutical substances from fish tissues is an important step that requires special care in sample preparation. In this study, the QuEChERS (Quick Easy Cheap Effective Rugged Safe) extraction method proved to be efficient in the extraction and isolation of the interest analytes. Also, the compounds extracted from the fish tissues were identified and quantified with the UHPLC-MS/MS equipment. The pharmaceutical compounds tracked in the analyzed fish organs were: ketoprofen, diclofenac, carbamazepine, ciprofloxacin, clarithromycin, trimethoprim, sulfamethoxazole, amoxicillin and erythromycin. Most of the analyzed pharmaceuticals accumulate in the fish liver due to the fact that the liver is the main site of metabolism for most classes of pharmaceuticals.

Keywords: pharmaceuticals, fish tissue, aquatic ecosystem

PP.2.7

Understanding heavy metal accumulation in Danube Delta fish: A focus on trophic guilds and intraspecific variability

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Abstract

This study was motivated by the need to understand the current levels of heavy metal contamination and accumulation in different fish species in the Danube Delta Biosphere Reserve. Based on 1,782 determinations performed on a lot of 297 fish specimens, differences in heavy metal accumulation (Cd, As, and Pb) in the muscles were observed and attributed primarily to their dietary habits, trophic levels, and contamination gradients in aquatic ecosystems from two different areas of Danube Delta. A significant observation regarding heavy metal accumulation in the muscle tissue of freshwater fish species is that certain intraspecific variations were evident in the specimens of the same species, differentiated by age. For instance, higher accumulations of certain metals were observed in younger and smaller fish, which could be explained by their more efficient assimilation of metals in their diet composed of plankton or detritus. Similar investigations demonstrated a significant decrease in concentrations of some heavy metals with increasing fish length (age), suggesting that these trends are influenced by variations in their diets over the course of their development. Concentration variations of As were observed among fish species, with *Carassius gibelio* exhibiting the highest variability between different regions from Danube Delta, while *Tinca tinca* exhibited the highest minimal threshold, starting from 0.40 mg/kg. Most goby species (*Neogobius fluviatilis*, *Neogobius gymnotrachelus*, *Neogobius kessleri*, *Neogobius melanostomus*) in the Razim-Sinoe aquatic complex presented higher levels of accumulation for this element compared to other species. Cd concentrations exceeded the maximum permissible limit for a few specimens caught in the Rosu-Puiu aquatic complex, specifically *Tinca tinca*, *Cyprinus carpio*, and *Blicca bjoerkna*. However, the median values for these species were below the 5 µg/kg threshold. Lead accumulation potential was higher in benthic species than in pelagic ones. Exceedances of the maximum permissible concentrations for this element (3 mg/kg) were identified for few samples of *Abramis brama*, *Blicca bjoerkna*, *Rutilus rutilus*, *Sander lucioperca*, and *Silurus glanis*, which presented maximum values below 4 mg/kg. Median values for these species were also below the 3 mg/kg threshold. These findings underline the importance of monitoring heavy metal contamination in fish species to ensure human health and the conservation of aquatic ecosystems.

PP.2.8

Optimization of atomic and nuclear analytical methods used for the non-destructive determination of mercury and other chemical elements in soils from the decommissioning of a chlor-alkali plant

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Abstract

The purpose of this paper is to present the results obtained after the application of three optimized, multielemental and non-destructive analytical methods of high performance, Energy-Dispersive X-ray Fluorescence spectrometry (EDXRF), Particle Induced X-Ray Emission (PIXE) and Particle Induced Gamma-ray Emission (PIGE), for the determination of compositional scheme of soils contaminated with mercury in very high concentration, collected following the decommissioning of an industrial installation that generates chlor-alkali products (chlor-alkali plant). The old installations used electrolytic cells that were represented by cathodes based on metallic mercury. EDXRF was employed by using the optimized technique developed at INPOLDE interdisciplinary international research center of “Dunarea de Jos” University of Galati (UDJG), Romania, using one operational mode – SOIL. A Genius XRF portable spectrometer (Skyray Instruments Inc.), having a large surface Si with a Be window, a 40 kV/100 µA miniature X-ray tube excitation source with Ag target was used for the multielemental analysis of industrial soils at ppm level. The calibration method was automatic, using an internal Ag model. The conducted study, using two irradiation times, highlighted the presence of mercury and other toxic elements contained in the industrial soil samples, EDXRF allowing the quantification of Cr, As, Br, Cd, Hg, Pb, K, Ca, Ti, Cr, Mn, Fe, Ni, Cu, Zn, As, Rb, Y, Zr, Nb, Mn, Ag, Sn, Pb, Sr. Thick target PIXE and PIGE techniques were applied at Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering (IFIN-HH), Magurele, Romania, using a 3 MeV proton beam as projectile particles produced by the 3 MV Tandetron. The elements determined by PIXE were: Na, Mg, Al, Si, P, S, Cl, K, Ca, Ti, V, Cr, Mn, Fe, Ni, Cu, Zn, As, Br, Sr, Ag and Hg. PIGE allowed the quantification of the following chemical elements, including the light ones: F, Na, Mg, Al, P, Si, Ti and Fe. Inter-element correlations in the soil matrix and pollution indices for the toxic elements detected in the contaminated soils were assessed. A comparison of detection limits was done for the three employed methods.

Keywords: EDXRF, PIXE, PIGE, mercury, multielemental analysis, chlor-alkali plant.

Acknowledgement: The support of the internal grant „Researches on interdisciplinary applications of advanced analytical and control techniques in environmental, health and materials science studies (INTERVENT)”, Contract no. 9187/2023, awarded by Dunarea de Jos University of Galati, Romania, is highly acknowledged.

PP.2.9

Application of Ion Beam Analysis (IBA) techniques for the elemental characterization of hazardous industrial wastes

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Abstract

In this paper two ion beam analysis (IBA) techniques, Particle Induced X-Ray Emission (PIXE) and Particle Induced Gamma-ray Emission (PIGE), were used for the determination of total concentrations of several major, minor and trace elements in various complex matrices of hazardous industrial wastes (chemical and shipbuilding industry). PIXE and PIGE were applied at the 3 MV Tandetron at Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering (IFIN-HH), Romania, using a proton beam with energy of 3 MeV as projectile particles. The elements determined by PIXE were: Na, Mg, Al, Si, P, S, Cl, K, Ca, Ti, V, Cr, Mn, Fe, Ni, Cu, Zn, As, Br, Rb, Sr, Ag and Pb. In the case of PIGE, the detected elements were F, Na, Mg, Al, Si, Mn and Fe, which were quantified based on the $(p, p'\gamma)$ nuclear reaction of the protons on the target waste samples, as well as on the $(p, n\gamma)$ reaction in the case of Mn analysis. The results obtained by non-destructive multielemental atomic and nuclear techniques were compared with the legislated norms for hazardous wastes. The study is very important for the industrial waste management and environmental hazard risks monitoring, and for taking appropriate measures for deposit and storage of waste materials.

Keywords: PIXE, PIGE, toxic elements, hazardous industrial wastes.

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PP.2.10

Spectral identification of cannabinoids – a review

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Abstract

The combination of infrared spectroscopy and chemometrics has become a popular method of detection and / or identification of illicit substances. This review paper highlights the most frequently used analytical tools in this research area, focusing on the identification of synthetic or natural cannabinoids.

Keywords: cannabinoids, spectroscopy, chemometrics, ATR – FTIR, GC- FTIR

PP.2.11

Health risk assessment associated with radon exposure

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Abstract

Radioactivity represents the topic addressed and increasingly current in the tense conditions due to the use of artificial sources of radiation for terrorist purposes. The need to research natural sources of radiation and control their degree of influence is an important objective in the public health strategy. Radon accounts for about 50% of the dose of exposure to ionizing radiation of natural origin and about 40% of the dose of exposure to all sources of radiation. The purpose of this study is to assess the health risk associated with exposure to radon and to develop the necessary measures to reduce the negative action. The research is based on the measurement of the radon concentration in the air in the homes of the Republic of Moldova by passive methods, using radon detectors installed in the three geographical areas. The research results were validated, systematized and processed in Excell, Statistica7 and SPSS programs. The obtained results argued the need to develop a national action plan regarding the control of the population's exposure to radon, the revision of the national reference norms because in about 50% of the measurement results the concentration exceeded the national reference norms of 150 Bq/m³. In over 25% of the country's homes, the radon concentration exceeds international reference standards. Radon is the second risk factor in the etiology of oncological lung diseases for smokers, and for non-smokers it is an important risk factor in the development of broncho-pulmonary tumors. It is indispensable to study, research and evaluate the exposure to radon as the main source of ionizing radiation of natural origin and the continuous updating of the reference values and the adoption of effective measures to reduce the risk.

Keywords: radon, ionizing radiation, lung cancer.

PP.2.12

Studying the radon x tobacco interaction as a trigger factor in the development of lung cancer

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Abstract

The study of the interaction of smoking x radon as risk factors for lung cancer morbidity in the Republic of Moldova was carried out. Number of tobacco smokers of the national study STEPS 2021, lung cancer morbidity data of 2012-2020 and data of radon measurements during 2018-2021 were used. The proportional extrapolation of data on the number of smokers to standardized indicators was performed. The statistical tools have included summary statistics of variables and cluster analysis. The distribution of high radon values, the number of smokers and the lung cancer morbidity is uneven throughout the country and the cluster analysis is adequate to qualify their associations. The formation of higher cluster combining all variables has proceeded by the formation of two clusters: 1. incidence of lung cancer, prevalence of lung cancer, number of total tobacco smokers, number of male smokers, number of female smokers, and number of urban smokers, 2. radon concentration and number of rural smokers. The results of this study demonstrate the leading role of tobacco smoking on the morbidity among the adult population, regardless of gender, in an urban environment with a rather low concentration of radon and, at the same time, indicate the cumulative effect of smoking and increased radon concentration in rural areas due to the construction features of houses and the lifestyle.

Keywords: tobacco smoking, radon, lung cancer.

Acknowledgment: The research was supported by National Agency for Research and Development in the framework of the project „*Quantification of health risk, associated with exposure to ionizing radiation, in the context of EURATOM Directive No. 2013/59/*”, number 20.80009.8007.20.

PP.2.13

**Climate change effects in aquaculture of common carp (*Cyprinus carpio*,
Linnaeus 1758)**

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Abstract

This study conducts a short review of climate change adaptation in aquaculture. We start with the question, "How is aquaculture adapting?". We identify and examine the scientific literature published in the last decade that studies the interaction of climate change with the aquaculture of most commercial fish. Aquaculture is an essential component of the human diet, providing high-quality aquatic food for human consumption. Climate change leads to changes in water availability, a decrease in water quality, and the threat of freshwater from aquaculture. Also, higher temperatures lead to reduce dissolved oxygen levels, increased fish metabolic rates, increased risk of disease spread, increased fish mortality, and consequently decreased fish production. The effects of climate change on aquaculture can be the reason for the changes in some areas' production capacity, which may become unsuitable for particular species and suitable for new species. This study highlights the impact of climate change on fisheries will affect most commercial fish stocks.

Keywords: climate change, aquaculture, *Cyprinus carpio*.

SECTION 3

PROGRESS IN FOOD SCIENCE AND BIO-RESOURCES ENGINEERING

PP.3.1

Beetroot pomace (*Beta vulgaris*) as a potential source of betalains

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Abstract

Natural pigments called betalains, which contain nitrogen and are water soluble, can be classified into two categories: yellow-orange betaxanthins and red-violet betacyanins. The richest source of betalains is red beetroot (*Beta vulgaris*). It is one of the most popular root vegetables in Europe. Being the tenth most effective vegetable in terms of antioxidant capacity, beetroot contains polyphenols, betalains, carotenoids, vitamins, and minerals, all of which are significant bioactive compounds and micronutrients. A by-product of the beet juice processing industry (15–30%), beetroot pomace, is also an important source of phytochemicals and antioxidants. Apart from betalains, a large amount of phenolic acids found in beetroot pomace, including catechin, ferulic, epicatechin, p-coumaric, vanillic, protocatechuic, and p-hydroxybenzoic acid, have been demonstrated to have anti-oxidant, anti-tumor, anti-microbial, cytotoxic, and anti-inflammatory properties. The beetroot processing's byproduct, known as pomace, is also rich in dietary fibers, antioxidants, and minerals but is not fully utilized. Because of this, it may be targeted as a substantial source of naturally occurring antioxidants that can improve food quality.

There is growing interest in these wastes as by-products since they are high-value products and their recovery may be economical. Beetroot pomace has the potential to be a significant source of bioactive components that can be used to design functional foods and replace artificial food colors. An increase in consumer awareness about synthetic pigments causes a rise in demand for natural food colorants. As a result, betalains' reputation as natural pigments has been growing steadily. Red beet betalains are used to color a variety of foods, including ice cream, wine, jams, marmalade, and yoghurt, as well as for obtaining value-added products. Consequently, by-products may serve as a source of nutraceuticals for the development of functional foods.

Keywords: *Beta vulgaris*; beetroot pomace; betalains; phytochemicals; pigments.

PP.3.2

Overview of Albanian Sage (*Salvia officinalis*) related to botanical properties, bioactive compounds, and uses in functional foods

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Abstract

Albania is located in Southeast Europe in the Balkan Peninsula and possesses a rich and diverse flora due to its favorable geographical location, relief, and climate. Albania's flora consists of over 3,250 distinct plant species, 310 species of which are Medicinal and Aromatic Plants (MAPs). The MAPs sector is rapidly becoming an important and valuable sector making Albania part of the group of 25 leading exporters of MAPs in the world. This poster will present some aspects of Albanian sage, such as botanical properties, and different varieties that can be found across Albanian territory. From recent studies, Albanian sage's bioactive composition consists of different ratios of volatile compounds such as camphor, α and β -thujone, camphene, eucalyptol, α and β -pinene, borneol, p-cymene, and non-volatile compounds like phenolic acids. This rich profile composition and raw material quality make sage the most collected and exported MAP in Albania. In recent years various researches have been conducted to implement plants' bioactive compounds into food matrices to improve their functional properties. Due to its rich bioactive' spectrum, considering also its pleasant flavor accepted by consumers, sage represents a suitable alternative ingredient for further applications in new functional foods design.

Keywords: Albanian sage, bioactive compounds, functional foods

PP.3.3

Contributions to the quality of Romanian military diet

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Abstract

The human diet is of major importance, especially in the military field, being a particularly important factor in improving the mental and physical condition. It influences both the military as an individual and the entire fighting subunit. Starting from this statement, a special attention to the feeding of troops should be paid. The present study aims to evaluate several anthropometric indices for a target group of 50 individuals. The group was divided in men and women, military and civilians, who make an average physical effort in daily duty activities, within a military unit. The anthropometric data were monitored for 6 months, the first 3 months being fixed as standard months, characterized by a regular diet, followed by another 3 in which the percentage of animal fat decreased with 15%. The main effect was the reduction in the energy value with an average about 200 kcal/day. The body mass index, especially for the overweighted subjects registered a slight decrease, while no substantial

changes were recorded for the other data. Consequently, the anthropometric data could be influenced by the dietary habits and sedentary lifestyle. For appropriate results, further analysis regarding their out of duty lifestyle is required.

Keywords: military, diet, body mass index, animal fat reduction, weight.

PP.3.4

Chloride salts mixtures used for sodium reduction in green tomatoes (*Solanum lycopersicum L.*) pickling: effects on quality characteristics during fermentation

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Abstract

The pickled green tomatoes are traditional products widely consumed in Romanian with a high content of sodium chloride. Already known, the excessive consumption of sodium chloride is incriminated for increasing the blood pressure, while this is the main reason of the occurrence of cardiovascular diseases.

The purpose of this study was to evaluate the influence of total substitution of sodium chloride with chloride salts mixtures on green tomatoes pickling. Three mixtures variants were used, as follows: potassium and sodium chlorides 1:1, potassium and magnesium chlorides 1:1, sodium and magnesium chlorides 1:1. Physico-chemical (colour, texture, dry matter, acidity, pH, salt content) and phytochemical (polyphenols and flavonoids) characteristics were analysed. Moreover, the evolution of the lactic bacteria in the brine was monitored. The analysis have been done with a 7 days frequency until the final 28th fermentation day was reached.

The content of total polyphenols in pickled green tomatoes increased significantly (from 10.80 ± 0.40 mg GAE/g DW to 20.91 ± 0.23 mg GAE/g DW) for potassium and sodium chlorides mixture, during the fermentation interval. In the same time, the number of lactic bacteria varied between 1.20 and 8.00 log CFU for all types of brines. Colour and texture of the samples were slightly influenced by the salts mixture, the best results being achieved for the sample with potassium and sodium chlorides.

The study revealed that the substitution of sodium chloride with potassium and magnesium chloride can be a good alternative in green tomatoes fermentation.

Keywords: Green tomatoes, sodium chloride, pickles, phytochemical analysis, fermentation

PP.3.5

Screening for organic pollutants and emerging pollutants in the Black Sea turbot (*Scophthalmus maeoticus*)

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Abstract

The turbot (*Scophthalmus maeoticus*) is a benthic fish of commercial interest little studied on the Black Sea coast. In this paper, Organic Pollutants - polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs) and Emerging pollutants - pharmaceutical compounds were determined in water, sediment and in the following turbot tissues: muscle tissue, gills, gonads, liver, and plasma to observe the degree of accumulation. The determinations were made with gas chromatography coupled with mass spectrometry or with an electron capture detector for organic pollutants, while pharmaceutical compounds were determined with the help of liquid chromatography on turbot samples sampled in 2021 from the Romanian waters of Black Seas. The presence of POPs and pharmaceutical compounds in wild turbot is due to anthropogenic activities (industry, sanitary facilities), river input, dredging and coastal rehabilitation works. The compounds of interest accumulated more in the liver and gonads, while the lowest concentrations were determined in the plasma.

Keywords: organic pollutants, turbot, Black Sea, fish tissue, pharmaceutical compounds.

PP.3.6

Designing a new healthy and functional mayonnaise sauce

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Abstract

Mayonnaise is a simple emulsion of egg yolk with oil, vinegar, salt, and pepper. This sauce serves as the base for dozens of variations, such as mayonnaise verte (with green herbs), rémoulade sauce (with anchovies, pickles, and capers), aioli sauce (a Provençal mayonnaise flavoured with lots of garlic) and salad dressings. The trend to replace eggs or vegetable oils with vegetable components is still increasing. The aim of this work was to produce a mayonnaise sauce with the addition of microcapsulated buckthorn fruit extract powder. The process involved mixing the ingredients and adding buckthorn fruit powder as an ingredient. The new designed product presents a total carotenoid content of 1.85 mg CT/100 g and an antioxidant activity of 293.38 ± 2.77 μ M Trolox/g DW. The rheological, phytochemical, colorimetric and sensory characteristics of mayonnaise sauces prepared with the addition of sea buckthorn powder recommend the final product as a promising product with

nutritional and functional qualities. This can be considered as a result of the increasing consumer demand due to the popularization of healthier plant-based food alternative.

Keywords: microcapsulated powder, mayonnaise sauces, functional product

PP.3.7

Impact of several clarifiers in the winemaking *Şarba* variety grapes

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Abstract

The use of Sarba grapes variety started in 70s at the Research-Development Station for Viticulture and Winery Odobeşti by crossing two very valuable varieties: *Tâmăioasă Românească* and *Italian Riesling*.

The purpose of this study was to study the impact of the treatment with the different products to clarify the young white wines (*Şarba* variety). Experiments were carried out on *Şarba* wines produced in Odobeşti vineyard, Vrancea county, in the climatic conditions of 2021, by using the classical technology. The wine samples were aged on the lees for a period of 3 months and then were clarified by treatment with several products (ichthyocol, milk casein and egg albumin). All variants (including the control) were treated with bentonite product. To evaluate the impact of the treatment, the turbidity of the wine was measured using the turbidimeter and the value of the colour intensity of the wine measured by the value of the optical density at wavelength $\lambda = 420$ nm.

The results revealed that the white wine treated with ichthyocol was more stable to enzymatic browning, compared to the control sample and the other variants.

Keywords: white grapes, colour intensity, finning agents, turbidity

PP.3.8

Impact of maceration temperature on the quality of red wines

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Abstract

Between red and white wines are major differences which consist of color, finesse, body, bouquet and softness, usually red wines are more appreciated by consumers. Maceration is a major process of grape winemaking to obtain red. It consists in maintaining the must for 2-3 days, at temperatures of 10–25°C, in order to favor the extraction of some components, especially those from skins such as red

pigments (anthocyanins) and yellow pigments (flavonols), as well as tannins, different from those found in the stalks.

The purpose of this study was to evaluate the influence of temperature during the maceration period on the sensorial and physico chemical characteristics of the final wines.

Experiments were carried out on *Fetească neagră* grapes from dealu Bujorului vineyard, Galati county, in the climatic conditions of 2022, using the classical technology at three temperatures 10°C, 20 °C and 25°C. The results demonstrated that the extraction of the polyphenolic compounds and of those related from the skins of the grapes is influenced by the maceration temperature, the maceration duration and the equipment in which the maceration operation takes place.

Keywords: maceration, red grapes; anthocyanins; red wines; temperature;

PP.3.9.

Effect of some polysaccharide-based edible coatings on fresh white button mushroom (*Agaricus bisporus*) quality during cold storage

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Abstract

This study investigated the effects of pectin, chitosan, sodium alginate, and carboxymethyl cellulose-based edible coatings, individually and/or in combination with N-acetyl cysteine as an antibrowning agent, on some physical, chemical, and antioxidant properties of white button mushrooms. The weight loss, color change, browning index, degree of cap opening, soluble solid content, total phenolic content, antioxidant activity and malondialdehyde content of control and coated mushrooms were evaluated during 14 days of storage at $4 \pm 1^\circ\text{C}$. All coatings, both alone and with N-acetyl-cysteine, delayed weight loss and cap opening in mushrooms compared with the control. Sodium alginate was the most effective in controlling weight loss, followed by carboxymethyl cellulose, chitosan and pectin. The browning process and lipid peroxidation were best controlled by sodium alginate followed by pectin coatings, while chitosan coating determined a significant increase in the browning index. Coated samples showed significantly higher total phenolic content and antioxidant activity as compared with the control throughout storage. The treatment with N-acetyl cysteine was not effective for mushrooms as it resulted in a significant increase in the browning index in all coated samples. The results suggest that sodium alginate and pectin coatings could be recommended for extending the shelf life of white button mushrooms.

Keywords: white button mushroom; pectin; chitosan; sodium alginate; carboxymethyl cellulose; N-acetyl cysteine; refrigerated storage; quality.

PP.3.10

Carrot pomace (*Daucus carota* L.) a carotene-rich food ingredient

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Abstract

The carrot (*Daucus carota*), a root vegetable, usually orange, is a rich source of various biologically active compounds such as carotenoids, β -carotene, dietary fibers, vitamins, and minerals, possessing significant health-beneficial properties. Carrot pomace, which is produced during the extraction of juice, is the principal by-product of the carrot. Up to 50% of the carotene in the carrot is lost when it is processed into commercial juice, recovering between 30 and 50 % of the carrot as pomace.

The carrot pomace has excellent residual amounts of vitamins (A, B, and C), minerals, and dietary fiber, but due to its high moisture content (about 88%), it is not properly utilized and may cause environmental problems. Carrot pomace can be dried in order to increase its shelf life. Dried carrot pomace contains protein (4–5%), reducing sugar (8–9%), minerals (5–6% such as iron, zinc, potassium, manganese) total dietary fibers (37–48%) also, high quantities of β -carotene and ascorbic acid. The primary precursor to vitamin A, carotenoids significantly lower the risk of cancer, cardiovascular disease, and age-related macular degeneration.

Carrot pomace can be used as a source of valuable bioactive and functional components since it is a good source of vitamins, dietary fiber, and carotenoids. As a result, the by-product of carrot juice extraction is a promising source of phytochemicals with bioactive characteristics that might be investigated for use in the formulation of food ingredients and nutritional supplements. Due to its high levels of carotenoids and phenolic compounds, this by-product is high in fiber, carotene and may be used as a functional ingredient to enhance the quality of foods. Thus, carrot pomace may be converted to value added products such as bread, dressings, pasta, and cookies, if it is processed properly.

Keywords: *Daucus carota*; carrot pomace; carotenoids; β -carotene; functional ingredient.

PP.3.11.

Pumpkin by-products (*Cucurbita máxima* L.) as a source of carotenoids compounds

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Abstract

The pumpkin (*Cucurbita* L.) is a fruit vegetable from the squash family *Cucurbitaceae*, sometimes referred to as the gourd family, which has 800 species and 130 genera. More than 4 million tons of pumpkin are currently produced in Europe for human consumption. The enormous amount of

pumpkin produced globally and the consumption of it, (in cooked, processed forms), is likely related to consumers' rising desire to eat a variety of phytochemicals through a sufficient and balanced diet. This extensive use of pumpkin results in the production of its by-products. Pumpkin processing typically yields 72–76% pulp, 2.6–16% peels, and 3.1–4.4% seeds.

The by-products of cucurbits are underutilized and are typically used to enrich animal feed, but because of their high phytochemical contents, they have economic potential and might be investigated for a range of other applications. For example, by-products of cucurbits especially peels have also gained a lot of interest as natural colours and substances that promote health due to the presence of carotenoids that provide orange colour. Carotenoids significantly improve the nutritional value of foods by having antioxidant and anti-cancer properties, cardiovascular disease protection, antidiabetic, analgesic and anti-inflammatory activities. One of the main concerns for many researchers today is the carotenoids use in the designing of nutritionally enhanced functional products. It has been reported to use pumpkin peels as a natural colouring agent in flour, pasta mixtures, soups, sauces, and extruded products. While making bakery products including breads, biscuits, cakes, and cereal bars, flour made from pumpkin peels is employed. The nutritious value of bakery goods is increased by mixing wheat flour with pumpkin peels, but because peels are regarded as by-products adding them also decreases production costs.

The purpose of this study was to review the literature on using the pumpkin by-products to design a number of valuable products in a more efficient and sustainable manner. The second objective was to identify and describe the use bioactive compounds from pumpkin by-products in the food pharmaceutical as therapeutic agents and cosmetic industries.

Keywords: by-products; carotenoids; pumpkin peel; functional food; pigment.

PP.3.12

Microencapsulated red onion peel polyphenols as functional food ingredient

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Abstract

The development of functional foods is accelerating due to consumer awareness of healthful and nutritious foodstuffs. As a result, the investigation into novel ingredients for creating functional foods has gained momentum. Red onion skin represents a by-product of the onion processing industries that contains plentiful phytonutrients such as total phenolic compounds, flavonoids, anthocyanins, flavonols (quercetin glycosides), thiosulfates, tannins, phenolic acids, and other secondary metabolites. These bioactive phytochemicals have significant pharmacological properties, such as the ability to promote cardiovascular health and to have anti-carcinogenic, anti-inflammatory, antioxidant, anti-obesity, anti-diabetic, and antimicrobial effects (i.e., heart disease, hypertension, and high blood cholesterol).

This study introduces red onion skin as a natural alternative to synthetic food colorants and as a good source of pigments (anthocyanins). Valorization of onion by-products by extracting bioactive

compounds is one of the important steps toward improving the application in the food industry. Adding anthocyanins to foods in their free form can cause chemical instability. A suitable technique to protect anthocyanins compounds from chemical damage before their industrial application encompasses microencapsulation using various methods (freeze-drying, cold gelation), which may improve their bioavailability as well as shelf life. The encapsulated onion skin extracts can be used as functional ingredients in a variety of food processing sectors given the bioactive components in red onion skins. Red onion skin microcapsules could be incorporated into many food products such as gluten-free crackers, sauces, and salad dressings in order to produce value-added products with enhanced properties.

The antioxidant potential and total phenolic level were significantly increased by the addition of red onion skin powder (at 1–3%). It was confirmed that products prepared with encapsulated powder increased the total phenolic compounds compared with the control samples. The addition of red onion skin powder to gluten-free crackers or salad dressings can increase the potential therapeutic benefits while ensuring satisfactory sensory acceptability.

Red onion skin is a remarkable source of bioactive compounds with antioxidant characteristics thanks to phytochemicals, total phenolic, flavonoid, anthocyanin, and quercetin-rich components. These by-products are therefore important functional ingredients in the enrichment of sauces, salad dressings, or baked products due to their antioxidant properties.

Keywords: anthocyanins, red onion skins, functional food, antioxidants, phytochemicals

PP.3.13

Characterization of red beetroot purees enriched with aqueous herbal extract with a special destination

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Abstract

During breastfeeding, a healthy lifestyle and galactagogues should be used in combination, to improve the quality and quantity of mother’s milk. Anise (*Pimpinella anisum* L.) and fennel (*Foeniculum vulgare* L.) have been used due to their high content of bioactive compounds which contribute to various health benefits.

Red beetroot purees processed by hot air (180°C) convection and steam convection (94°C) were mixed with fennel or anise aqueous extract. Characterization of the phytochemical content of ready-to-eat purees was the main aim of this study. A three times lower cooking loss was registered in the case of processing by water vapor convection, compared with hot air convection. The baked purees’ phenolic content increased by 44.51% for the samples with aqueous anise extract, respectively by 39.17% for the samples with aqueous fennel extract. Even so, the sample with aqueous fennel extract, subjected to steam convection showed the highest antioxidant activity, 63.73±1.97 µM Trolox/g DW. In the case of the flavonoid content, the registered values ranged between 6.92±0.18 and 15.37±0.06 mg QE/g DW. Based on the previous results, the research might well have valuable applications in the food industry.

Keywords: red beetroot, antioxidant, cooking loss, phenols, aqueous extract

PP.3.14.

The use of advanced supplements with bioactive properties for aquaculture. A short review

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Abstract

The aquaculture industry is rapidly growing, facing increasing challenges related to fish health and environmental sustainability. The use of bioactive substances, such probiotics, prebiotics, metabiotics and parabiotics has been shown to improve fish growth performance, enhance disease resistance, and improve gut health by modulating the composition and diversity of the gut microbiota. In this context, the use of probiotics, prebiotics, metabiotics, parabiotics, and postbiotics in aquaculture could lead to a more sustainable and efficient industry with benefits, both for the environment and human health by reducing the use of antibiotics and other chemicals. Therefore, the aim of this review is to provides an overview of the current state of knowledge regarding the use of these compounds in aquaculture, including their mode of action, benefits, and limitations.

Key words: aquaculture, bioactive compounds, fish growth, fish welfare.

PP.3.15

Development of dairy product with antioxidant potential

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Abstract

This paper presents the research on the developing of novel dairy probiotic product with high antioxidant activity. In recent years, there has been growing interest in the potential of dairy products as a source of antioxidants. Some dairy products, such as yogurt, contain naturally occurring antioxidants, such as vitamins C and E, while others can be fortified with additional antioxidants, such as polyphenols. Bee honey is known to contain a variety of natural antioxidants. The antioxidant activity of honey is believed to contribute to its potential health benefits, including its ability to promote wound healing, reduce inflammation, and protect against chronic diseases such as cancer and cardiovascular disease. Lactic acid bacteria are known for their ability to produce a variety of bioactive compounds, including antibacterial peptides, that highlights their potential as a source of natural bioactive compounds with potential health benefits. Developing novel dairy products with antioxidant potential involves several key steps, including selecting appropriate ingredients, optimizing processing conditions, and conducting sensory evaluations to ensure that the final product meets consumer preferences. Also, the development of novel dairy products with antioxidant potential

holds great promise for promoting health and preventing disease, and represents an exciting area of research in the field of food science and technology. Young scientists from the Comrat State University are working on the development of such a fermented product that is able to provide the necessary amount of antioxidant units that can improve immunity and counteract infectious diseases in the Republic of Moldova.

Keywords: dairy product, lactic acid bacteria, antioxidant.



PP.3.16

In vitro and *in silico* investigations on the bioactivity of soy and pea peptides released by trypsin and pepsin

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Abstract

Soybeans and peas are valuable sources of high-quality proteins. In the last years a lot of research effort was invested in comparing the functionality of the two protein sources, in the attempt to substitute the allergenic proteins from soy with the hypoallergenic pea derived ones. Considering that the systemic effects exerted by the food proteins upon ingestion is highly modulated by the digestive enzyme assisted hydrolysis, the objectives of the present investigation was to assess the role of pepsin and trypsin on releasing the bioactive peptides encrypted in the soy and pea proteins. The biological activity of the peptides was estimated by combining dedicated *in vitro* techniques, meant to determine the antioxidant capacity and the ability to inhibit the α -amylase activity, with the *in silico* tools. In case of soy proteins, the DPPH and ABTS radicals scavenging activity methods indicated that both pepsin and trypsin are able to release peptides with antioxidant activity. Upon 6 h of pepsin and trypsin assisted hydrolysis the antioxidant activity of the soy protein hydrolysates was ~193 and 2076 $\mu\text{mol Trolox/g}$, respectively. No antioxidant activity was observed in case of the pepsin hydrolyzed pea proteins. Regarding the α -amylase inhibitory activity, hydrolysis with pepsin caused the decrease of the IC50 value by 33 and 5 times in case of pea and soy proteins, respectively, whereas the trypsin by 37 and 15 times, respectively. The bioinformatic tools were further employed to simulate the enzyme assisted hydrolysis of the main soy and pea proteins, namely 7S and 11S fractions. The antioxidant activity and α -amylase inhibitory activity of the identified peptides were further checked against the content of main databases. In conclusion, *in silico* and *in vitro* techniques were successfully combined to compare and provide comprehensive evidence on the biological activity of soy and pea proteins.

Keywords: soy proteins, pea proteins, enzymes, antioxidant activity, α -amylase inhibitory activity

PP.3.17

Valorization of red beet by-products to develop functional food products

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Abstract

At a global level, food by-products is becoming a significant and growing problem. Red beet (*Beta vulgaris L.*), a member of the *Chenopodiaceae* family is more widely used and recognized for human consumption. Flavonoids, vitamins, minerals, carotenoids, betalains, and water-soluble pigments including betacyanins (red-violet) and betaxanthins (yellow-orange) are all present in beetroot and provide a variety of nutritional and physiological benefits. Betalains possess a wide range of advantageous biological characteristics, such as anti-inflammatory, antioxidant, anti-anemia, anti-ischemic, hepatoprotective, and anticancer effects. Food by-products play a significant role in the development of novel, sustainable functional foods since they are rich in bioactive compounds and might possess nutritional value. Beetroot by-products play a significant role in the development of novel and sustainable functional foods since they are rich in bioactive compounds and might possess nutritional value. The pigments from red beets are widely used as natural colorants in food, cosmetics, decorative art, and traditional medical remedies, making them an important crop for economic growth. The major objective of this study was to use red beet by-products to develop value-added food products. Powder from beetroot by-products mainly peels could be used in a variety of foods, including dressing sauces, and pastry. The beetroot byproduct's betalains and phenols are present in the obtained products, increasing their antioxidant capacity. Beetroot powder incorporation provided a greater functional value to the final products.

Keywords: red beet powder, value added food, betalains, colorants.

PP.3.18

Influence of temperature and time on drying kinetics, bioactive compounds and color from grape pomace Băbească neagră variety

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Abstract

This paper presents the research on the drying kinetics of red grape pomace from the Băbească Neagră variety, with the aim of obtaining food ingredients with bioactive colors compounds. The pomace was dried using two different drying methods (convective and infrared) at various drying temperature (45°C, 55°C, 65°C and 75°C). after drying, the powders were analyzed in terms of bioactive compounds and color. The experimental drying data were fitted to Newton, Henderson - Pabis, and Page equations and the effective moisture diffusivity (D_{eff}) and activation energy (E_a) values were estimated. The results revealed that infrared drying method have the lowest drying time

with minimum damage on bioactive compounds and color parameters, compared to convective drying method. Our results are valuable from the perspective of reintegration of complex molecules, for different applications in foods and related fields. Consequently, transforming the grape pomace in powders may be seen as a "multiple win-win" strategy for food by-products reduction and reintegration as health promoting ingredients, thus impacting the environment.

Keywords: red grape pomace, infrared drying, convective drying, bioactive compounds.



PP.3.19

Changes in physicochemical parameters of *Fetească albă* grape variety during ripening

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Abstract

Fetească albă is an autochthonous Romanian variety of white grapes, cultivated in most of the wine-growing areas of Romania.

The main objective of this study was to investigate the changes of physicochemical characteristics during ripening of white grapes (*Fetească albă* variety) during the vintage of 2020-2022 period at Dealu Bujorului vineyard. Physico-chemical characterisation of the white grapes was performed in terms of sugar content, total acidity, pH values, the weight of 100 berries. All measurements were carried out using OIV methods.

The sugar content of the *Fetească albă* grapes variety at full maturity ranged from 191-207 g/L for 2020 vintage, from 168-204 g/L for 2021 vintage and 151-211 g/L in the case of 2022 vintage. Recorded values of the grapes total acidity at full maturity were between 5.8 to 4.0 g/L expressed in tartaric acid, 7.9 to 4.8 g/L and 6.5 to 4.0 g/L for the 2020, 2021 and 2022 vintage. The weight of 100 berries gives values ranging from 104-138 g for 2020 vintage, 141-156 g in the case of 2021 vintage and 115-119 g for 2022 vintage.

Keywords: *Vitis vinifera*; *Fetească albă*; sugar; acidity; white grapes.

PP.3.20

Research on general adaptation syndrome in animals bodies to different forms of stress

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Abstract

Animal bodies (mammalian and human body) show a great capacity for adaptation, both to the fluctuations of environmental factors and also regarding the nutrition, increasingly modified. Adaptation General Syndrome (AGS) of organisms, began to be studied in animals and also in humans. In human bodies, AGS is studied because a number of diseases with great significance psychologically, physiological but especially medical, appeared. In both categories of bodies, AGS is investigated by the presence of markers that highlight heart or cardiovascular disease, kidney disorders, nutritional and metabolic disorders - diabetes mellitus, also others more. Specific markers for the assessment of AGS are endogenous particles (the best example being the body's own enzymes) but also exogenous (drugs, hormones, chemicals). The objective of this study is to analyze the activity of some enzymes, from human and animals blood samples, such as creatine phosphokinase CPK, lactatdehydrogenase LDH, alkaline phosphatase ALP, glycosylated hemoglobin (human samples), fructosamine (veterinary samples)

Keywords: Adaptation General Syndrome, creatine phosphokinase, lactatdehydrogenase, alkaline phosphatase, glycosylated hemoglobin, fructosamine.

PP.3.21

Investigations on the impact of soy proteins hydrolysis on the thermo-mechanical properties of gluten free dough

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Abstract

Because of the increasing prevalence of celiac disease and other disorders associated to gluten consumption, a high demand for the gluten-free products was registered in the last years, and a significant further growth of the market size is still expected. Many gluten-free formulations have been tested in the attempt to compensate for the poor rheological behavior of the dough and bread characteristics. The aim of the present study was to investigate how the addition of soy protein isolate and hydrolysates influence the thermo-mechanical properties of the gluten-free doughs. Protein hydrolysates with limited hydrolysis degrees were prepared using three endo-proteases (trypsin, bromelain and a microbial protease). The Mixolab device and a modified Chopin+ protocol were used to register the torques values while kneading and heating the dough samples. A mixture consisting of

equal parts of rice and quinoa flour was used for preparing the control dough. In the attempt to improve the viscoelasticity of the dough, 10% of the flour mixture was replaced by native or pre-hydrolyzed soy proteins, while keeping constant the water absorption level of 65%. Addition of native soy proteins resulted in improved stability of the starch gel at high temperature. As a consequence of the protein network softening, addition of protein hydrolysates resulted in a more profound drop of the torques while mixing the dough both at constant temperature of 30°C and at further increase up to ~80°C. When comparing the starch behavior upon cooling the dough samples to 50°C, was observed that gluten free flour substitution by soy proteins hydrolysates resulted in increased resistance to starch retrogradation. In conclusion, addition of soy protein hydrolysates in the gluten-free bread recipes based on rice and quinoa flours influence in a decisive manner the thermo-mechanical properties of the doughs.

Keywords: soy proteins, quinoa flour, rice flour, rheological properties.

PP.3.22

Effects of dietary berberine, silymarin and their association on lipid and glucose metabolism in common carp *Cyprinus carpio*

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Abstract

Berberine and silymarin are bioactive compounds derived from plants and have been studied for their potential benefits in fish nutrition and health. Both berberine and silymarin have shown promising effects in fish nutrition, particularly in terms of growth promotion, disease resistance, and overall health. Nevertheless, the combined effect of these compounds has not been previously studied.

The aim of this study is to assess the impact of berberine (BB), silymarin (SM) and berberine silymarin combination (BB*SM) on changes in plasma concentrations of total cholesterol (TC), triglycerides (TG), high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), and glucose (G) of *Cyprinus carpio* after 2 months of treatment. For the present study six groups of fish were compared: control group receiving normal, commercial diet (C), group receiving feed supplemented with 1g/kg silymarin (SM), group receiving 100 mg/Kg berberine (BB-100), group receiving 200 mg/Kg berberine (BB-200), group receiving 1g/kg silymarin and 100 mg/Kg berberine (SM*BB-100) and group receiving 1g/kg silymarin and 200 mg/Kg berberine (SM*BB-200). The obtained results showed that berberine in lower concentration exhibits a more pronounced anti-hyperlipidemia effect by reducing TC, TG and LDL-C in fish plasma while SM*BB-200 had a significant anti-glycemic effect compared with other groups.

Keywords: berberine, silymarin, metabolic effect.

PP.3.23

Innovative strategies to use the by-products from carrot processing

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Abstract

Carrot (*Daucus carota L.*) is one of the popular root vegetables grown worldwide and is the most important source of dietary carotenoids and polyphenols in Western countries, including the United States of America. The most important nutritional components (vitamins, carotenoids, anthocyanins, minerals) are contained in carrots in large quantities, just under the thin skin. Although they are considered food waste, from the point of view of the global phytochemical profile, carrot peels offer an opportunity to use their biologically active compounds with well-defined biological functions for the human body.

Carotenoids are phytonutrients that give fruits and vegetables their unique shades of yellow, orange, and red. Present a series of beneficial factors for health, being particularly important in the case of obesity, diabetes, or severe forms of cancer. Similarly, they have been shown to inhibit the growth of bacteria such as *Escherichia coli* and *Salmonella*, the main bacteria responsible for the transmission of foodborne illness.

The main objective of this study was to define the strategy to incorporate by-products resulting from carrot processing and to design new food products with nutritional and functional properties

Keywords: carrot peels, carotenoids, polyphenols, biological active compounds, antioxidant activity.

SECTION 4

ADVANCES IN ENGINEERING AND MANAGEMENT IN AGRICULTURE AND RURAL DEVELOPMENT

PP.4.1

Agricultural drone progress in the context of the new agricultural policy

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Abstract

The ability of agricultural drones to easily adjust their altitudes and flight paths according to the surrounding topography and geography makes them suitable for farmers for almost any type of crop, as well as for a wide range of agricultural work. However, at present, drones are not being exploited to their full capacity due to restrictive regulations. The strategy, launched by EU bodies, sets an EU-wide target of a 50% reduction in the use of chemical pesticides by 2030. One promising solution includes the use of drones for targeted application of pesticides, but the European Commission needs to update the Sustainable Use of Pesticides (SUD) Directive and allow the use of drones for aerial spraying of pesticides. We will report in this poster on the involvement of agricultural drones in the new agricultural policy directives.

Keywords: drone, common agricultural policy, pesticide, UAVs.

Acknowledgments

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PP.4.2

Improvement of soil properties with dumped slag for the cultivation of *triticum aestivum* species

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Abstract

The sustainable development of Waste Management Legislation sustain the disposal of a large quantity of slag at landfill sites by causing environmental consequences which is necessary for its more effective recycling. The agricultural land resources are an issue world-wide and through this investigative study we showed that the mixture of waste slag dumped in landfill can help increasing the crop yield. The chemical, structural and morphological properties of the investigated different ratio of slag: soil samples are evaluated for applying in agriculture. The purpose of this study is to increase the productive performance of *Triticum aestivum* crops with addition of waste slag dumped in landfill.

Keywords: soil, dumped slag, *Triticum aestivum*.

Acknowledgments

The work of Nicoleta Bogatu was supported by the project “PROINVENT”, Contract no. 62487/03.06.2022—POCU/993/6/13—Code 153299, financed by the Human Capital Operational Programme 2014–2020 (POCU), Romania.

SECTION 5

ADVANCED RESEARCH IN ELECTRICAL / ELECTRONIC ENGINEERING, SYSTEM ENGINEERING AND INFORMATION TECHNOLOGIES

PP.5.1

A case study of binary classifiers and their performance

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Abstract

Binary classifiers play a crucial role in machine learning for tasks involving the classification of data into two distinct classes. In this article, we present a case study that examines the performance of various binary classifiers using the Census Income Dataset for income prediction. We investigate popular binary classification algorithms, including Logistic Regression, Support Vector Machines (SVM), Random Forests, Naive Bayes, K-Nearest Neighbors (KNN), and Neural Network. Our article provides a detailed analysis of the performance of these binary classifiers using evaluation metrics such as accuracy, precision, recall, F1-score, and area under the Receiver Operating Characteristic (ROC) curve. We also explore the impact of different hyperparameters, feature engineering techniques, and model fine-tuning on the performance of binary classifiers using the Census Income Dataset. Furthermore, we discuss the challenges and limitations of binary classifiers in the context of the Census Income Dataset, such as class imbalance, missing values, and feature selection, and highlight potential solutions and best practices to address these challenges. The case study findings offer valuable insights and guidelines for selecting appropriate binary classifiers and optimizing their performance for income prediction using the Census Income Dataset. Overall, this article serves as a comprehensive reference for researchers, practitioners, and students interested in binary classifiers and their performance evaluation using real-world datasets, with a specific focus on the Census Income Dataset for income prediction tasks.

Keywords: artificial intelligence, machine learning, classifiers, predictions.

PP.5.2

Analysis electrical installation used on ship

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Abstract

This paper presents the research on the what ship is a unitary system, an analysis of them shows that there is a strong interaction between subsystems, components in the operating regimes, you have

energy goals are not the priority given very short periods of operation in these regimes compared to the permanent regime (continuous march).

It exemplifies the elements of design and selection of marine equipment.

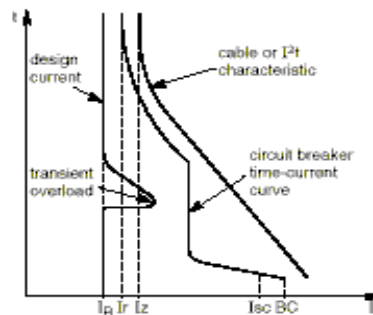
Cargo ship data for the work we have accomplished the following:

- ✓ calculation of short circuit currents;
- ✓ balance of power plant electrical power industry;
- ✓ power movement in the system;
- ✓ protections imposed system analysis;
- ✓ ways to choose the electrical equipment used.

The conclusions from this research are the following:

- Electrical installations are present on any vessel of communication and navigation equipment, alarm systems and monitoring service engines for pumps, fans or winches, to high power systems for propulsion.
- We can say that the ship there is a mini-network on Earth.
- Electric marine working conditions, different working conditions of industrial electric drives.

Keywords: cargo ship, methods of calculating the electrical installation on the ship, electromagnetic compatibility, redundancy.



PP.5.3

Electrical simulation of discharges producing non-thermal plasma

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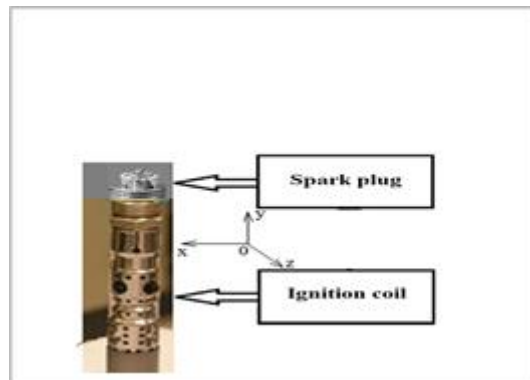
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Abstract

In order to optimize the non-thermal plasma treatment for different applications, the parameters of the electric discharges producing the plasma must be considered. The power supply used to produce discharges for experiments consists of an electronic ignition coil used on modern cars controlled by a microcontroller based unit that can provide different types of control pulses having adjustable width for each cycle.

Keywords: microcontroller based, power supply.



PP.5.4

Optimization the starting current of a three-phase asynchronous motor

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Abstract

The main objective for this paper is to optimize the starting current for a three-phase asynchronous motor.

The first step for this action plan is to design a virtual model for an asynchronous motor in a specific simulator and this will be test in a real electrical drive system.

The second objective is to measurements in the physical stand. The electrical parameters of the electrical drive system which are visited for this paper are: the current, the voltage, the power.

The next step is to do a comparative analyze between simulated and physical model parameters.

Keywords: asynchronous motor, electric drive system, simulations,

PP.5.5

Minimization of the DC motor losses by using Quadratic Performance Criteria

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Abstract

The widely use of the DC motors in the robot applications, with often dynamic regimes, the energy consumption becomes an important indicator in energy management. This paper presents the minimization of the dc motor losses by using quadratic performance criteria. The optimal problem

formulation along with the deduced solution are provided. The simulation results confirm the energy minimization by comparing the results with the conventional control.

Numerical simulation, the conclusions of the control effectiveness will be presented.

Keywords: numerical simulation, optimal control, quadratic performance.

PP.5.6

Optimal control of a military 4WS autonomous vehicle

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Abstract

The thermal problem is critical in military vehicle applications. The military vehicles can be detected by using the thermal traces. One of the methods to control the thermal regime is to optimize the supply energy of the traction motors. The authors of the paper find out one modern way to optimize the delivered energy from the battery. The hamiltonian scalar function introduces the augmented costate vector. By using the necessary conditions of the extremum points, the canonical system is obtained. The sufficient condition conduct to the minimum point of the optimal control. By minimizing the designed functional index, the optimal control solution is found. The obtained results are shown in the paper, paving the way for the real-time implementation of the proposed algorithm

Keywords: mobile platform, optimal control, 4 wheel-steering

SECTION 6

FUTURE OF ECO-NANOTECHNOLOGIES, FUNCTIONAL MATERIALS AND COATINGS

PP.6.1

Thin films and coatings used in photocatalysis for environmental protection applications

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Abstract

Recently, thin films and coatings of material with semiconductor behavior, which thickness ranges from a few nanometers to a few micrometers, are used in various antimicrobial applications, self-cleaning, but also in photocatalysis applications [1-3]. For the photocatalytic purpose, studies have been done for the optimization of the thin films properties to be used in wastewater treatment, but also for energy production applications [2].

Among the first studies related to the treatment of waste water are the use of magnetite introduced into a nanocrystalline matrice of titanium silicate (TS1) and of metal ferrites-based nanocomposites to degrade organic contaminants, as well as numerous colorants [1-2]. Using nanocomposite thin films to produce energy was also recently reported [3]

In this paper we present part of our studies on magnetic oxide films with photocatalytic properties used for the degradation of organic pollutants in wastewater treatment.

Keywords: magnetic metal oxide, semiconductive thin films, photocatalytic activity

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PP.6.2

Kinetic study on the formation of ZnO nanostructures by solution-based bottom-up approaches

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Abstract

Kinetics studies represent an essential step in the optimization of the synthesis processes of functional nanostructures. This paper presents an isothermal kinetic study regarding the solution synthesis of 1D type nanostructures (nanorods, nanowires) of ZnO on glass substrates.

The kinetic parameters (rate constant and activation energy) and the growth mechanism from the solution were evaluated in isothermal conditions, at temperatures between 75-95°C, by time monitoring of the variation in the concentration of Zn²⁺ ions from growth solution. Both the kinetic equations in homogeneous systems (reaction order model) as well as those in heterogeneous systems have been verified.

Keywords: ZnO nanostructures, solution-based synthesis, kinetic parameters, reaction mechanism.

PP.6.3

Advanced method for assembling metallic multilayer nanocomposites

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Abstract

The High Speed High Pressure Torsion (HSHT) technique has been suggested as a new approach to producing metal multilayer composites. The HSHPT methodology is a derivative of the conventional high pressure torsion (HPT) technique, which is extensively employed for inducing severe plastic deformation in bulk metallic specimens. The HSHPT technique is characterized by the application of high pressure and torsional straining, but it deviates from the conventional method by utilizing a higher rotation speed of the superior anvil and allowing for slippage between the sample and anvils. The objective of this study is to report findings on Cu/Al multilayered composites, hybrid NiTi/NiFeGa composite, and NiTi/NiTi multilayered nanocomposite, which exhibit high resistance to deformation and welding. The experimental findings verify the high potential of the HSHPT technique for obtaining multilayer metallic nanocomposites.

Keywords: SPD, HSHPT, multilayered nanocomposites.

PP.6.4

Physico-chemical processes from the X70 steelmaking and casting that influence its properties

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Abstract

The specialized literature in the field of metallurgy expressly specifies that the effects of microalloying of steels as well as the technologies of secondary metallurgy (metallurgy in the pot), LF-ladle furnace and vacuum degassing, solve many of the problems of decreasing the solubility of gases in steels based on redox reactions at low pressures.

The use of welded pipes for the transport of energy fluids (gases, crude oil, hydrocarbons) in hostile conditions and at low temperatures implies the main objective, that these pipes present superior metallurgical, microstructural and mechanical properties (resistance, tenacity, plasticity). In order to obtain these properties both in the body of the pipe and especially in the weld seam, especially in the thermally affected zone (ZIT), it is necessary to obtain some microstructures that provide the steel with the necessary mechanical and metallurgical properties, by strictly following the chemical analysis and a conformal casting.

Microalloy steels type X60, X65, X70, X80, X100, X120 used in the manufacture of high-performance welded pipes can be obtained by a combination of an appropriate chemical composition and a thermomechanical rolling at certain parameters of section reduction and temperature. By choosing and controlling these two factors properly, steels with a good balance of strength, toughness, cold formability and weldability properties can be obtained. While the properties of strength, toughness and cold plastic deformation are dependent on structural characteristics, weldability is generally accepted as being dependent on chemical composition. High-strength microalloyed steels are low-carbon steels that contain small amounts of microalloying elements such as Nb, V, Ti and Mo. The chemical composition of microalloyed steels can be different for different product thicknesses, in order to obtain the desired mechanical properties.

Keywords: properties, microalloyed steels, secondary metallurgy, processes of elaboration and continuous casting

PP.6.5

Effect of triethylamine as auxiliary – ligand, on assembly of Nd(III) complex with heterocyclic bipyridinium ligand, from structural, thermal, morphological studies and bacteriostatic activities

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Abstract

The role of the heterocyclic ligand N, N'-diphenacyl-4,4'-bipyridinium dibromide is to modulate the characteristic of the Nd (III) complex [1]. This work presents the study for solutions and crystals of the neodymium (III) complex containing its heterocyclic pyridinium ligand having oxygen donors and nitrogen. The effect of triethylamine as an auxiliary ligand useful in the complexation process has been investigated in this work (FTIR, fluorescence emission spectra, SEM/EDX, TGA/DTA analyses). The antimicrobial potential of the metal complex was analyzed. The bacteriostatic activity of the complex of Nd-pyridinium ligand showed a good effect against *Candida albicans* but no bacteriostatic activity on *Escherichia coli*, and *Staphylococcus aureus*. The complex of Nd-pyridinium ligand's unique characteristics may be explored for multiple applications including in syntheses of organometallics, electronic and luminescent materials used in biology, biochemistry, and medicine.

Keywords: neodymium complex, heterocyclic bipyridinium, materials

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PP.6.6

Clay-epoxy composites

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Abstract

The clay-epoxy composites were studied due the special properties of inorganic part of clays. The results were always evaluated taking into account the properties of particular structures of clays. In this study organic-inorganic clays (of cosmetic use) were dispersed into an epoxy resin volume prior to pre-polymer mixture preparation. This way the organic part of clay is interacting with the polymer matrix and avoids the inorganic part aggregation during the composite forming process. The total content of organic part is very important, as well as the structure of the inorganic part structure. Three different clays were used in three weight ratios in the same epoxy resin and SEM analysis was

performed to identify differences between the composites. Also water absorption of composites was studied.

Keywords: epoxy resin, clay, water absorption.

PP.6.7

Testing a hypothesis

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Abstract

Regarding nano composites with polymer matrix two things are very well known: they show different properties from the ones of the matrix, due to the nano-particles presence, and they are difficult to form because all the nano-structures tend to aggregate when immersed into a liquid phase. Starting with the sol-gel method we tested the hypothesis of getting nano-ceramics directly into a polymer taking into account its viscosity. Appropriate precursors were used to obtain YBCO (a very special ceramic) starting with the idea that this ceramic exists and it is obtained (through other methods). Solutions of precursors were mixed with the main component of an epoxy resin to get uniform dispersions. In this way the smallest components of the precursors were isolated inside the polymer and they were supposed to interact to get nano-structures. SEM analysis confirms the existence of some nano-structures inside the epoxy resin.

Keywords: epoxy resin, ceramic nano-structures, precursors solutions.

PP.6.8

Methods for antioxidant potential of the new basil hybrids, to develop antibacterial materials containing essential oils

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Abstract

Several methods of evaluation and detection of the antioxidant potential, from medicinal plants being varied and complex techniques depending on the specifics of the sample or the analyzed system [1]. Basil is a popular culinary herb, and its essential oils have been used for many years in food products, perfumery, and dental and oral products [2]. The antioxidant potential of alcoholic extracts and essential oils, obtained from new basil hybrids (*Ocimum basilicum*, *Ocimum crisiodorum*, *Agastache foeniculum*) were analyzed using micro spectrophotometric methods of free radical inhibition, such as DPPH, ABTS and FRAP, but also electrochemical methods, such as cyclic voltammetry. Our results open new possibilities for the development of new materials with antibacterial functionality based on essential oils from basil.

Keywords: antioxidant, methods, basil, antibacterial materials

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SECTION 7

CHEMISTRY - ELECTROCHEMISTRY IN LIFE SCIENCES

PP.7.1

Sustainable biomass as green and efficient crosslinkers of collagen: case of by-products from six pomegranate varieties with global commercial interest in Morocco

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Abstract

This study describes a novel eco-friendly leather tanning approach based on vegetable biomass developed to avoid environmental pollution caused by chromium as well as to improve leather performances. Investigations were conducted in the current work to study the suitability of tannins extracts from pomegranate byproducts varieties with a global commercial interest in Morocco. The study is based on the quantification and the determination of molecular size distributions of crosslinking extracts during the tanning process. Gel exclusion chromatography was used to follow the polymerization degree and crosslinking kinetics. Tannins and phenolics behave differently during crosslinking depending on their molecular weight. Fourier Transform Infrared Spectroscopy (FTIR) showed the existence of inter- and intramolecular interaction between collagen functional groups and extract. XRD analysis demonstrated the influence of extract crosslinkers into the triple helix structure of collagen. Scanning Electron Microscopy (SEM) observations showed the fibrial size variations of crosslinked collagenous structure by varying the crosslinker extract. The crosslinked collagen properties revealed the difference between by-products varieties extracts and their particular behaviors during the crosslinking process.

Keywords: Pomegranate by-products, tannins, molecular size, crosslinking, eco-friendly tanning.

PP.7.2

Development of a novel heavy metal ion detection electrochemical device for surface water analysis based on carbon nanofibers

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Abstract

An alarming increase globally is represented by the presence of heavy metals, not only in ecosystems but especially in living organisms, becoming today the main toxic contaminants that threaten the quality of life. The development of heavy metal detection devices is continuously increasing, and the current study presents an easy-to-manufacture and manipulate instrument, with low cost and remarkable sensitivity. Thus, electrodes modified with carbon nanofibers (SPE/CNF) were used to identify and quantify heavy metal ions such as Cd²⁺, Pb²⁺, Cu²⁺, and Hg²⁺ in environmental samples. The sensitivity, the detection limit, and the quantification limit were the main parameters monitored in this research to measure the performance of the developed sensors, so the stability, reproducibility, and increased accuracy of the devices make them promising instruments for monitoring the quality of surface waters.

Keywords: water quality, screen printed sensor, square wave voltammetry.

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PP.7.3

Synthesis and characterization of heterocyclic compounds with bioactive properties using classical or "green chemistry" methods

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Abstract

This study aimed to present the comparison of various synthesis methods and synthesis parameters of indolizine derivatives. Synthesis of novel molecules possessing pharmacophore moiety similar with known biologically active compounds provides a leading approach for the development of new active agents [1,2]. Various methods that were used for the synthesis of indolizine derivatives were conventional methods, biocatalysis, ultrasonic irradiation, and microwave assistance, for the optimised production of indolizine compounds in moderate to excellent yields (25-85%). However, the synthesis of indolizine derivatives using conventional methods presents many disadvantages, one

of which is the product yield, which was lower than the other optimised methods. Therefore, the current research presents the importance of optimizing the synthesis reaction conditions by taking into consideration several parameters. The indolizine compounds showed strong fluorescent properties and moderate antioxidant activity by DPPH and ABTS methods (ranging from 21 to 99%), at the same concentration used for comparison of 10^{-3} M. The antimicrobial susceptibility testing of various microorganism strains to selected compounds was assessed on the Mueller-Hinton agar. The preliminary evaluation of the antimicrobial action of the obtained derivatives, against some pathogenic microorganisms, showed promising results. The cytotoxicity of the indolizine compounds on human breast cancer MCF-7 cell survival by MTT assay, was also evaluated. Different concentrations of bis-indolizine compounds had cytotoxic effect on the MCF-7 cancer cells viability, compared to the control (without no inhibitor). These synthesized compounds could lead to the development of new antioxidant, antibiotic and anticancer drugs.

Keywords: synthesis, indolizine, anticancer, antimicrobial, antioxidant.

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PP.7.4

Qualitative and quantitative evaluation of saponins from the fruits of *C. metuliferus*

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Abstract

Saponins are a class of compounds found in many plant species, characterized by a molecular skeleton derived from the 30-carbon precursor oxidosqualene, with attached glycosyl residues [1]. The extraction and isolation of saponins was and remains a real challenge due to their structural diversity, but also the presence of various substituents, such as OH, CH₃ or COOH.

C. metuliferus is a plant that belongs to the Cucurbitaceae family, and contains a rich and different chemical composition, thanks to which it has therapeutic properties such as antioxidant, anti-inflammatory and antidiabetic activity etc [2].

This study aimed to determine the qualitative and quantitative content of saponins in the fruits of *C. metuliferus*.

Thus, three different tests were used for the qualitative determination, namely: standard foam test, wet foam test and dry foam test. For the quantitative study the saponins were traditionally extracted in a

water/ethanol mixture, after which the alcohol was removed by evaporation and the saponins were extracted from the aqueous phase in n-butanol.

Keywords: saponins, *C. metuliferus*, chemical composition, Cucurbitaceae.

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PP.7.5

Determination of extra virgin olive oil adulteration by using multivariate methods

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Abstract

The purpose of this research was to determine the adulteration of extra virgin olive oils (EVOO). It was chosen this research topic because EVOO plays an important role in everyday nutrition, due to its beneficial effects on health (antioxidant properties, lowering the risk of cardiovascular diseases, diabetes, obesity treatment, strengthening the immune system, etc). Therefore, determining the quality and authenticity of EVOO is one of the major importance. In practice, the determination of the adulteration of an olive oil was carried out using modern analytical methods such as: FTIR spectroscopy, UV-Vis spectroscopy, the Folin-Ciocalteu method, the DPPH test coupled with multivariate methods such as Principal Component Analysis (PCA) and Analysis of Variance (ANOVA). Through this research, based on the results obtained, all the methods presented above provided accurate information regarding the possible differences between EVOO and adulterated oil.

Keywords: extra virgin olive oil (EVOO), adulteration, spectroscopy, Folin-Ciocalteu method, DPPH test.

Funding: This work was supported by a grant from the Romanian Ministry of Education and Research, CNCS—UEFISCDI, project number PN-III-P4-ID-PCE-2020-0923, within PNCDI III.

PP.7.6

Study of olive oil quality with spectrometric methods

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Abstract

Extra virgin olive oil (EVOO) has nutritional and sensory characteristics that make it unique as a staple of the Mediterranean diet. Color, taste and aroma are among the main parameters for defining the quality of olive oils, as well as the final price of the product. These qualities are attributed to certain compounds present in olive oil obtained following its mechanical extraction from the fruit (*Olea europaea* L.). Due to its value on the world market, respectively for the economic value as well as for the nutritional value, it is necessary to establish a level high quality of this product. This paper presents the research on the quality of EVOO using analytical methods: FTIR spectroscopy, UV-Vis spectroscopy and advanced analysis of data using multivariate analysis such as Principal Component Analysis (PCA) and Analysis of Variance (ANOVA). Through this research, based on the results obtained, FTIR spectroscopy combined with multivariate calibration provided us with defining spectra and data for the identification and differentiation of oils, which can be used to monitor the quality of olive oils on the market.

Keywords: extra virgin olive oil, quality, analytical methods, multivariate analysis, identification, differentiation.

Funding: This work was supported by a grant from the Romanian Ministry of Education and Research, CNCS—UEFISCDI, project number PN-III-P4-ID-PCE-2020-0923, within PNCDI III.

PP.7.7

Technologies for processing cereals into fermented porridges in the Northern Part of Benin

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Abstract

In sub-Saharan Africa, the processing of cereals (millet, sorghum, maize and rice) into foods such as fermented porridges occupies a prominent place. The objective of our study is to evaluate the endogenous knowledge of the production of fermented cereal-based porridges in northern Benin. To do this, a survey was carried out among producers and consumers. A total of 180 female producers

were randomly interviewed in 09 traditional areas of northern Benin at a rate of 20 per area. The data collected were the mode of transformation of cereals into fermented porridge, type of cereal used, mode of conservation and socio-demographic characteristics. The results obtained made it possible to list a total of eight (08) porridges which are: porridge koko, bobossou, gbangba, apkan, sagagnèga, akloui, bita and fourra. These porridges are obtained by processing several cereals such as: corn, millet and sorghum. A significant association was observed between the cereal used and the type of porridge (p-value < 0.001). The akloui and bobossou porridges are almost exclusively made from corn, the fourra from millet, the koko, the sagagnèga and the bita are made from all cereals or even a mixture of two cereals. Thus, the technological diagrams were made according to the traditional methods of the populations. The common points for obtaining these porridges are among others: the cleaning of the cereal, the grinding and the sieving in one way or another. This study allowed us to have the types of fermented porridge and their technological diagrams as well as the cereal used for each type of porridge.

Keywords: Cereal, Fermented porridge, Processing, Benin

PP.7.8

Carbon based sensors for diclofenac detection – an overview

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Abstract

Diclofenac (DCF) or 2-[2-(2,6-Dichloroanilino)phenyl]acetic acid is a nonsteroidal anti-inflammatory drug (NSAID) used as an analgesic to reduce inflammation. Compared to other nonsteroidal drugs, diclofenac is more effective with fewer side effects. Due to its great importance in the medical sphere, in recent years various methods have been used for the determination of diclofenac such as: gas chromatography coupled to mass spectrometry (GC-MS), high performance liquid chromatography (HPLC), spectrophotometry or spectrofluorimetry. However, the chromatographic and spectroscopic methods used for the detection of diclofenac are laborious and time-consuming due to long and difficult sample preparation protocols and liquid-liquid extractions (LLE). Therefore, it is necessary to develop sensitive, simple, selective and rapid methods for the determination of diclofenac. Electrochemical methods are simple and versatile due to advantages such as inexpensive instruments, rapid response, high sensitivity, and linearity over a wide concentration range. Carbon-based materials raised significant interest due to the versatility of their functionalization with an extensive range of organic molecules, biologically essential compounds and pharmaceuticals. This review concentrates on recent developments in utilizing different carbon-based electrodes as sensors in the electrochemical analysis of active compounds in drug molecules.

Keywords: diclofenac, NSAID, modified carbon electrodes, screen printed electrochemical sensors.

SECTION 9

RECENT PRACTICES IN MEDICAL RESEARCH

PP.9.1

The influence of exogenous factors with predictive value in premature birth in the first year of the pandemic-2020

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Abstract

Introduction

According to WHO prematurity is defined as any birth that occurs before 37 weeks of amenorrhea or less than 259 days after the first day of the last menstruation.

Material and method

The poster is based on the results of a retrospective study conducted in Building D of the County Clinical Emergency Hospital in Braila, Romania, that highlights the influence of exogenous factors such as smoking, exposure to alcohol, as well as the age of pregnant women: under 18 years old and over 40 years old upon premature births in the first year of the pandemic (2020). This study was conducted using information extracted from the medical records of the admitted pregnant women who gave birth in the Building D of the County Clinical Emergency Hospital in Braila. The information obtained from the patients' medical records were entered in an electronic database, and the processing of the results included both statistical processing of the collected information as well as their graphic representation.

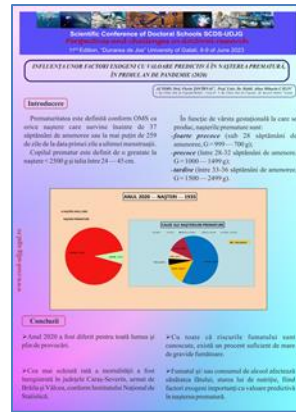
Results – discussions

The results of the study show that in the first year of the pandemic (2020) the percentage of premature births in Building D of the County Clinical Emergency Hospital in Braila maintained in the national average of premature births (7-9%). Although remarkable progress has been made in obstetrics and neonatology specialties, the incidence of premature births still remains increased in Romania compared to the other EU countries, having as an explanation both the influence of the exogenous factors mentioned above, as well as the techniques of assisted human reproduction.

Conclusions

Although the risks of smoking are known there is a sufficiently high percentage of pregnant smokers. Smoking and alcohol consumption affect the health of the fetus and its state of nutrition, being important exogenous factors with predictive value in premature birth.

Keywords: premature, birth, risk, pandemic.



PP.9.2

Groups in oncology: growth, evolutionary development and systemic intervention strategies

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Abstract

Introduction The group is a setting that gives participants the opportunity to share their fears and worries with other people who have similar experiences and who understand what they are feeling. It complements medical treatment because it provides a safe setting where people diagnosed with cancer can open their hearts and receive answers from people who really understand them. Sharing experiences with other people in the group helps them and gives them the strength to adapt to the new conditions and fight the disease more effectively.

The group is a way to mediate contact and exchange experience in the fight against this disease, it focuses on the need for mutual support and help.

Entering the psychotherapeutic framework has an effect of temporal suspension "here and now", meaning entering a dimension of the psychological present. The group is more than the sum of its members, it (co)creates itself as an entity with a specific psychology.

Therapy groups have the capacity for self-organization, self-leadership and the potential for inner development (group life, with specific phenomena).

Mixed method design: Basic interventions (performed by psychologists):

- The psychologist facilitates the building of the therapeutic alliance between the participants.
- The psychologist promotes group cohesion which acts as a therapeutic factor of support and sharing of suffering.

Specialized interventions (performed by psycho-oncologists):

- The psychologist encourages group sharing of suffering here and now.

- Facilitating the process of adaptation to new personal and family balances.
- Encouraging sharing of group expectations in the context of group therapy.

Results. Small group therapy produced substantial changes in symptoms, personal problems, and interpersonal difficulties, encouraging adaptation to illness through the adoption of healthy coping mechanisms.

The treatment plan sought gradual improvement with sequential results in different areas, each preparatory to the next:

1. subjective well-being, sense of mastery, hope (remoralization);
2. reducing symptoms, activating healthy coping strategies and solving life problems;
3. social functioning, lifestyle, achievement of new goals (rehabilitation).

In conclusion, The points on which the psychotherapist can focus his attention in evaluating the effectiveness of psychotherapeutic interventions are easily identified in the subjective well-being that the patient and the family can experience, even in the presence of symptoms of anxiety and demoralization, by activating more functional coping strategies to gradual adaptation to the disease and its consequences, social functioning regarding the expansion of communication between the patient and family as well as between patients/family and the palliative care team, even if these aspects remain unspoken or awareness of the stage of the disease has not been shared.

Keywords: group psychotherapy, breast cancer, cohesion, existential themes.

PP.9.3

Psychological intervention strategies in palliative care

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Abstract

Introduction. The increase in the chances of survival, the retardant effect and the control of physical symptoms, complete and permanent remissions in an increasing number of cases, are certainly indicators of therapeutic success in oncology. However, in recent years, an increasing interest has been extended to the functional, psychological and social aspects of the neoplastic patient. More and more attention is devoted to the subjective experience of the disease, the therapeutic impact, how they interfere with the patient's life. The "quality of life" of the individual with cancer is one of the most debated topics in current psycho-oncological research. The evaluation of the functional state of the subject, the level of discomfort/well-being related to the disease as a result of the treatments, the mental state, the cognitive, emotional and affective-relational aspects, is of increasing interest also for the medical teams. Therefore, it is essential that every palliative care program includes a systemic assessment and "understanding-interpretation" of the patient's existential story as a whole.

The present research refers to a sample of 9 subjects affected by breast cancer, in treatment at the Emergency County Clinical Hospital "Sf. Apostol Andrei" Galati, Oncology Department. We analyzed the psychological responses regarding the impact of finding out the diagnosis, to the treatment (surgical, chemotherapy), observing the changes resulting from the surgical interventions, and evaluating the changes in the field of quality of life, as well as the effects of the psychotherapeutic treatment.

Mixed method design: 30 oncological patients, aged between 35 and 70 years, were included in the study. The criterion of homogeneity of qualitative research is based on the following conditions: each subject must be a carrier of the same pathology and is in an active phase of treatment. Each patient in the study was diagnosed with non-metastatic breast cancer, for care surgery and chemotherapy were indicated.

All interviewed patients gave their consent and wanted to answer all the questions asked. The results were processed using MediCalc.

The psychological tests in the evaluation were the following: EORTC QLQ-BR23 Questionnaire, HADS Scale (Hospital Anxiety and Depression Scale), Observation, Anamnesis, Semi-structured clinical interview. By means of these tests, the quality of life, symptoms of anxiety and depression, behavioral reactions in stressful situations were evaluated.

The patients were involved in a program of cognitive-behavioral psychotherapy for 9 months, with weekly frequency of individual sessions.

Results. The examined patients reported contents related to experiences of loss, separations and traumas, showing an incongruous communication style: the objectively painful contents of life were related with a marked emotional detachment and low participation. It turned out that 75% of the patients tested had in the last five years of life one or more experiences of bereavement or loss in general, while 60% reported experiences of the same type reported in relation to the last two years.

Therefore, we can describe the people who make up the sample as being characterized by depressive tendencies supported by introjected aggressive aspects, such as self-blame, the conviction that they must atone for their sins through suffering that leads them to neglect their own needs and a weak self-awareness that does not allow for adequate self-definition. Based on these beliefs, patients tend to structure their interpersonal relationships against the background of affective anesthesia. Mistrust and negative expectations tend to prevail in the interpretation of reality. They are predominantly anxious people, who control their own state of tension incongruously. It presents aspects of hopelessness-helplessness, experiences of abandonment, traits of inhibition and inertia, poor ability to discharge tension through action. The people examined demonstrate a lack of self-perception and a lack of assertiveness and, therefore, show low resistance to stress. Also, based on the described characteristics, we can say that the examined patients could have maladaptive coping styles.

In conclusion, Medicine shows more and more frequently that its task does not end with the operation, with the administration of medical care and with the discharge from the hospital, and medical oncology in particular has gained the conviction that the real attention to the patient, the real care for him also results from questioning on the quality of the future life he will be able to enjoy.

Radical mastectomy and sectional surgery are surgical interventions that can induce important psychopathological responses also due to the symbolic implications related to both the amputation and an amputated part. Therefore, patients destined for such mutilating interventions are certainly eligible for treatment the beginning of which coincides with the preparation of the surgical intervention considering the possible psychological reactions due to the loss and decrease in the quality of life that

are likely to follow, and because of the side effects that may accompany chemotherapy treatment. Therefore, psychotherapy aims at recomposing the self-image, and at the same time proposes to return the patient to her family and social context.

The sample we studied allowed us to observe predominant psychological responses as a result of the process of adaptation to the diagnostic information and treatment plan. We took into account the onset of the depressive symptom and the consequent decrease in the quality of life, initially related to the problem of survival, followed immediately after the surgical intervention by an important disturbance of the self-image. Specific personality traits evaluated as "individual negative coping dispositions" were observed, some of which are susceptible to change through psychotherapeutic intervention. Psychotherapy has actually shown, along with family counseling, an elective tool for the treatment of the depressive components that the patients manifested, allowing to obtain excellent results inherent in the therapeutic motivation in general and in the restoration of an acceptable quality of life.

Keywords: EORTC QLQ-BR23, HADS Scale, breast cancer, anxiety, depression.

PP.9.4

Hepatorenal insufficiency in the context of the ischemic stroke and biologic marker

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Abstract

Introduction: Hepatorenal syndrome in the elderly has a dynamic and a special dynamic of evolution when it is associated with ischemic stroke. Ischemic stroke is one of the most frequent causes of death in the world either through direct or indirect mechanisms and the variety of forms and of the different prognosis of this emergency and the pathophysiology of them generates always new controversies. Peritoneal dialysis as also the emergency dialysis of the elderly generates diabetes in the scientific world but we must admit that the access for this costly therapies is limited in a large scale model. The additive effects of a pancreatitis or a occlusive syndrome, as also for anemia and atrial fibrillation modifies the rate of mortality, evolution of each individual case.

Objectives: We want to highlight the dynamic of evolution of the hepatorenal insufficiency of the elderly affected by ischemic stroke with a cumulative effect of different pathologies (diabetes mellitus, atrial fibrillation, ischemic heart disease, chronic pulmonary heart disease, liver cirrhosis).

Material and methods: We want that from the analysis of our cases from year 2022 to calculate a predictive model for the evolution of this syndrome in the elderly. We analysed a cohort of patients over 65 years old, and we took in account different parameters and different models of evolution. We analysed the numbers of hospitalisation days, the duration of intensive care unit stay of this patients, the medication used as also the biologic parameters which showed the reactivity of the patients after

the therapeutic interventions on an known biological background and the type of management which was applied in a differentiated way correlated with the individual situation of each patient. The data were anonimised and processed in accordance with the good practices in research.

Discutions and conclusions: The multiorgan failure is one of the evolutive patterns which we try to avoid especially in the vision of the intensive care services, and more often then a infection is coexisting which complete the clinical picture with bad prognosis and death. This syndrome can be analysed also in the context of liver cirrhosis and the assoiation of this syndrome with stroke can coexist also after a hepatic transplantation before the age of 65. The attentive analysis of this syndrome has the aim to lower the mortality rate because through the analysis of the factors which leads to prolonged hospitalisation rates ,the associated, biologic markers and complications which can be avoided through a good management , trying to obtain the period of hospitalisation in the intensive care units , the duration of the hole spitalisation days before and after the treatment in the intensive care units of the hspitals and so we obtain a high predictable values.

Discussion and conclusions:The size of the care is burdened by the appearance of bedsores that complicate the evolution of this type of patients, paying special attention to the infusion and hydration regime. Another important highlighting is the enteral and parenteral nutrition approach of this patients and the factor which influences the type of the chosen regimen for this patients taking in account the presence or not of the diabetes or the presence of dislipediemias or the presence of other metabolic disturbances. Thisa analysis offers the clinican a holistic and eclectic model of interpretation of the disease in a special age period but with an attentive care this problems can be solved with the aim of a life in dignity for the patient and the family.

Keywords: hepatorenal insufficiency, elderly, biologic markers, intensive care, ischemic stroke

PP.9.5

Knee arthritis and actual treatment

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Abstract

Introduction: osteoarthritis of the knee is one of the most common degenerative diseases of the musculoskeletal system, also called gonarthrosis. It is a worldwide problem as it causes disability and even increased morbidity.

Osteoarthritis of the knee is defined as a slow and irreversible deterioration of the knee joint through destruction of the articular cartilage.

Symptomatology is quite varied and depends on several factors, including patient age, weight, comorbidities, but it is mainly represented by pain experienced with walking and physical exertion, calmed by rest.

This paper aims to present the importance of preventive and curative treatment of degenerative knee disease, as it has a major negative impact on the general population.

Analysis of data and methods: we reviewed the current progress in modern nonsurgical treatment versus knee arthroplasty, taking into account new international approaches and guidelines concerning worldwide disability of patients suffering from knee osteoarthritis.

Results: the treatment of osteoarthritis must be multidisciplinary, involving collaboration between the specialties of orthopaedics, rheumatology and medical rehabilitation. The current paper aims to evaluate the types of treatments both non-surgical, represented by drug and physical therapy, and surgical approach, from risk-benefit and economic perspectives.

Conclusions: non-surgical treatment in osteoarthritis of the knee is in continuous research and development, especially considering the costs and complications arising from arthroplasty surgery.

Keywords: osteoarthritis, arthroplasty, therapy

PP.9.6

Is stroke a greater challenge in patients with Alzheimer disease?

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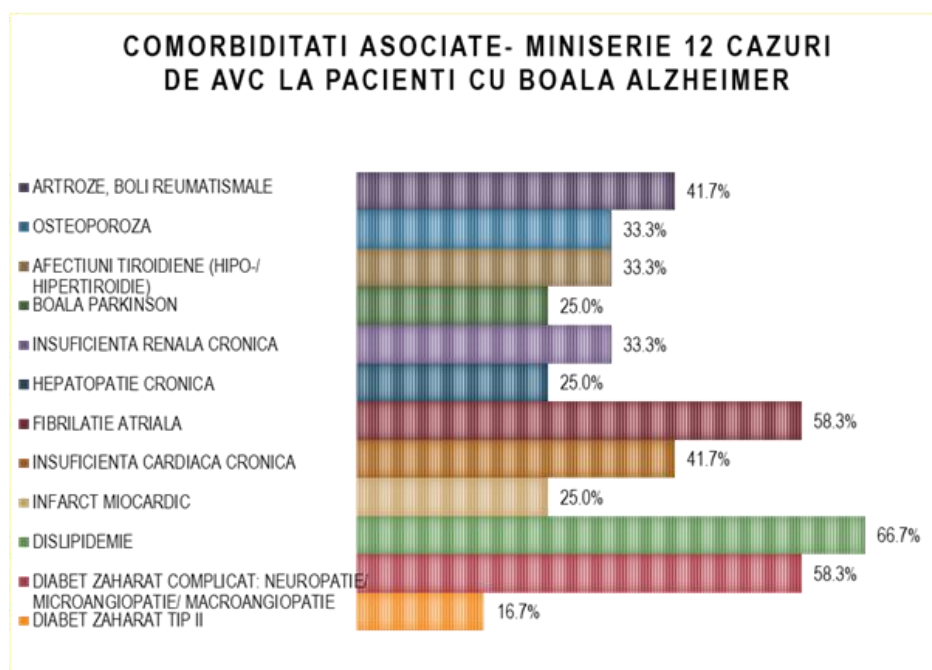
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Abstract

Introduction: Dementia in Alzheimer's disease (AD) has been defined by a specific pattern of deterioration in cognition and function, accompanied by neuropathology and relating to aging. Stroke as a cerebrovascular disorder is a known risk factor for AD development. **Material and method:** Starting from a series of 12 patient cases from the Geriatric Clinic of the County Emergency Clinical Hospital "Sf. Apostol Andrei" Galați, we reviewed available PubMed indexed literature, using the relevant keywords, in order to identify recent evidence on the association between stroke developments in patients with AD-related dementia. **Results:** The stroke pathophysiology entails oxidative injury, neuronal apoptosis, necrosis, inflammation, excitotoxicity and angiogenesis within brain tissues, A β amyloid protein metabolism, defects in adrenergic, serotonergic, glutamatergic, and dopaminergic pathways. Large cohort surveys and meta-analysis results showed a clear-cut increased risk of stroke with prior cognitive impairment, and that AD patients are at increased risk of both ischemic and hemorrhagic stroke. Severe cerebral amyloid angiopathy and hypertension in AD patients produce multiplicative injuries to the neuronal vasculature, increasing the frequency of cerebral infarction. In our case series of 12 AD patients suffering a stroke, we observed the association of multiple cardiovascular and metabolic comorbidities. Comparing with published data, we have identified confirming hypothesis of challenging early diagnosis and efficient treatment of stroke in dementia patients. Studies showed that APOE genotype has a positive dose-response association with the ischemic stroke. **Conclusions:** AD, an irreversible neurodegenerative disorder, is not entirely treatable, but the cerebrovascular components of its pathophysiology are very much

manageable if targeted with a proper therapeutic strategy, which may have a considerable benefit in the progression or even prevention of stroke later in life.

Keywords: Alzheimer's disease, dementia, stroke, elderly, prognosis.



PP.9.7

Particularities of biomarkers of heart failure in elderly patients

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Abstract

Introduction:

Heart failure is one of the main morbidity and mortality factors in the general population and especially in elderly patients. Thus, at the European level, the prevalence of heart failure is 1% in people under 55 years of age but increases to over 10% in people over 70 years of age. The particularities of the elderly patient, which make the management of heart failure difficult, are the presence of comorbidities, frailty, cognitive impairment and polypharmacy. However, elderly patients are under-represented in clinical trials on the diagnosis and treatment of heart failure. The need for complementary methods (biomarkers) for differential and early diagnosis of heart failure is becoming more and more evident, even in its subclinical stages. These methods need to have increased specificity and sensitivity and be widely available. Natriuretic peptides, in particular B-type natriuretic peptide (BNP) and its fraction NTproBNP, have gained an increasingly important role in the screening, diagnosis and treatment of heart failure in recent years.

Materials and methods:

We made a review from clinical trials conducted in the last 20 years, which addressed the topic of heart failure in the elderly. The population included was over 65 years old, with a mean age of 75 years. Serum natriuretic peptides levels were measured in all patients and correlated with the severity and evolution of heart failure in these patients

Results:

In elderly patients, serum BNP levels may be influenced by a variety of factors in addition to heart failure, with clinical studies showing an increase with age in serum BNP values. Because of the higher basal BNP levels in elderly patients, its negative predictive value in detecting heart failure is lower in the geriatric population.

Despite the positive predictive value of BNP for mortality in elderly patients with heart failure, intensification of treatment in high-risk patients based on increased serum natriuretic peptide values, although resulting in improved symptomatology and quality of life, had no influence on mortality. This is probably also due to the high proportion of non-cardiovascular mortality among elderly patients due to multiple associated pathologies.

Conclusions:

Most clinical studies have shown that natriuretic peptides have low discriminatory power for the diagnosis of heart failure in elderly patients. The importance of these peptides is still the subject of debate and research, and more clinical studies are needed to provide data on their usefulness in the diagnosis, treatment and prognosis of heart failure in elderly patients. In general, natriuretic peptides have been more sensitive in diagnosing forms of heart failure with left ventricular systolic dysfunction and less sensitive in forms with preserved systolic function.

Keywords: heart failure, natriuretic peptides, geriatric patients

PP.9.8

Ventricular tachycardia unmasking infective endocarditis in a patient with an implantable cardiac resynchronization therapy (CRT) defibrillator

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Abstract

Introduction

Cardiac resynchronization therapy (CRT), also known as biventricular pacing, involves simultaneous pacing of the right ventricle (RV) and the left ventricle (LV). In addition to a conventional RV endocardial lead, CRT involves an additional coronary sinus lead placed for LV pacing. CRT improves cardiac function, symptoms, and well-being, and reduces morbidity and mortality in an appropriately selected group of heart failure (HF) patients. One of the most serious device-related complications is cardiac device-related infective endocarditis, defined as an infection affecting the leads, cardiac valves and/or the endocardial surface.

Material and methods This paper highlights a clinical case of 68 year old female patient admitted to the Emergency Hospital “Sf. Apostol Andrei” Galati for several sustained ventricular monomorphic tachycardias.

Results Echocardiography: dilated left ventricle with severe systolic dysfunction (EF=25%), severe mitral regurgitation, dilated left atrium, several large mobile vegetations adhered to right ventricular and right atrial leads and partially on the tricuspid valve, secondary pulmonary hypertension. When checking the device, multiple sustained monomorphic ventricular tachycardias were revealed, stopped by overdrive pacing during the last month. Therefore, the CRT-D device and all leads were urgently removed at Floreasca Emergency Hospital Bucharest (Corneliu Iorgulescu MD). Peripheral blood cultures revealed methicillin-susceptible *Staphylococcus simulans*.

Conclusions Reported incidence for bacterial endocarditis in cardiac implanted devices varies from 0.1% to 5.1% and several predisposing factors have been identified so far, such as the lack of antibiotic prophylaxis, use of temporary pacing before the procedure, or implantation of more than two pacing leads.

Keywords: cardiac resynchronization therapy, endocarditis.

PP.9.9

Non-motor symptoms in Parkinson’s disease: gastrointestinal manifestations

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Abstract

Introduction: Parkinson's disease is a progressive chronic neuro-degenerative condition, which, in addition to the defining motor symptoms, also causes a series of non-motor signs and symptoms. In over 50% of cases, non-motor symptoms are not identified during a routine neurological consultation. The quality of life of patients can be affected by the gastrointestinal dysfunction and also represents a challenge for the attending physician. Drooling, dysphagia dyspepsia, nausea, constipation, abdominal pain and gastroparesis are frequently a source of patient distress. The treatment of this symptoms it's the same as in the general population, although certain drugs with a potential to increase parkinsonian symptoms should be avoided. Increased and early identification of these symptoms can result in a significant improvement in the quality of life of Parkinson's disease patients.

Material and method: We have investigated the prevalence of gastrointestinal (GI) symptoms in study group of 21 geriatric patients with Parkinson's disease, admitted in 2021-2023 in our Geriatric Clinic. Those symptoms occurring more frequently in PD patients than in controls included abnormal salivation, dysphagia, nausea, constipation, and defecatory dysfunction. Except for defecatory dysfunction, symptoms did not correlate with treatment but instead correlated with disease severity.

This suggests that the GI symptoms of PD reflect direct involvement in the GI tract by the primary disease process.

Results: The clinical manifestations of gastrointestinal dysfunctions in PD include oral and dental disorders, sialorrhea (drooling), dysphagia, gastroparesis, malabsorption, constipation, and defecatory dysfunction. Motor symptoms, which only become apparent on formal diagnosis in the established disease (when degeneration of 50–70% of dopaminergic neurons in the CNS has occurred), gastrointestinal symptoms have been reported to arise up to 10 years prior to clinical diagnosis. Every PD patient suffers from gastrointestinal symptoms during the natural course of the disease. Most PD-related GI symptoms, such as dysphagia and constipation, are a result of abnormal motility of the GI tract. These symptoms not only impact on patient quality of life, but some, particularly dysphagia and gastroparesis, can worsen motor symptoms through the inadequate absorption of oral anti-PD medications.

The incidence of dysphagia- 10.5% in study group is primarily caused by one of the cardinal symptoms of PD, bradykinesia, which reduces control of the oral, pharyngeal, and esophageal cavities however, several cortical regions also contribute to swallowing difficulties.

While there is no correlation between the severity of dysphagia and the clinical progression of PD, there is a clear link between dysphagia and an increased risk of mortality. Dysphagia can cause additional complications such as malnutrition and subsequent weight loss and dehydration, and aspiration pneumonia (estimated to account for 70% of the mortality rates among PD patients)

Gastroparesis is characterized by feeling full after only a small amount of food (early satiety), and the sensation of having food in the stomach (postprandial fullness), which can lead to weight loss, malnutrition, abdominal pain, nausea, vomiting, and bloating. Gastroparesis can be present in both early and late stages of the disease, and unlike dysphagia, the severity of gastroparesis correlates with the severity of motor impairment(12.6% of cases)

Constipation, caused by delayed colon transit or the irregular contraction of the voluntary sphincters during defecation, is another common GI symptom in PD patients. According to the most frequently used definition for constipation (<three bowel movements per week), the median prevalence is estimated to be 50%. Moreover, drugs used to control motor symptoms, particularly anticholinergics, can both cause and exacerbate constipation

Conclusions: The incidence of PD is rising exponentially as life expectancy increases, and the number of individuals suffering from PD is conservatively estimated to increase to 12 million worldwide by 2050. Gastrointestinal dysfunctions are a common occurrence that require further and better investigation for a better quality of patients life. Gastrointestinal function is highly dependent on gut health, which is tightly linked to intestinal gut barrier integrity, a healthy gut microbiome, and the proper functioning of enteric neurons responsible for the contraction and relaxation of the gastrointestinal tract, all of which are compromised to some degree in PD patients.

Keywords: non-motor symptoms, gastrointestinal manifestation, Parkinson disease, gastroparesis, constipation

PP.9.10

Cognitive psihostimulation in the elderly

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Abstract

Introduction: An integral part of everyday life the cognitive stimulation is continuous and complex and the elderly don't realize their proper needs and tend to deny them. The elderly tend to withdraw deliberately from the social life and our mission is to elucidate the mechanisms by which we can motivate them. The elderly have different social integrated models as also different ways of living which is in contrast with their active live before and they cannot face some activities.

Objective: We want to highlight the importance combining the stimulation of the elderly in the family as also in micromedias like clubs for the elderly, humanitarian associations, specific dance courses, cooking, tailoring.

Material and methods: We made a rewiw of the classic literature and from the last researches in the field, from national and international data bases. Psihocognitive stimulation is part of a more complex stimulation motor, visual, individual or in group.

Results and discussions: The sleep disorders and sleep apnea can affect the elderly patients and making the rhythm of daily activities and also changing the food schedule. This disturbances are enhanced by the alcohol use which can extend in space and time (in different moments of the days, solitary or in group). The pathologies in the orthopaedic area limit the movement and are raising the level of anxiety of future disturbances. The analysis of the verbal fluency and the mode of expression can be predictive fundamental factors for establishing the degree of the understanding of a dialogue as also of daily tasks. The third age conjugopathies can complicate the clinical picture of a cognitive regress and at the third age there are also divorces with a much greater impact on the person that in the young age (the impossibility of more intense social relations, of a more dynamic social life and much more times encumbered by serious familial problems). The order word is to action which we must promote and the young are thinking about the aged person that the order word is to reflect. They feel useful in the role of grandparents, of neighbors, of colleagues, of helping people. The discussions with the elderly must be structured on a logical course, of the events and phenomena that surround them and they must be challenged to the elegance of the reasoned dialogue. The virtual reality must be used as also on platforms for socialisation in which the elderly can interact between them and to discuss specific problems of their age (pension, living, children, medication). The transcranial electrical stimulation is a auxilliary method stimulating neuroplasticity as also the memory. The detection of the subclinical depression is very important to prevent the cognitiv decline (the depression can be announced by excessive daytime sleepiness, by the restraint of the activities and interests, the modification of the routine, the avoiding of the old friends). The creation of working groups for the elderly (tanslation into or from a foreign language) , the realisations of prototypes (here

we can use the expertise of the elderly-projection and 3D imprinting, photo art), as also in mixed collectives with more young persons can stimulate the imagination and offering new volitional valences for the aged person. The global transitory amnesia, even if rare it can go unnoticed by the entourage and with an intelligence above average the aged person can hide these symptoms by friends and family, but the memory function must be carefully explored in all elderly peoples for the creation of the premise of a healthy and fulfilled life.

Conclusions: The life of the aged persons can be improved by community programs of support and educational programs for families and family doctors which can identify the vulnerable persons because of age, profession, atypical family situation and the accumulation of pathologies. The most important aspect is to show the person that we care about her, that the person is important for us. The maintaining of sure familial attachments and friendships, and the promoting of spending the free time in common with family members and friends give the elderly the feeling that he is between peoples and for peoples.

Keywords: elderly, family, cognitive stimulation, attachment, daily routine, virtual

SECTION 10

ADVANCED RESEARCH IN PHARMACEUTICAL SCIENCES

PP.10.1

Telepharmacy: a new paradigm for the pharmacist profession**Etidal-Mihaela Manoliu-Hamwia, Maria Drăgan^a, Alin Focșaa, Magdalena Bîrsana, Cornelia Mircea^a, Cătălina Daniela Stan^{a,*}**^a“Grigore T. Popa” U.M.F., Faculty of Pharmacy, 16 Universității Street, RO-700115, Iași, Romania*Corresponding author: catalina.stan@umfiasi.ro**Abstract**

This paper presents the research on the satisfaction levels of the patients regarding the online pharmacy services. The data has been obtained on respondents from the north-eastern region of Romania, between June - August 2022. The survey was based on the “Satisfaction with Mail Pharmacy Services” questionnaire by Johnson et al. Statistical analysis was performed in SPSS 27.0 (SPSS Inc., Chicago, IL) for Windows, and descriptive statistics and the Pearson chi-square test were calculated to compare responses with patient variables. The level of patient satisfaction was high regarding online pharmacy services in general, the price of medicines, the transport charges, home delivery of medicines, as well as the professional skills of pharmacists. A low level of patient satisfaction was recorded regarding the summary advice received by phone or by e-mail from pharmacists with information about their medicines. We found statistically significant differences between responses and patient characteristics. The study revealed a positive impact on Romanian patients regarding the use of telepharmacy services, but the quality of patient counseling should be improved by applying effective and specific policies.

Keywords: telepharmacy, patients' satisfaction questionnaire, online pharmacy services.

PP.10.2

High resolution mass spectrometry application in the identification of polyphenolic prophyll of *Salvia officinalis*, *Rubus idaeusm* and *Juglans regia***Madalina Lungu^a, Carmen Lidia Chitescu^{b,*}, Rica Boscencu^b**^a “Carol Davila” University of Medicine and Pharmacy of Bucharest, Faculty of Pharmacy, 37 Dionisie Lupu Street, Sector 2, 020021, Bucharest, Romania^b “Dunărea de Jos” University of Galati, Faculty of Medicine and Pharmacy, 35 A.I. Cuza Str., 800010, Galați, Romania* Corresponding author: carmen.chitescu@ugal.ro**Abstract**

Identification and quantification of polyphenols in plant material are of great interest for the elucidation of bioactivity and potential use as remedies for various conditions. In the present study, an UPLC-high resolution mass spectrometry Q-Orbitrap-HRMS/MS approach using variable data acquisition mode (vDIA) was developed and applied for separation, identification and quantification of the polyphenolic compounds in *Prophyll of Salvia officinalis*, *Rubus idaeusm*, and *Juglans regia*. Using accurate full HRMS data and MS-MS fragmentation pattern identification strategy, a total 41 compounds were identified based on the comparisons of their accurate masses, fragment ions with

mass spectral databases. Additionally, a number of 23 compounds were quantified by comparing to the reference standards. These compounds belong to the class of flavonoids, isoflavones, phenolic acids and dicarboxylic acids, proanthocyanidins, or coumarin derivatives. The results show that *Salvia officinalis* extract is characterised by quercetin, glycitein, ferulic acid, and isorhamnetin, while *Rubus idaeusm* was characterised by chlorogenic acid, gallic acid, vanilic acid, ellagic and pinocembrin. *Juglans regia* showed the poorest polyphenol profiles. In conclusion, based on their phytochemical composition all three extracts showed pharmaceutical use potential.

Keywords: bioactive compounds, phytochemical composition; UPLC-Orbitrap-MS/MS; MS fragmentation pattern.

PP.10.3

Comprehensive chemical profiling of selected dietary supplements for weight loss

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Abstract

The consumption of natural supplements has been widely popular in the world. Dietary supplements recommended for weight loss are a category of substances intensively used recently, especially by the 15-34 age groups. Despite the common opinion that these natural supplements are free of side effects, some are associated with severe toxicity. Various banned compounds such as ephedrine, sibutramine, other amphetamine analogues or not declared pharmaceuticals substances, have been reported in dietary supplements for weight loss. The aim of this study was to provide a comprehensive chemical profile of several weight loss dietary supplements and identify the bioactive components as well as prohibited or undeclared ingredients. For this purpose, a number of 11 dietary supplements marketed for weight loss were purchased from pharmacies or on-line and analysed by liquid chromatography coupled with high-resolution mass spectrometry (LC-HRMS/MS). A vDIA (variable data independent acquisition) approach was carried out both for the identification and quantification of bioactives and for disclosure of the adulteration with undeclared stimulants and synthetic laxatives. Beside polyphenolic compounds as chlorogenic acid, gallic acid, naringin, rutin or syringic acid, a number of 17 bioactive compounds were identified, including some illegal ones - ephedrine, oxilofrine, octodrine - or undeclared medicinal compounds as naltrexone, sildenafil, amfepramone. The elemental profile of heavy or toxic metals, performed by atomic absorption spectroscopy (AAS) after a prior acid digestion of the samples assisted by microwaves revealed no exceedances of the permitted levels of heavy metals. However, differences between the reported and the existed Zn and Cr quantities have been revealed.

Keywords: bioactive compounds, illegal drugs, adulteration, UPLC-Orbitrap-MS/MS; MS fragmentation pattern.

SECTION 11

ECONOMIC MODELS AND STRATEGIES OF COMPETITIVENESS

PP.11.1

Analysis of the economic situation of Romania related to the fulfillment of the real convergence criteria for the adoption of the euro

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Abstract

This scientific article examines Romania's progress towards fulfilling the convergence criteria required for adopting the Euro currency. The adoption of the Euro currency is a complex process that involves meeting a set of criteria defined by the European Union, being a topic of interest for many years, with the country aspiring to join the Eurozone since its accession to the European Union in 2007. However, before being able to adopt the euro, Romania needs to fulfill the real convergence criteria established by the European Union, which aim to ensure that the country's economy is stable and compatible with those of the other member states. In this scientific article, we analyze Romania's current situation regarding the fulfillment of the real convergence criteria, taking into account economic indicators such as inflation, public debt, exchange rate stability, and long-term interest rates. Also, the paper analyzes the challenges that Romania still faces in meeting these criteria, such as the need for structural reforms and improvements in the business environment. Our findings indicate that while Romania has made progress in fulfilling the real convergence criteria, there is still work to be done in certain areas, and continued efforts will be needed to achieve the goal of euro adoption in the future. The article concludes with an assessment of Romania's readiness to adopt the Euro currency and potential challenges that may arise in the process.

Keywords: real convergence, economic challenges, Eurozone.

PP.11.2

The impact of sustainable policy on financial performance in the Romanian banking system

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Abstract

Research on the relationship between sustainability and financial performance (expressed in specific profitability indicators, from the perspective of the 3 ESG factors) was carried out in the banking system. The paper analyzes the effects of the 3 dimensions of sustainability (economic/environmental/social) on the financial performances of the first top 3 banks in the Romanian system, the market share in the banking sector being relevant and also taking into account the fact that the banks are the first to realize sustainability reports.

Keywords: sustainability, financial performance, bank

PP.11.3

Perspective over the activity of supreme external audit institutions in Europe regarding their analysis on COVID-19 pandemic

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Abstract

In considering the social and economic impact of Covid-19 pandemic all over the world, the supreme audit institutions needed to analyze, using their specific tools, the way in which public resources were managed and the response of public entities to the situation of total uncertainty. Using the comparative analysis, we will study the conclusions of reports made by supreme audit institutions in Europe and we will look to identify a model to follow in similar situations. We will conclude that the COVID-19 pandemic had major impact on public finances, as public funds played the main role in all actions to combat the spread of the virus and the European economies were seriously affected

Keywords: audit, European institutions, public resources, funds

PP.11.4

The influence of European integration on the labor market

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Abstract

This paper presents the importance of European integration on the labor market and the benefits that comes with it. When a country joins the European Union, citizens of the Union have the right to free movement in order to work. They can look for a job in any member state of the European Union and work there without the need for a work permit, live there to carry out their work, stay there even after their employment contract ends, and enjoy equal treatment with other citizens in terms of working conditions, access to new jobs, as well as other social and tax benefits. The European Union has made every effort to support the free movement of workers and create an adequate institutional framework for worker mobility. This includes measures such as reforming the system for the mutual recognition of professional qualifications, introducing European professional cards, coordinating the social security system, ensuring and maintaining the right to supplementary pensions, and providing legal procedures for compensating discriminated workers. In October 2019, the European Labor Authority (ELA) was established to support the free movement of workers and strengthen the single market. The ELA aims to facilitate the accession of new member states to the European Union and to provide relevant services to companies and individuals while promoting cooperation between member states. The ELA was established in response to the fact that over 17.5 million Europeans live or work in another member state, and 12.9 million are capable of working. In addition, 1.4 million EU citizens commute to another member state every day to work, while over 2.8 million jobs are annually registered in another member state for a specific period. The ELA aims to support member states by providing information on their rights and obligations, as well as relevant services to companies and individuals, and to promote cooperation between member states.

Keywords: labor market, European Union, free movement, social security system

PP.11.5

Sephora- an example of a transnational society during the SARS-COV2 pandemic

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Abstract

SEPHORA began its activity in France in 1970. SEPHORA was founded by Dominique Mandonnaud, who was the first to create a concept store in the beauty domain, in a completely visionary manner. Dominique Mandonnaud envisioned and changed the way in which beauty products were sold. He took products from behind and placed them before of the counter. He gave clients the flexibility and freedom to wander through the store to touch, examine and try out products without restrictions. Transnationals are extremely powerful institutions, which possess much greater resources than most United Nations member states. SEPHORA is a very good example because, today, SEPHORA has more than 960 stores in Europe and approximately 2040 stores in 29 countries in the world. The beauty industry is an inherently tactile one. While the creation of excellent experiences without being physically present was a challenge for many brands in the industry against the backdrop of COVID-19, the retail beauty giant SEPHORA utilised digital technology successfully to help clients explore their products during the pandemic.

Keywords: beauty domain, clients, transnationals corporations

PP.11.6

Advance pricing agreement (APA)- a means of eliminating the uncertainty regarding the tax treatment related to transfer pricing

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Abstract

The paper aims to analyze the effects and consequences brought about by transfer pricing on both tax administrations and companies. The reclassification of intra-group transactions by tax administrations can have critical consequences for a company's economy. In order to avoid time and money-consuming tax disputes, one can consider the solution of using an Advance pricing agreement (APA) that, according to the Organization for Economic Co-operation and Development, is an arrangement setting out, prior to the durations of controlled transactions, a set of criteria for determining the

transfer price of that transaction over a fixed period of time. The advantages of using this agreement are multiple: Avoiding tax disputes, avoiding double taxation, the validity of the agreement for 5 years, the possibility of concluding bilateral or multilateral agreements. There are recommendations from the OECD that the agreements can also be applied for periods prior to obtaining the agreement. This provision could lead to the extension of the APA to several types of transactions of companies wishing to comply with tax and not to take any future tax risks.

Keywords: transfer pricing, transnationals corporations, money-consuming tax

PP.11.7

The European economic governance. Evolution and perspectives

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Abstract

Economic governance consists in the processes that support economic activity and economic transactions by protecting property rights, taking collective action to ensure an adequate physical and organizational infrastructure. The domain of economic governance studies and compares the performance of different institutions under different conditions, the evolution of these institutions and the transitions from one set of institutions to another. The paper proposes to analyze the European area from the perspective of fiscal stabilization policy instruments, instruments that have not yet been adopted by the member states, existing however an important initiative through the Stability and Growth Pact. In the European Union, and especially in the Eurozone, the crisis has sparked a growing awareness of the requirement to improve the economic governance framework to get closer to a fiscal union.

Keywords: economic governance, institution, fiscal instruments

PP.11.8

The geopolitical equilibrium after the Ukraine's war

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Abstract

The equilibrium is obtained, in general, after making some compromises. In case of some confrontations, it inevitably comes to negotiations that can lead to the renewal of the relations between the involved parties. When all parties are mostly satisfied of the accomplished compromises, it is entering in a new phase of equilibrium - the geopolitical equilibrium. Equilibrium is an absolutely necessary condition in achieving peace. The work aims to analyze the current situation taking into account the fact that the equilibrium in an area cannot be perpetuated indefinitely because the political, economic, military situation of the states is constantly changing and at a given moment, one of the states can force the balance to tilt in its favor. At the international level, it is desired to achieve a long-term balance, but this must be based on a great satisfaction gained from the negotiations, something difficult to achieve in the case of the war fought in Ukraine.

Keywords: geopolitical equilibrium, military situation, balance, negotiations

PP.11.9

Analysis of green investment efficiency. A model for future economic sustainability development

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Abstract

In the light of increasing environmental and socially awareness of private enterprises and responsibility frameworks developed by governmental institutions and intergovernmental organizations with initiatives such as the Corporate Social Responsibility Directive (CSRD) by European Union and Sustainable Development Goals (SDGs) by United Nations, an increasing emphasis is being put on the equilibrium between social responsibility and economic profitability. One of the most, if not the most strongly influenced department within a company's composition is the Research and Development (R&D) department. In order to ensure a profitable threshold between profitability and responsibility, an optimal planing approach has to be carried on and acted upon, so that eventhou the results and products persevere in having lesser environmental impact, the company's continuity is preserved. To achieve this, the author analyzes the impact of "greener" investments with regard to profitability changes. The outcomes and effects of specific R&Ds to secure a favorable result are then discussed and interpreted. Afterwards, an analysis of the investment

strategies and policies based on information revelations is being guided. As well, in this paper, the encompassment of a profitable investment strategy with the main focus on future endeavors and advantages is being regarded.

Keywords: sustainable profitability, environmental responsibility, green investments, management strategy.

PP.11.10

Theoretical management enterprise model in global market. Profitability and rentability

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Abstract

Globalization influences and effects can be easily observed in all mediums and in all economic fields, meaning that significant measures, contributions and changes at all management levels has to made in order to ensure market competitiveness and profitability. Small and medium enterprises (SMEs) are facing significant obstacles after COVID-19 pandemic, especially in assuring the financial support needed to fulfill the shareholders goals and objectives. The current state of challenges lead naturally to the development of different strategies in order to achieve the proposed development goals and therefore also those of shareholders and investors. In this study, we propose a dynamic competitive strategy for SMEs with the purpose of increasing the levels of competitiveness in a global and interconnected economic context. After discussing the proposed model and determining its theoretical effects, we strive to analyze the types of actions needed to ensure correct and efficient implementation of proposed strategy. Further discussions regarding prevention of negative effects induced by auxiliary costs are also presented in this conducted study. This paper also concerned itself with the conceptual issues of economic and financial competitive strategies and emphasizes as well the necessity for a theoretical model framework embracing financial decisions.

Keywords: shareholders, economic competitiveness, theoretical model, management strategies, profitability.

PP.11.11

Use of artificial neural networks to predict GHG emissions

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Abstract

This paper aims to develop a model for forecasting greenhouse gas emissions, using a new approach based on artificial neural networks (ANN) and sustainability, economic and industrial indicators at the

European Union level, which act as factors of production. THE ANN model architecture and training parameters were optimized, the inputs being selected using correlation analysis and analysis of the main components. THE Ann models developed were compared to the corresponding multiple linear regression model (MLR), while an ANN model created using transformed inputs (main components) was compared to a main component regression model (PCR). The models were developed on the basis of data from 2010-2021, for 27 European countries (EU members). The relative errors in GHG emissions predictions were used to adjust THE ANN model predictions. The sensitivity analysis showed that gross domestic energy consumption had the highest sensitivity to GHG emissions.

Keywords: GHG emission, General Regression Neural Network, Artificial neural network, Principal component regression.

PP.11.12

Is voluntary work the binder of an economy?

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Abstract

This paper presents the research on the importance of voluntary work in the economy of a country. How can be helped the economy of a country by people who submit voluntary work. A study case: Germany, where a third of the country's population is engaged in voluntary work. For example, in one year are made approximately 4.6 billion hours of work in the benefit of the community. If these hours would have been paid with the minimum wage, this would have meant almost 40 billion euros. When for some tasks the country no longer has to pay 40 million euros and still things work normally, then that money can be spent in other areas where it is needed. Analyzing volunteering process and procedures is useful because people can see volunteering as a help for the economy, for the development of the country.

Keywords: development, voluntary, economy

SECTION 15

ADVANCED RESEARCH IN HUMAN MOTRICITY AND KINETOTHERAPY

PP.15.1

Potential benefits and risks given by the virtual reality of the central nervous system

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Abstract

The healthcare industry has seen a rapid increase in popular adoption of virtual reality (VR) over recent years owing to its impressively advanced technological capabilities. Within this realm exists one particularly promising area of application: using VR in relation to the central nervous system (CNS). This utilization could potentially provide valuable neurological applications including but not limited to neurorehabilitation, pain management and cognitive enhancement. Still yet, inherent issues may arise from implementing this technology into human systems such as dizziness resulting from motion sickness or stressors relating directly to ocular mechanics and negative mental perceptions upon exposure. Furthermore, limited information exists pinpointing any prospective long term impact utilizing VR within CNS systems may have leading even further toward confusion. While promising, the potential risks associated with VR technology must be carefully evaluated prior to its integration into clinical settings. Therefore, thorough consideration of these potential hazards is essential before the widespread adoption of VR technology in CNS applications.

Keywords: virtual reality (VR), central nervous system (CNS), brain, immersive experience, perception, cognition, motor function.

PP.15.2

Systematic review: The effect of cortisol on sports performance

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Abstract

This systematic review aimed to synthesize the existing literature on the relationship between cortisol and sports participation. Cortisol is a hormone that plays a vital role in the body's response to stress and previous research has suggested that athletes may have different cortisol responses than non-athletes. The review included studies that examined cortisol levels in athletes and non-athletes during rest, exercise and recovery periods. The findings suggest that cortisol levels are higher in athletes than

non-athletes during exercise and may remain elevated during recovery. However, the results were inconsistent regarding the relationship between cortisol levels and sports performance, with some studies suggesting a positive correlation and other finding no significant association. The review concludes by highlighting the importance of considering cortisol levels as a potential factor in sports performance and the potential implications of chronic elevations in cortisol for athlete health and well-being. Overall, this systematic review provides a comprehensive overview of the current state of knowledge on cortisol in sports and highlights areas for future research to advance our understanding of this important topic.

Keywords: cortisol, physical activity, sports performance.

PP.15.3

Systematic review: Methods of teaching theoretical knowledge in the physical education lesson

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Abstract

The approach to the Physical Education (PE) discipline has undergone several changes over time. In recent years, a number of authors highlight the fact that PE is confused with physical activity (PA). The same authors draw attention to the name of the discipline itself, which underlines the fact that we are talking about an education process. And any educational process is made up of two components: one theoretical and one practical. Taking into account these observations, the present paper proposed to highlight the methodology by which the theoretical component can be implemented in the PE lesson. For this, we carried out a selection process of the interventions conducted in the school environment, which aimed to implement a theoretical content in the PE lesson. The results indicated that the specialists developed innovative methods of teaching theoretical concepts at all educational levels. The theoretical component of the PE discipline is appreciated in many countries as being as important as the practical one, so that the two components are treated equally in the curriculum. In the future, there is a need for more empirical demonstrations regarding the long-term effects that specialized theoretical knowledge brings to the PE discipline.

Keywords: physical education, theoretical knowledge, conceptual physical education.

PP.15.4

Implementation of a complex of exercises performed with the during physical education classes in high school

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Abstract

This study proposes to investigate the impact of a program to improve motor skills, strength and endurance during physical education classes in the high school cycle in which the TRX is used. In recent years, a number of authors highlight the fact that 15% of high school students in Europe are affected by obesity. This thing has increased significantly in the last 30 years and to overcome this fact a greater physical effort is needed. The implementation of new fitness equipment in the physical education lesson is necessary to combat this phenomenon. For this study, 26 11th grade high school students were recruited who were subjected to physical evaluation and who will train once a week for 8 weeks. They will be divided into two randomized groups, the control group and the experimental group. The control group will follow the school program and the experimental group will follow the exercise program performed with the TRX. The exercise complex will be implemented where the annual school program allows the development of motor skills, strength and endurance. The results of the study will be evaluated at the beginning and at the end of the 8 weeks. Physical education (PE) lessons are an ideal framework to increase the motor qualities, strength and endurance of high school students and to increase physical activity (PA).

Keywords: physical education, TRX, fitness, high school students.