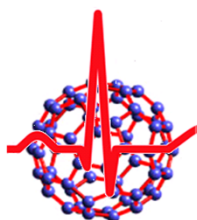


7th INTERNATIONAL CONFERENCE on Nanotechnologies and Biomedical Engineering

October 7-10, 2025, Chisinau, Republic of Moldova

Program



ICNBME - 2025

7th INTERNATIONAL CONFERENCE
on Nanotechnologies and
Biomedical Engineering

7th International Conference *Nanotechnologies and Biomedical Engineering*

Organized by

- Moldovan Biomedical Engineering Society
- Technical University of Moldova
- Academy of Sciences of Moldova



In collaboration with

- Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova
- International Federation for Medical and Biological Engineering
- European Alliance for Medical and Biological Engineering & Science



Information Note

ICNBME-2025 continues the series of International Conferences in the field of nanotechnologies and biomedical engineering. The conference aims at bringing together scientists and engineers dealing with fundamental and applied research for reporting on the latest theoretical developments and applications in the fields involved.

The Conference details are available on the website
<https://icnbme.sibm.md>

Address:

168, Stefan cel Mare av., MD-2004, Chisinau, Republic of Moldova

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The Organizing Committee of the **7th International Conference on Nanotechnologies and Biomedical Engineering** highly appreciates the financial and technical support provided by the following institutions, agencies and enterprises:

- **Technical University of Moldova**
- **Moldavian Biomedical Engineering Society**
- **Ministry of Education and Research of the Republic of Moldova, Institutional subprogram #02.04.02 ETISEL**
- **International Federation for Medical and Biological Engineering (IFMBE)**
- **European Alliance for Medical and Biological Engineering & Science**
- **Springer Nature Switzerland AG**
- **Global Biomarketing Group – Moldova**
- **Medexcom-Teh S.R.L.**
- **DataControl S.R.L.**
- **Mechatronics Innovation Center S.R.L.**



MINISTERUL EDUCAȚIEI
ȘI CERCETĂRII
AL REPUBLICII MOLDOVA

Ministry of Education and Research of the
Republic of Moldova, institutional
subprogram #02.04.02 ETISEL



Global Biomarketing Group
MOLDOVA



PREFACE

It is our great pleasure to welcome all participants to the 7th International Conference on Nanotechnologies and Biomedical Engineering (ICNBME), to be held on October 7-10, 2025, in Chisinau, Republic of Moldova. ICNBME-2025 continues the series of international conferences in the field of nanotechnologies and biomedical engineering with the main objective of bringing together scientists and engineers dealing with both fundamental and applied research, and to provide a platform for presenting the latest theoretical developments and applications in the fields involved.

The conference covers a wide range of topics of primary importance for research and development, including Nanotechnologies and Nanomaterials, Biomaterials and Devices for Medical Applications, Bioinstrumentation, Signal and Image Processing, New Technologies for Personalized Medicine, Bioinformatics, E-health and Telemedicine, Bioengineering in Oral Health, Regenerative Medicine and Tissue Engineering, Medical Physics and Biophysics, Interdisciplinary Research for Medicine.

The contributions of the Conference reflect the results of multidisciplinary research undertaken by about one hundred of worldwide groups. Special attention is paid to the development of novel nanotechnologies and nanomaterials, in particular of bio-nanotechnologies and bio-nanomaterials. New biocompatible materials are proposed for applications in regenerative medicine, cellular and tissue engineering. Valuable data are also reported on novel chemical and biosensors based on nanostructured metal oxides and hybrid nanocomposite materials. New theoretical and experimental results are highlighted in such fields as metamaterials, aeromaterials, micro-opto-electronic and photonic materials, photovoltaic structures, quantum dots, one- and two-dimensional nanomaterials, 3D nanoarchitectures, multifunctional hybrid materials like sandwich and core-shell structures, etc.

The conference sessions also present high-quality research contributions addressing current challenges and innovations in biomedical engineering. The included works explore advanced technologies for medical imaging, therapeutic systems, rehabilitation devices, and diagnostic tools, reflecting the rapid progress in engineering solutions for healthcare. A wide range of new technologies for diagnosis, personalized approaches in medicine are also presented. Considerable progress has been achieved at the intersection of nanotechnologies, information technologies and biomedicine as, for example, in health informatics, e-health, telemedicine, biomedical instrumentation and signal processing. By encouraging interdisciplinary approaches, this volume promotes the development of integrated and patient-centered technologies. Key topics include genetic and biomarker-based diagnostics, predictive modeling of disease progression, and computational simulations of biological systems. Several studies explore artificial intelligence applications in healthcare, with a focus on data security, patient stratification, and decision support systems.

We hope that the papers scheduled to be presented at the Conference will be of interest for established researchers working in multidisciplinary fields of science and technology, to young scientists and students, as well as to the broader community

wishing to obtain up-to-date information on progress in the fast-developing areas of nanotechnology and biomedical engineering.

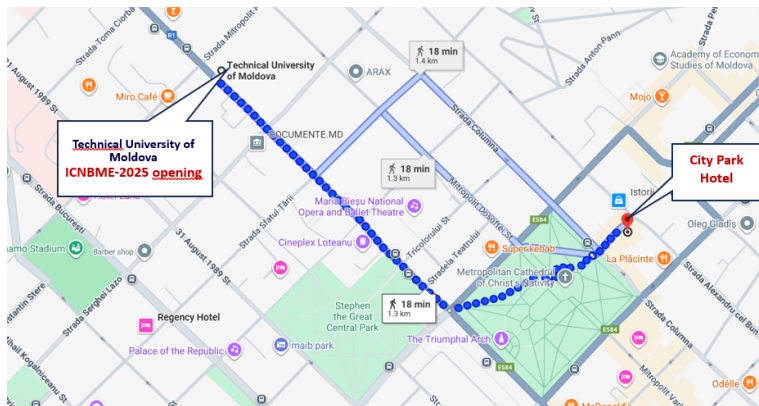
We gratefully acknowledge the support of the Scientific Committee, the Local Organizing Committee, and all reviewers for their efforts in ensuring the scientific quality of the conference. We also thank the sponsors and partner institutions for their valuable contribution.

Prof. Victor SONTEA, Acad. Prof. Ion TIGINYANU
Chairmen

Chisinau, Republic of Moldova, October 2025

Participant's registration will take place at the Technical University of Moldova, Magna Hall, block #1, Stefan cel Mare si Sfânt boulevard 168, Chisinau, Republic of Moldova, on October 6th from 10.00 to 19.00 and October 7th from 8.30 to 10.00.

The Conference opening will take place at 9.30, October 7th, 2025 in the Magna Hall of the Technical University of Moldova.



The Conference will take place at the Labour Institute located on Zimbrului street, 10, Chisinau, Republic of Moldova. The building is located in the park area between two city districts: Rishkani and Chekani.



Language

The official language of the Conference is **English**.



Conference Chairmen

- Victor Sontea President of the Moldavan Biomedical Engineering Society, Republic of Moldova
- Ion Tiginyanu President of the Academy of Sciences of Moldova, Republic of Moldova

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Cătălin Creciunel	<i>Technical University of Moldova</i>

PRESENTING AUTHORS INSTRUCTIONS

Oral Presentations:

1. Please make your presence known to one of the chairmen 5 minutes before your session starts and be present during the entire session in which your presentation is scheduled. Time slot for plenary sessions is up to 90 minutes.
2. Time slots for oral sessions are 90 minutes. Number of papers in each session is up to 6 meaning that 15 minutes is allocated for each presentation (20 minutes for invited presentations). However, there are exceptions to this rule; therefore, please refer to the final program for actual duration of your presentation.
3. Authors and Speakers must report to the Speakers Area in order to preview and upload their presentations. Files must be handed-in a minimum of 2 hours prior to the start of their session (for morning sessions starting at 9.00 h, please upload it the day before). We recommend that you take advantage of the early file uploading opportunity. More details are available at the conference web site <https://icnbme.sibm.md>.
4. All session rooms will be equipped with a data projector and a computer. You do not need to bring your own laptop to the lecture room. Please prepare your presentations for display with aspect ratio 4:3.
5. When building your presentation, use standard fonts (e.g., Times New Roman, Arial, etc.). Basic fonts are included on the session room computers, but if an unusual font is used it may not display well.
6. Even if you have submitted your presentation files in advance, please plan to bring the latest version of your presentation to the session on a Windows-readable USB flash Drive or CD-ROM.
7. Computers in conference rooms are equipped with Windows 10, Microsoft Office 2016 package. Apple Mac computers will not be provided in any of the session rooms. If you are using Mac, please check compatibility with Microsoft Office 2010 package or use your own Mac computer if your presentation is created in Apple's "Keynote" presentation application. Videos handed in as an independent file must be coded under standard codec. Users are recommended to preview them in standard universal software, such as VLC Player or Quicktime.

Posters:

Poster sessions are a valuable method for authors to present papers and meet with interested attendees for in-depth technical discussions. Therefore, it is important that you display your results clearly to attract people who are interested in your work and your paper. Your poster should cover the **KEY POINTS** of your work. The ideal poster is designed to: attract attention; provide a brief overview of your work; initiate discussion and questions.

Use colors to highlight and make your poster more attractive, by using pictures, diagrams, cartoons, figures, etc., rather than only text wherever possible. There is however no specific template for the poster: font size and text are free.

Maximum outside dimensions of each poster, including the title, must not exceed 60 cm width x 84 cm height (A1 sheet).

SET UP AND DISMANTLING TIMES:

A poster number display will be placed at the top corner of the board. Double sided tape will be supplied at each poster board.

Poster sessions will be held on Thursday 9 October according to the program.

Poster set up time: 10:40-11:10 h. Authors are requested to be next to their posters during poster session: 11:10-13:00 h.

Conference Sections

S1 - Nanotechnologies and Nanomaterials

S2 - Biomaterials and devices for medical applications

S3 - Bioinstrumentation, signal and image processing

S4 - New technologies for personalized medicine

S5 - Bioinformatics, e-health and telemedicine

S6 - Bioengineering in oral health

S7 - Regenerative medicine and tissue engineering

S8 - Medical physics & biophysics

S9 - Interdisciplinary research for medicine

**YIC - YOUNG INVESTIGATORS COMPETITION -
Nanotechnologies and Biomedical Engineering**

IFMBE/MBEC Section

CONFERENCE PROGRAM

October 6, 2025

10⁰⁰ – 19⁰⁰ Registration, Distribution of the Conference materials (Technical University of Moldova, Stefan cel Mare av., 168, Chisinau)

October 7, 2025

8³⁰ – 9³⁰ Registration

9³⁰ – 10¹⁰ Conference Opening, Welcome speeches (*TUM, Magna Hall*)

PLENARY SESSION PL-1 *Magna Hall*

10:10 – 12:30

Co-chairs: *Ion M. Tiginyanu, Rainer Adelung*

10¹⁰ **PL-1.1** Why did a poor university spark the blue LED revolution?
Hiroshi AMANO, *Nobel Prize in Physics*
Nagoya University, Japan

10⁵⁰ **PL-1.2** Research on GaN in the Republic of Moldova
Ion M. Tiginyanu
Academy of Sciences of Moldova, Republic of Moldova

11:30 – 11:50 COFFEE BREAK

Co-chairs: *Vladimir Fomin, Veaceslav V. Ursaki*

11⁵⁰ **PL-1.3** Leveraging AI Innovation in Nanomaterial Synthesis and Device Design
Ashok Vaseashta
International Clean Water Institute, Manassas, USA

12:30 – 14:00 Transportation to the Labour Institute and LUNCH

SECTION S1-1

Nanotechnologies and Nanomaterials

14:00 - 17:30 Room 4

Co-chairs: *Veaceslav V. Ursaki, Mihai A. Macovei*

S1-1.1 (842) Gigafactories: Powering the Future with Advanced Electrode Manufacturing (Invited)

Mozaffar Abdollahifar

Department of Materials Science, Faculty of Engineering, Kiel University, Kiel, Germany.

S1-1.2 (695) Analysis of Photoelectronic Processes in Silicon Structures with Opposing Potential Barriers

Surik Khudaverdyan^{1(✉)}, Ashok Vaseashta², Mane Khachatryan¹, Gagik Ayvazyan¹

¹ National Polytechnic University of Armenia, Yerevan, Armenia

² International Clean Water Institute, Manassas, USA

S1-1.3 (698) Impact of Precursor Concentration on Topology, Wettability and Electrical Properties of Zn₂SnO₄ Films obtained by Spray-Pyrolysis

Vadim Morari^{1(✉)}, Vladimir Ciobanu², Veaceslav V. Ursaki^{2,3}

¹ D. Ghitu Institute of Electronic Engineering and Nanotechnologies, Technical University of Moldova, Chisinau, Republic of Moldova

² National Center for Materials Study and Testing, Technical University of Moldova, Chisinau, Republic of Moldova

³ Academy of Sciences of Moldova, Chisinau, Republic of Moldova

S1-1.4 (713) Two Dipole-Dipole Interacting Emitters in a Moderately Strong Laser Field

Alexandr S. Cudreasov^(✉), Profiriu Bardetski, Mihai A. Macovei

Institute of Applied Physics, Moldova State University, Chişinău, Republic of Moldova

S1-1.5 (792) Polymer-Coated Cd-Doped ZnO Nanostructures for Dual Sensing of Volatile Organic Compounds and Battery Vapours

Oleg Lupan^{1(✉)}, Stefan Schröder², Mozaffar Abdollahifar^{3,4}, Nicolae Magariu¹, Jakob Offermann³, Lynn Schwäke², Mihai Brinza¹, Lukas Zimoch², Valeriu Tugulea¹, Thomas Strunskus², Rainer Adelung^{3,4}, Franz Faupel^{2,4}

¹ Center for Nanotechnology and Nanosensors, Department of Microelectronics and Biomedical Engineering, Technical University of Moldova, Chisinau, Moldova

² Multicomponent Materials, Department of Materials Science, Kiel University, Kiel, Germany

³ Functional Nanomaterials, Department of Materials Science, (moza@tf.uni-kiel.de), Kiel University, Kiel, Germany

⁴ Kiel Nano, Surface and Interface Science (KiNSIS), Christian-Albrechts-Universität zu Kiel (CAU), Kiel, Germany

S1-1.6 (758) Synthesis, Structure and Properties of a Linear Trinuclear Co(II) Isobutyrate Cluster with 1,10'-Phenanthroline

Ecaterina Beleav^{1(✉)}, Jan van Leusen², Victor Ch. Kravtsov¹, Paul Kögerler², and Svetlana G. Baca¹

¹ Institute of Applied Physics, Moldova State University, Chisinau, Republic of Moldova

² Institute of Inorganic Chemistry, RWTH Aachen University, Aachen, Germany

15:30-16:00 COFFEE BREAK

Co-chairs: *Vasile Tronciu, Elena Achimova*

S1-1.7 (844) Ferroelectric $\text{Al}_{1-x}\text{Sc}_x\text{N}$ Thin Films for Memory and Computing Applications (Invited)

Md Redwanul Islam¹, Georg Schönweger², Niklas Wolff¹, Adrian Petraru³✉, Lorenz Kienle¹, Hermann Kohlstedt³ and Simon Fichtner²

¹*Synthesis and Real Structure, Institute for Material Science, Kiel University, D-24143 Kiel, Germany;*

²*Department of Material Science, Kiel University, D-24143 Kiel, Germany*

³*Nanoelectronics, Institute of Electrical Engineering and Information Engineering, Kiel University, D- 24143 Kiel, Germany*

S1-1.8 (739) Direct and Indirect Transitions in the Luminescence of SnS_2

Ecaterina Cristea^{1,3}, Ivan Stamov², Andrei Tiron³, and Victor Zalamai³

¹*Technical University of Moldova, Chisinau, Republic of Moldova*

²*T.G. Shevchenko State University of Pridnestrovie, Tiraspol, Republic of Moldova*

³*National Center for Materials Study and Testing, Technical University of Moldova, Chisinau, Republic of Moldova*

S1-1.9 (764) Numerical Simulation of the Generation of Picosecond Pulses with Gain-Switched DFB Lasers

Vasile Tronciu¹, Veronica Dobrovolschi¹✉, and Hans Wenzel²

¹*Technical University of Moldova, Chisinau, Republic of Moldova*

²*Ferdinand-Braun-Institut, Berlin, Germany*

S1-1.10 (765) Numerical Investigation of Properties of Picosecond Pulses in InGaN Lasers under Q-switching Operation

Veronica Dobrovolschi¹✉, Spiridon Rusu, Vasile Tronciu

Technical University of Moldova, Chisinau, Republic of Moldova

S1-1.11 (770) Birefringence Mapping of Diffractive Optical Elements on Gold-Doped Azopolymer Nanocomposites by Polarization Digital Holographic Microscopy

Veronica Cazac¹✉, Elena Achimova¹, Vladimir Abashkin¹, Constantin Loshmanskii¹,

Vladislav Botnari¹, and Mohammed Fatih Toy²

¹*Moldova State University, Institute of Applied Physics, Chisinau, Moldova*

²*Istanbul Medipol University, Department of Electrical and Electronics Engineering, Istanbul, Turkey*

S1-1.12 (846) Scientific Progress in Perovskite Materials, A Game Changer in Photovoltaics

Ludmila Cojocar

The University of Tokyo, Japan

SECTION S4-1

New technologies for personalized medicine

14:00-17:30 Room 5

Co-chairs: Kostiantyn Kolisnyk, Victor Iapăscuță

S4-1.1 (677) Predictive Utility of HLA Antigens in the Clinical Diagnosis and Stratification of Psoriatic Arthritis

Eugeniu Russu^{1,2(✉)}, Liliana Groppa¹

¹ "Nicolae Testemițanu" State University of Medicine and Pharmacy, Chișinău, Republic of Moldova

² "Timofei Moșneaga" Republican Clinical Hospital, Chișinău, Republic of Moldova

S4-1.2 (679) Planning Information-Efficient Procedures for Recovery Missing Medical Indicators in System Data Analysis

Yevgen Sokol¹, Pavlo Shchapov¹, Kostiantyn Kolisnyk^{1(✉)}, Volodymyr Nehoduiko², Kateryna Mygushchenko³

¹ National Technical University "KhPI", Kharkiv, Ukraine

² Military medical clinical center of northern region, Kharkiv, Ukraine

³ California Institute of Technology, Pasadena, California, USA

S4-1.3 (704) Advancing Biomedical Engineering: An Agent-Based Approach to Pulmonary Edema Simulation

Victor Iapăscuță^{1,2(✉)}, Regina Falenciuc², Viorel Munteanu¹, Oleg Arnaut^{3,4}

¹ Department of Software Engineering and Automatics, Technical University of Moldova, Chișinău, Moldova

² Department of Anesthesia and Intensive Care, N. Testemițanu State University of Medicine and Pharmacy, Chișinău, Moldova

³ Department of Human Physiology and Biophysics, N. Testemițanu State University of Medicine and Pharmacy, Chișinău, Moldova

⁴ National Cancer Registry, Oncological Institute, Republic of Moldova

S4-1.4 (724) Molecular-Genetic Particularities of the NPC1L1 Gene rs2073547 Polymorphism in the Population of the Republic of Moldova

Maria Doni^(✉), Daniela Galea-Abdusa, Diana Chiosa, Anastasia Buza, Alexei Levitchi, Ghenadie Curocichin

Nicolae Testemițanu State University of Medicine and Pharmacy, Republic of Moldova

S4-1.5 (730) The Prevalence of rs4149056 Polymorphism of the SLC01B1 Gene in the Population of the Republic of Moldova

Madalina Hincu^{1,2(✉)}, Daniela Galea-Abdusa², Alexei Levitchi^{2,3}, Diana Chiosa¹, Cristina Butovscaia², Ghenadie Curocichin³

¹ Nicolae Testemițanu State University of Medicine and Pharmacy, Centre for Personalized Medicine, Laboratory of Genetics, Chisinau, Moldova

² Nicolae Testemițanu State University of Medicine and Pharmacy, Centre for Personalized Medicine, Laboratory of Personalized Medicine, Chisinau, Moldova

³ Nicolae Testemițanu State University of Medicine and Pharmacy, Department of Family Medicine, Chisinau, Moldova

S4-1.6 (743) The Role of Thiol/Disulfide Balance in Children with Chronic Kidney Disease

Tatiana Balutel^{1(✉)}, Jana Bernic^{1,2}, Angela Ciuntu^{1,2}

¹ Nicolae Testemițanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova.

² Institute of Mother and Child, Chisinau, Republic of Moldova.

15:30-16:00 COFFEE BREAK

Co-chairs: Ala Donos, Constantin Iavorschi

S4-1.7 (774) Challenges of Pediatric Tuberculosis under Current Conditions

Constantin Iavorschi^{1(✉)}, Alexandru Corlăteanu¹, Stela Kulcițkaia¹, Igor Ivanec¹,
Vasile Popa², Anastasia Ivanec¹

¹ State University of Medicine and Pharmacy "Nicolae Testemitanu", Chisinau,

² Municipal Clinical Hospital for Phthisiopneumology, Chișinău, Moldova

S4-1.8 (786) Early Cognitive Impairment in Parkinson's Disease – Exploring the Vascular Contribution

Lilia Rotaru^{1(✉)}, Mădălina Cebuc^{1,2}, Oxana Grosu¹, Stela Odobescu¹, Ion Moldovanu¹,
Adrian Lupușor^{1,2}, Ion Grabovschi², Svetlana Lozovanu², Ghenadie Cărașușu², Tatiana
Pleșcan², Victor Vovc², Stanislav Groppa²

¹ Diomid Gherman Institute of Neurology and Neurosurgery, Chișinău, Republic of Moldova

² Nicolae Testemitanu State University of Medicine and Pharmacy, Chișinău, Republic of Moldova

S4-1.9 (803) Toward Personalized Hypertension Therapy: Evaluating NPHS1 and TRIB3 Genetic Polymorphisms

Adrian Popov^{1(✉)}, Alexei Levitchi, Daniela Galea-Abdusa, Livi Grib and Ghenadie
Curocichin

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S4-1.10 (810) Epidemiological and Virological Characteristics of Acute Viral Respiratory Infections Associated with Comorbidities

Alina Druc², Albina-Mihaela Iliev¹, Victoria Bucov², Angela Paraschiv¹, Ala
Donos^{1(✉)}, Olga Burdiniuc², Laura Bozomitu³

¹ "Nicolae Testemitanu" Moldova State University of Medicine and Pharmacy, Chisinau, Moldova

² National Agency for Public Health, Chisinau, Moldova

³ "Grigore T. Popa" University of Medicine and Pharmacy, Iasi, Romania

S4-1.11 (813) Predictive Value of Biochemical Markers on Mortality in Hospitalized COVID-19 Patients in Intensive Care Units

Victoria Moghildea^{1(✉)}, Ion Grabovschi², Cristina Trofimov², Otilia Odajiu³, Victor
Iapășcurță^{1,5}, and Oleg Arnaut^{2,4,6}

¹ "Valeriu Ghereg" Anesthesiology and Intensive Care Department No.1 Nicolae Testemitanu State University
of Medicine and Pharmacy, Chisinau, Republic of Moldova

² Department of Human Physiology and Biophysics, "Nicolae Testemitanu" State University of Medicine and
Pharmacy, Chisinau, Republic of Moldova

³ Intensive Care Unit, St. Trinity Municipal Clinical Hospital, Chisinau, Republic of Moldova

⁴ National Cancer Registry, Oncological Institute, Chisinau, Republic of Moldova

⁵ Department of Software Engineering and Automatics, Technical University of Moldova, Chisinau, Republic of
Moldova

⁶ Bioinformatics and Computational Medicine Laboratory, National Institute for Health and Medical Research,
State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

SECTION S3-1

Bioinstrumentation, signal and image processing

14:00-17:30 Room 6

Co-chairs: Rodica Siminiuc, Ionel Șerban

S3-1.1 (696) Method for Determining Carbonyl Proteins and their Derivatives and their Pathogenetic Importance

Lilia Andronache^{1,2}, Valeriana Pantea^{1,2}, Olga Mihalciuc^{1,2(✉)}, Olga Tagadiuc^{1,2}, Jana Bernic^{2,5}, Elena Țarcă^{3,5}, Valentin Gudumac^{1,2,6}

¹Biochemistry Laboratory of Molecular Medicine and Personalized Medicine Center of the "Nicolae Testemițanu" State Medical and Pharmaceutical University (SMPhU), Chișinău, Republic of Moldova

²Laboratory of Surgical Infections in Children of the "Nicolae Testemițanu" SMPhU, Chișinău, Republic of Moldova

³Department of Pediatric Surgery, Orthopedics and Anesthesiology acad. "Natalia Gheorghiu" of the "Nicolae Testemițanu" SMPhU, Chișinău, Republic of Moldova

⁴Institute of Mother and Child, Chișinău, Republic of Moldova

⁵National Scientific-Practical Center of Pediatric Surgery acad. "Natalia Gheorghiu", Chișinău, Republic of Moldova

⁶Department of Laboratory Medicine of the "Nicolae Testemițanu" SMPhU, Chișinău, Republic of Moldova

S3-1.2 (700) Wearable Biosensors for Nutritional Monitoring of Soldiers: The Future of Prevention in Operational Theaters

Rodica Siminiuc^(✉), Dinu Țurcanu

Technical University of Moldova, Chisinau, Republic of Moldova

S3-1.3 (707) A Wireless Multi-Sensor Platform for Long-Term Human Gait Analysis

Mykhailo Shyshkin, Oleksandr Androsov

National Technical University «Kharkiv Polytechnic Institute», Kharkiv, Ukraine

S3-1.4 (723) Biomechanical Analysis of Bone-Implant Interaction in a Femoral Prosthetic Reconstruction

Denis Lavinsky^{1(✉)}, Oleksiy Larin¹, Oleksandr Sitenko², Roman Tomashevskiy¹, and Kostyantyn Barbin¹

¹National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

²Sitenko Institute of Spine and Joint Pathology National Academy of Medical Sciences of Ukraine, Kharkiv, Ukraine

S3-1.5 (777) Protocol Developing for Visual Function Testing Efficiency Increasing for Regular and Professional Drivers

Barbu Braun^(✉), Corneliu Druga, Ionel Șerban, Mirela Apostoae

Transilvania University of Brasov, Romania

S3-1.6 (797) Design and Realization of a UV-C and Ozone-Based Device for Room Disinfection

Ionel Șerban^(✉), Corneliu Nicolae Drugă, Barbu Cristian Braun

Transilvania University of Braşov, Romania

15:30-16:00 COFFEE BREAK

Co-chairs: Corneliu Druga, Oleksii Haluza

S3-1.7 (843) Multi-scale, Multi-modal Correlative Characterization with Micrometer Accuracy for Material Science

Alexey Boubnov, Charlotte Neidiger, Rafaela Debastiani, Torsten Scherer, Matthias Mail, Di Wang, Christian Kübel

Institut für Nanotechnologie (INT), Karlsruher Institut für Technologie (KIT), Germany

S3-1.8 (799) Mechanical Ventilator Prototype with Self-disinfection and Ozone Therapy Function for Room Disinfection

Corneliu Nicolae Drugă^(✉), Ionel Șerban, Adrian Dumitru Drăghici, Barbu Cristian Braun

Transilvania University of Brașov, Romania

S3-1.9 (824) Brain-Computer Interface-Enabled Decision Support for Human Behavior Monitoring in Safety-Critical Contexts

Oana-Isabela Știrbu¹, Ioana-Raluca Adochiei^{2,3}, Șerban-Teodor Nicolescu¹, Cosmin Karl Banica⁴, George-Călin Seritan¹ and Felix-Constantin Adochiei^{1,3(✉)}

¹ National University of Science and Technology POLITEHNICA Bucharest, Bucharest, Romania

² Military Technical Academy Ferdinand I, Bucharest, Romania

³ Academy of Romanian Scientists, Bucharest, Romania

⁴ SC WING COMPUTER GROUP SRL, Bucharest, Romania

S3-1.10 (680) Assessment of the Effects of Spectral Non-Stationary of Sound Signals of Biosystems

Yevgen Sokol¹, Pavlo Shchapov¹, Kostiantyn Kolisnyk¹, Tatyana Bernadskaya^{1(✉)}, Yurii Sanin²

¹ National Technical University "KhPI", Kharkiv, Ukraine

² National Scientific Center "Institute of Experimental and Clinical Veterinary Medicine". Kharkiv, Ukraine

S3-1.11 (691) Automated Deep Learning-Based Cell Viability Test for L929 Cells Using Phase-Contrast Microscope Images

Yevgen Sokol¹, Galyna Bozhok², Oleksii Haluza^{1(✉)}, Olena Akhiezer¹, Maksym Tatariants¹

¹ National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

² Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Science of Ukraine, Kharkiv, Ukraine

S3-1.12 (830) The Clinical and Imaging Diagnostic Algorithm for Patients with Lumbar Neurocompressive Syndrome

Victoria Seu^(✉), Oxana Maliga

Nicolae Testemitanu State University of Medicine and Pharmacy, Chișinău, Moldova

18:00-20:00 Welcome Reception (restaurant's terrace)
(only with invitations)

October 8, 2025

PLENARY SESSION PL-2 *Polyvalent Hall*

09:30 – 13:00

Co-chairs: *Aris Dermitzakis, Rainer Adelung*

09³⁰ PL-2.1 Giant Hybrid Polymer/Lipid Vesicles: Phase Separation and Dynamics from Advanced Fluorescence and Microscopy Methodologies

Fábio Fernandes^{1,2,3}, T. Tuyen Dao¹, Manuel Prieto^{1,2}✉

¹ iBB—Institute for Bioengineering and Biosciences, Instituto Superior Técnico, Universidade de Lisboa, Lisboa, Portugal

² Associate Laboratory i4HB—Institute for Health and Bioeconomy at Instituto Superior Técnico, Universidade de Lisboa, Lisboa, Portugal

³ Department of Bioengineering; Instituto Superior Técnico, Universidade de Lisboa, Lisboa, Portugal

10⁰⁰ PL-2.2 Nature's Solar Cells – Applying Nature to Technology

Anthony Watts

Biochemistry Department, University of Oxford, Oxford, OX1 3QU, UK

10³⁰ PL-2.3 Bionic Limbs and Postamputation Pain

Max Ortiz-Catalan

Prometei Pain Rehabilitation Center, Vinnytsia, Ukraine

Center for Complex Endoprosthetics, Osseointegration, and Bionics, Kyiv, Ukraine

11:00 – 11:30 COFFEE BREAK

Co-chairs: *Manuel Prieto, Anthony Watts*

11³⁰ PL-2.4 Aero-materials and Frameworks from Tetrapodal Zinc Oxide: A Versatile Platform for Biomedical, Sensing, and Energy Research to marked

Rainer Adelung

Kiel University, Kiel, Germany

12⁰⁰ PL-2.5 TlBr Thin Film Radiation Detector for X-ray Imaging Device

Toru Aoki, Kohei Toyoda, Hiroki Kase, Katsuyuki Takagi

Shizuoka University, Hamamatsu, Japan

12³⁰ PL-2.6 Medical Device Management - Towards a Central National Medical Device Management and Vigilance System in Greece

Nicolas Pallikarakis, Aris Dermitzakis

Institute of Biomedical Technology - INBIT, Greece

13:00 – 14:00 LUNCH

SECTION S1-2 Nanotechnologies and Nanomaterials 14:00-17:30 Room 4

Co-chairs: *Anatolie Sidorenko, Alexander Pogrebnjak*

S1-2.1 (845) Advanced Biomaterials in Tissue Engineering: A Critical Review of Nanocomposites Based on Bacterial Cellulose, MXenes, Hydroxyapatite, and Metal Particles for Regenerative Medicine (Invited)

Mira Davlet, Kateryna Smyrnova, Alexander Pogrebnjak

Biomedical Research Centre, Sumy State University, 116, Kharkivska St., 40007 Sumy, Ukraine

S1-2.2 (773) Superconducting Components for Brain-Inspired Neural Networks: Spintronic Innovations for Neuromorphic Computing

Anatolie Sidorenko^{1(✉)}, Ludmila Sidorenko²

¹*Technical University of Moldova, Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*

²*Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Moldova*

S1-2.3 (775) How Semiconductor Terminology has been Enriched by Research of Electrochemical Pore Etching and Electrodeposition

Eduard V. Monaico^{1(✉)}, Ion M. Tiginyanu^{1,2}

¹*National Center for Materials Study and Testing, Technical University of Moldova, Chisinau, Republic of Moldova*

²*Academy of Sciences of Moldova, Chisinau, Republic of Moldova*

S1-2.4 (778) Hybrid Nanomaterials for Biomedical Sensors

Oleg Lupan^{1(✉)}, Rajat Nagpal^{1,2,3}, Dinu Litra^{1,2,3}, Mihai Brinza^{1,2}, Masaya Sugihara⁴, Rob Ameloot⁴, Serghei Railean¹, Tayebbeh Ameri^{5,6}, Rainer Adelung^{3,5}, Stefan Schröder^{2,5,6}, Franz Faupel^{2,5}

¹*Center Nanotechnology and Nanosensors, Department of Microelectronics and Biomedical Engineering, Faculty C.I.M., Technical University of Moldova, Chisinau, Republic of Moldova*

²*Multicomponent Materials, Department of Materials Science, Kiel University, Kiel, Germany*

³*Functional Nanomaterials, Department of Materials Science, Christian-Albrechts-Universität zu Kiel (CAU), Kiel, Germany*

⁴*Centre for Membrane Separations, Adsorption, Catalysis, and Spectroscopy, University of Leuven, Leuven, Belgium*

⁵*Kiel Nano, Surface and Interface Science (KiNSIS), Christian-Albrechts-Universität zu Kiel (CAU), Germany*

⁶*Composite Materials, Department of Materials Science, Kiel University, Kiel, Germany*

S1-2.5 (794) Applications Photosensitive Nanocomposites for Direct Holographic Recording

Elena Achimova, Vladimir Abashkin, Constantin Losmanschii^(✉), Vladislav Botnari, Veronica Cazac, Alexei Meshalkin, Diana Muntean

Institute of Applied Physics of State University of Moldova

S1-2.6 (795) Di- and Trinuclear Cu(II) Isobutyrate Complexes: Synthesis, Structure and Biological Activity

Olga Capbatut^{1(✉)}, Victor Ch. Kravtsov¹, Olga Sultanova², Svetlana G. Baca¹

¹*Institute of Applied Physics, Moldova State University, Chisinau, Republic of Moldova*

²*Public Institution National Institute of Applied Research in Agriculture and Veterinary Medicine, Chisinau, Republic of Moldova*

15:30-16:00 COFFEE BREAK**Co-chairs: Oleg Cojocari, Nicolai Ababii****S1-2.7 (776) Low Power MM-Wave Radiometer Technology for Earth Observation Space Missions (Invited)**

Oleg Cojocari, Matthias Hoefle, Ion Oprea, Artur Negrus, Diego Moro-Melgar
 ACST GmbH, Hanau, Germany

S1-2.8 (760) Formation of Zinc Oxide Buried Layers within the Walls of the Aero-GaN Microtubes

Tudor Braniste^{1,2}, Zsolt Fogarassy³, András Kovács^{3,4}, Béla Pécz³, and Ion Tiginyanu^{1,2,5}

¹ Centre of Advanced Research in Bionanoconjugates and Biopolymers, "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

² National Center for Materials Study and Testing, Technical University of Moldova, Chisinau Republic of Moldova

³ HUN-REN Centre for Energy Research, Budapest, Hungary

⁴ Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons, Forschungszentrum Jülich, Germany

⁵ Academy of Sciences of Moldova, Chisinau, Republic of Moldova

S1-2.9 (809) Performance of Ag₂S/ZnO Nanostructures in Radiation Monitoring

Maxim Chiriac¹, Hesam Minaee², Saskia Rehder³, Nicolai Ababii¹, Nicolae Magariu¹, Alexandr Sereacov¹, Blessing Adejube³, Alexander Vahl^{3,4}, Rainer Adelung^{5,6}, Tayebbeh Ameri^{6,7}, Huayna Terraschke^{2,6} and Oleg Lupan¹

¹ Center for Nanotechnology and Nanosensors, Department of Microelectronics and Biomedical Engineering, Technical University of Moldova, Chisinau, Republic of Moldova

² Photoactive Inorganic Nanomaterials, Institute of Inorganic Chemistry, Kiel University, Germany

³ Department of Materials Science, Chair for Multicomponent Materials, Christian-Albrechts-Universität zu Kiel (CAU), Germany

⁴ Leibniz Institute for Plasma Science and Technology, Germany

⁵ Functional Nanomaterials, Faculty of Engineering, Institute for Materials Science, Kiel, Germany

⁶ Kiel Nano, Surface and Interface Science KiNSIS, Kiel University, Kiel, Germany

⁷ Lehrstuhl für Kompositmaterialien (ComMat), Institute for Materials Science, Kiel University, Kiel, Germany

S1-2.10 (816) Cooperative Generation of Biomolecular complexes Under UVC Radiation, Application in Decontamination and Diagnostics

Diana Podoleanu, Ion Munteanu, Elena Starodub, and Nicolae Enaki

Quantum Optics and Kinetic Process Lab, Institute of Applied Physics of Moldova State University, Chisinau, Republic of Moldova

S1-2.11 (729) Comparison of Emission Properties of Water-Soluble Mono- and Tetra-o-(Carboxybenzamidometilen)PcZn Derivatives

Stefan Robu, Ion Lungu, Tamara Potlog, Elena Stratulat, Mariana Diru

Laboratory of Organic/Inorganic Materials in Optoelectronics, Institute of Applied Physics, Moldova State University, Chisinau, Republic of Moldova

S1-2.12 (787) Effect of PTFE Thickness on Gas Sensing Properties of TiO₂/Pd-Doped ZnO Nanostructures

Mihai Brînză^{1,2}, Cristian Lupan¹, Lynn Schwäke², Nicolai Ababii¹, Lukas Zimoch³, Alexandr Sereacov¹, Thierry Pauporté⁴, Stefan Schröder², Rainer Adelung³, Franz Faupel², Oleg Lupan¹

¹ Center for Nanotechnology and Nanosensors, Department of Microelectronics and Biomedical Engineering, Technical University of Moldova, Chisinau, Republic of Moldova

² Department of Materials Science, Chair for Multicomponent Materials, Kiel University, Kiel, Germany

³ Functional Nanomaterials, Faculty of Engineering, Institute for Materials Science, Kiel University, Kiel, Germany;

⁴ PSL University, IRCP, CNRS UMR 8247 Chimie ParisTech, Paris, France;

S1-2.13 (725) Two Qubits in Thermostat

Arthur Rotari^(✉), Corneliu Gherman, Mihai Macovei

Institute of Applied Physics, Moldova State University, Chisinau, Republic of Moldova

SECTION S8-1

Medical physics & biophysics

14:00-15:30 Room 5

Co-chairs: Oleksiy Larin, Iurie Nica

S8-1.1 (689) Urodynamic Assessment in Women with Overactive Bladder

Mihaela Ivanov^(✉), Emil Ceban

Department of Urology and Surgical Nephrology, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S8-1.2 (808) Nonlinear Dynamics of Cell Migration between Two Cancer Centers

Natalia Gubceac^{1,2(✉)}, Nellu Ciobanu^{1,2}, and Vasile Tronciu¹

¹ Technical University of Moldova, Chisinau, Republic of Moldova

² Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S8-1.3 (734) Numerical and Experimental Investigation of Cylindrical Shrapnel Penetration into Non-Biological Soft Tissue Simulant (Ballistic Plasticine)

Oleksiy Larin^{1(✉)}, Andriy Grabovskiy¹, Oleksandr Kolomiitsev², Serhii Larkov³ and Volodymyr Nehoduiko⁴

¹ National Technical University «Kharkiv Polytechnic Institute», Kharkiv, Ukraine

² National Scientific Center «Hon. Prof. M. S. Bokarius Forensic Science Institute» of the Ministry of Justice of Ukraine, Kharkiv, Ukraine

³ National Technical University of Ukraine «Igor Sikorsky Kyiv Polytechnic Institute», Kyiv, Ukraine

⁴ Military Medical Clinical Center of the Northern Region, Kharkiv, Ukraine

S8-1.4 (766) Influence of UVC Radiation on Specific Regions of the SARS-CoV-2 Coronavirus Genome that Encode the Synthesis of Structural Proteins

Iurie Nica^(✉), Serghei Zavrjnyi

D.Ghitu Institute of Electronical Engineering and Nanotechnologies, Technical University of Moldova, Chisinau, Moldova

15:30-16:00 COFFEE BREAK

SECTION S7-1

Regenerative medicine and tissue engineering

16:00-17:30 Room 5

Co-chairs: Liliana Vereștiuc, Tatiana Malcova

S7-1.1 (732) Controlled Release of Bioactive Agents from Demineralized Bone Using Sequential Double Vacuum Loading

Vitalie Cobzac^{1(✉)}, Mariana Jian¹, Iana Baranetchi¹, Tatiana Marițoi¹, Tatiana Malcova¹, Denisa Ficai^{2,3}, Anton Ficai^{2,3}, and Viorel Nacu¹

¹ "Nicolae Testemitanu" State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

² National University of Science and Technology POLITEHNICA Bucharest, Romania

³ Academy of Romanian Scientists, Bucharest, Romania

S7-1.2 (738) Assessment of Biocompatibility of a Large-Diameter Vascular Decellularized Xenograft

Tatiana Malcova^(✉), Mariana Jian, Vitalie Cobzac, and Viorel Nacu

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S7-1.3 (811) In Vitro Evaluation of Biocompatibility of Collagen Sponges Extracted from the Human Umbilical-Placental Complex for Biomedical Applications

Mariana Jian^{1(✉)}, Vitalie Cobzac¹, Andrei Mostovei¹, Ana Maria Nacu¹, Valeriana Pantea¹, Ianos Coretchi¹, Denisa Ficai^{2,3}, Anton Ficai^{2,3}, and Viorel Nacu¹

¹ "Nicolae Testemitanu" State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

² National University of Science and Technology POLITEHNICA Bucharest, Romania

³ Academy of Romanian Scientists, Bucharest, Romania

S7-1.4 (828) Bioactive Cardiac Patches Based on Poly(HEMA) and Biopolymers

Lorena-Elena Grigoriu, Cosmin Lăscărache, Isabella Nacu, Vera Balan, Liliana Vereștiuc^(✉)

Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Department of Biomedical Sciences, Iasi, Romania

S7-1.5 (829) 3D Printed Gelatin and Xanthan-Based Architectures for Soft Tissue Engineering

Anca Toma, Isabella Nacu, Maria Butnaru, Liliana Vereștiuc^(✉)

Grigore T. Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Department of Biomedical Sciences, Iasi, Romania

SECTION S5-1

Bioinformatics, e-health and telemedicine

14:00-17:30 Room 6

Co-chairs: Kostyantyn Kolisnyk, Viorel Munteanu

S5-1.1 (684) Modeling of Biomedical Processes Using MATLAB

Kostyantyn Kolisnyk^{1(✉)}, Yevgen Sokol¹, Viktoriia Kolisnyk², Torsten Wik³

¹ National Technical University "KhPI", Kharkiv, Ukraine

² Kharkiv National University of Radio Electronics, Kharkiv, Ukraine

³ Institutionen för elektroteknik Chalmers tekniska högskola, Gothenburg, Sweden

S5-1.2 (718) Computational Modeling of Age-Related Atherosclerotic Plaque Evolution and Mechanical Vulnerability Assessment

Oleksiy Larin¹, Kseniia Potopalska¹(✉), Mykhailo Myronenko¹ and Ihor Polivenok²

¹ National Technical University «Kharkiv Polytechnic Institute», Kharkiv, Ukraine

² Zaitcev V.T. Institute of General and Urgent Surgery NAMS of Ukraine, Kharkiv, Ukraine

S5-1.3 (731) The Pangenome Variability Index: A Quantitative Measure for Assessing Gene Content Diversity in Microbial Genomes

Viorel Munteanu^(✉), Alexei Leahu, Dumitru Ciorbă, Eugeniu Catlabuga, Nicolae Drabcinski, Damian Dubciuc, Victor Iapăscuță, and Viorel Bostan

Technical University of Moldova, Chișinău, Republic of Moldova

S5-1.4 (785) Spatial Representation of Three-dimensional X-ray CT Segmentation Data Using Machine Learning and Mixed Reality

Hiroki Kase^{1,2}(✉), Katsuyuki Takagi², and Toru Aoki^{1,2}

¹ Faculty of Informatics, Shizuoka University, Hamamatsu, Japan

² Research Institute of Electronics, Shizuoka University, Hamamatsu, Japan

S5-1.5 (823) Features of Modeling Insulin Resistance Processes in the MatLab Application Package

Kostyantyn Kolisnyk¹(✉), Viktoriia Kolisnyk², Torsten Wik³

¹ National Technical University «KhPI», Kharkiv, Ukraine

² Kharkiv National University of Radio Electronics, Kharkiv, Ukraine

³ Department of Electrical Engineering Chalmers University of Technology, Gothenburg, Sweden

15:30-16:00 COFFEE BREAK

Co-chairs: Mykhailo Shyshkin, Artur Buzdugan

S5-1.6 (697) Remote Monitoring of Human Gait Parameters During Post-Traumatic Rehabilitation of the Musculoskeletal System

Mykhailo Shyshkin^(✉), Andrey Zuev, Roman Tomashevskyi, Oleksandr Androsov

National Technical University «Kharkiv Polytechnic Institute», Kharkiv, Ukraine

S5-1.7 (703) Exploring Maternal-Placental-Fetal Interactions: A Hybrid Modeling Approach for Biomedical Engineering

Victor Iapăscuță^{1,2}(✉), Viorel Munteanu¹, Adrian Belii¹

¹ Department of Software Engineering and Automatics, Technical University of Moldova, Chișinău, Moldova

² Department of Anesthesia and Intensive Care, N. Testemițanu State University of Medicine and Pharmacy, Chișinău, Moldova

S5-1.8 (726) Towards More Protected Medical Data: Assessing the Security of Web and Email Infrastructures in SMEs in the Republic of Moldova

Anatolie Alexei, Arina Alexei^(✉)

Technical University of Moldova, Chisinau, Republic of Moldova

S5-1.9 (779) Artificial Intelligence in Healthcare: Real-World Integration, Cybersecurity Risks and Challenges

Aurelian Buzdugan¹(✉), Artur Buzdugan²

¹ Moldova State University, Chisinau, Moldova

² Technical University of Moldova, Chisinau, Moldova

19:00-22:00 CONFERENCE DINNER
(only with invitations)

October 9, 2025

PLENARY SESSION PL-3 - *Polyvalent Hall*

9:00 – 10:40

Co-chairs: *Viorel Nacu, Ion M. Tiginyanu*

9⁰⁰ **PL-3.1 The Biophysical Basis of Rapid Information Transmission in the Brain**
James Rothman, *Nobel Prize in Physiology or Medicine*
School of Medicine, Yale University

9⁴⁰ **PL-3.2 Personalized Medicine in Cancer Care: How Genomic Profiling and Liquid Biopsy Are Shaping the Future of Targeted Cancer Therapies**
Şeref Kömürcü
Anadolu Medical Center in Istanbul, Turkey

10¹⁰ **PL-3.3 New Topological Transitions in Superconductor Nanoarchitectures**
Vladimir M. Fomin^{1,2}
¹*Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany*
²*Moldova State University, Chişinău, Republic of Moldova*

10:40-11:10 COFFEE BREAK

POSTERS SESSION

9 October - 11:10 - 13:00

Co-chairs: *Vladimir Ciobanu, Tudor Braniste, Strișca Stanislav*

SECTION S1 (*posters*)

Nanotechnologies and Nanomaterials

S1-P1 (690) Characterization of ALD TiO₂ Films on Nanostructured Black Silicon Layer

Arthur Aghabekyan¹, Gagik Ayvazyan^{1(✉)}, Boris Gharibyan², Surik Khudaverdyan¹, Ashok Vaseashta³

¹ *National Polytechnic University of Armenia, Yerevan, Armenia*
agagarm@gmail.com

² *Peking University, Beijing, China*

³ *International Clean Water Institute, Manassas, USA*

S1-P2 (699) Enhancing the Conductivity of Al-Doped ZnMgO Films via Aerosol Deposition Method

Vadim Morari^{1(✉)}, Victor Suman, Emil V. Rusu¹, and Veaceslav V. Ursaki^{2,3}

¹ *D. Ghitu Institute of Electronic Engineering and Nanotechnologies, Technical University of Moldova, Chisinau, Republic of Moldova*

² *National Center for Materials Study and Testing, Technical University of Moldova, Chisinau, Republic of Moldova*

³ *Academy of Sciences of Moldova, Chisinau, Republic of Moldova*

S1-P3 (711) Effect of Post-Heat Treatment on the Physical Properties of CuO Films

Victor Suman^{1(✉)}, Vladimir Ciobanu², Victor Zalamai², Vadim Morari¹, Lidia Ghimpu¹

¹ D. Ghitu Institute of Electronic Engineering and Nanotechnologies, Technical University of Moldova, Chisinau, Republic of Moldova

² National Center for Materials Study and Testing, Technical University of Moldova, Chisinau, Republic of Moldova

S1-P4 (728) Effect of Solvent on Photophysical Properties of Tetranitro Zinc Phthalocyanine

Tamara Potlog¹, Ion Lungu^{1(✉)}, Alexandrina Druta¹, Iacob Gutu¹, Victor Suman², Lidia Ghimpu², Radu Tigoianu³, Anton Airinei³

¹ Laboratory of Organic/Inorganic Materials in Optoelectronics, Institute of Applied Physics, Moldova State University, Chisinau, Republic of Moldova

² "Ghitu" Institute of Electronic Engineering and Nanotechnologies, Technical University of Moldova, Chisinau, Republic of Moldova

³ Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania

S1-P5 (733) Electric Field-controlled Dynamics of Electron Localization in Pentamer Nanoclusters

Olga Yaltychenko, Evghenii Kanarovskii^(✉)

Institute of Applied Physics, Moldova State University, Chişinău, Republic of Moldova

S1-P6 (756) PVP Modified ZnO and GaN Nanoparticles for Ceftriaxone Drug Delivery

Vladimir Ciobanu^{1,2(✉)}, Tudor Braniste^{1,2}, Florica Doroftei¹, and Ion Tiginyanu^{1,2}

¹ Center of Advanced Research in Bionanoconjugates and Biopolymers, Institute of Macromolecular Chemistry "Petru Poni", Iasi, Romania

² National Center for Materials Study and Testing, Technical University of Moldova, Chisinau, Moldova

S1-P7 (763) Electrical Properties of the (Copper, Yttrium)-Containing Organometallic Compound as a Basis for Temperature and Magnetic Sensors in Biomedical Diagnostic Devices

Volodymyr Martyniuk¹, Oleksandr Osadchuk¹, Maria Evseeva², Andrii Semenov^{1(✉)} and Iaroslav Osadchuk¹

¹ Vinnytsia National Technical University, Vinnytsia, Ukraine

² National Pirogov Memorial Medical University, Vinnytsya, Vinnytsia, Ukraine

S1-P8 (769) Polarization Properties of DSC Recorded on Au-NPs Azopolymer Nanocomposites

Vladislav Botnari^(✉), Elena Achimova, Vladimir Abaskin, Alexei Mesalkin, Veronica Cazac, Constantin Losmanschii

Moldova State University, Institute of Applied Physics, Chişinău, Moldova

S1-P9 (783) Anisotropic Thermoelectric Energy Converters Based on Single-Crystal Bi Microwires and Films

Leonid Konopko^{1(✉)}, Albina Nikolaeva¹, Tito Huber², and Denis Shiversky¹

¹ Technical University of Moldova, Gitsu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova

² Howard University, Washington, USA

S1-P10 (793) Photoelectric and Optical Properties of Layered Compounds MgGaInS₄ and Mg_{0.5}Ga₂InS₅

Efim Arama¹, Valentina Pinte², Tatiana Shemyakova^{3(✉)}, and Natalia Gasitoi⁴

¹ N. Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

² Technical University of Moldova, Chisinau, Republic of Moldova

³ Institute of Applied Physics, Moldova State University, Chisinau, Republic of Moldova

⁴ Alecu Russo State University of Balti, Balti, Republic of Moldova

S1-P11 (804) Multifunctional Bioactivity of Sulfated Spirulina Polysaccharides-Biofunctionalized Silver Nanoparticles in Tuberculosis: In Vitro Anti-Inflammatory and Immunomodulatory Effects on Lymphocytes from Patients with Diverse Mycobacterial Tuberculosis Strains

Evelina Lesnic¹(✉), Serghei Ghinda², Tatiana Chiriac³, Liliana Cepoi³

¹ Nicolae Testemitanu State University of Medicine and Pharmacy, 165 Stefan cel Mare Blvd., Chisinau, MD-2001, Republic of Moldova

² Chiril Draganiuc Institute of Pneumology, 13 Constantin Varnav Str., Chisinau, MD-2025, Republic of Moldova

³ Institute of Microbiology and Biotechnology, Technical University of Moldova, 1 Academiei Str., Chisinau, MD-2028, Republic of Moldova

S1-P12 (805) Influence of Surface Pre-treatment and Thermal Annealing on the Electrochemical and Wettability Behavior of Copper

Simon Busuioac¹(✉), Eduard V. Monaico

National Center for Materials Study and Testing, Technical University of Moldova, Chisinau, Republic of Moldova

S1-P13 (822) XRD and XPS Investigation of CeO₂, Yb₂O₃, and Their Composite Oxide Nanostructures

Ion Lungu¹(✉), Elena Stratulat, Vadim Furtuna, Tamara Potlog

Laboratory of Organic/Inorganic Materials in Optoelectronics, Institute of Applied Physics, Moldova State University, Chisinau, Republic of Moldova

S1-P14 (762) Conductometric Sensor for Monitoring the Concentration of NaCl in Aquatic Environment

Andrii Semenov¹(✉), Igor Dudatiev, Kostyantyn Ovchynnykov, Maksym Prytula, and Illia Ozmenchuk

Vinnitsia National Technical University, Vinnitsia, Ukraine

S1-P15 (814) Decontamination of Soil Polluted with DDTs and HCH by Nano Zerovalent Iron

Inna Rastimesina¹(✉), Olga Postolachi¹, Diana Indoitu¹, and Tatiana Gutsul²

¹ Institute of Microbiology and Biotechnology, Technical University of Moldova, Chisinau, Moldova

² D. Ghitu Institute of Electronic Engineering and Nanotechnologies, Technical University of Moldova, Chisinau, Moldova

S1-P16 (834) Comparative Photoluminescence Study of Nitrogen- and Oxygen-Doped Carbon Dots Synthesized by Distinct Routes

Narcisa-Laura Marangoci¹(✉), Adrian Fifere, Ioana-Andreea Turin-Moleavin, Adina Coroaba

Centre of Advanced Research in Bionanoconjugates and Biopolymers, "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

S1-P17 (836) Preparation of Dextran–Guanosine–Gold Hybrid Magnetic Nanoparticles as Substrates for Surface-Enhanced Raman Scattering

Tecla Dulgheriu¹(✉), Laura Ursu, Răzvan Ghiarasim, Alexandru Rotaru, Narcisa Marangoci, Ion Tiginyanu, Mariana Pinteală

"Petru Poni" Institute of Macromolecular Chemistry, Romanian Academy, Centre of Advanced Research in Bionanoconjugates and Biopolymers, Grigore Ghica Voda Alley 41 A, 700487, Iasi, Romania

S1-P18 (838) New Lignin-based Carbon Structures

Irina Apostol, Narcisa-Laura Marangoci, Florica Doroftei, Adina Coroaba and Iuliana Spiridon

"Petru Poni" Institute of Macromolecular Chemistry, Grigore Ghica Vodă 41 A, 700487 Iași, Romania

S1-P19 (812) GaAs Nanowire Architectures and Their Transformation into Oxide Networks

Elena I. Monaico^{1(✉)}, Eduard, V. Monaico¹, Veaceslav V. Ursaki^{1,2}, Ion M. Tiginyanu^{1,2}

¹ *National Center for Materials Study and Testing, Technical University of Moldova, Bv. Stefan cel Mare 168, Chisinau MD-2004, Republic of Moldova*

² *Academy of Sciences of Moldova, Bv. Stefan cel Mare 1, Chisinau MD-2001, Republic of Moldova*

S1-P20 (800) Method for Studying of Deformed Metallic Wires in Perpendicular Magnetic Field

Elena Condrea, Igori Belotercovschii, and Anatolie Sidorenko

Ghitu Institute of Electronic Engineering and Nanotechnologies, Technical University of Moldova, Chisinau, Republic of Moldova

S1-P21 (847) Photoluminescence Spectra Related to Local Site Symmetry in Eu(III) Coordination Compounds

Vladislav Ghenea^{1,2(✉)}, Ion Culeac¹, Artur Buzdugan²

¹ *Institute of Applied Physics, Moldova State University, Chisinau, Republic of Moldova*

² *Technical University of Moldova, Chisinau, Republic of Moldova*

S1-P22 (807) Emerging Hybrid Aero-nanomaterials Based on Wide-band-gap Semiconductor Compounds

Tudor Braniste^{1(✉)} and Ion Tiginyanu^{1,2(✉)}

¹ *National Center for Materials Study and Testing, Technical University of Moldova, Chisinau Republic of Moldova*

² *Academy of Sciences of Moldova, Chisinau, Republic of Moldova*

S1-P23 (833) Optical Properties and *in vitro* Fluorescence Imaging of Nitrogen-doped Carbon Dots

Adina Coroaba^{1(✉)}, Silviu I. Filipiuc^{1,2}, Cristina M. Uritu^{1,2}, Narcisa-Laura Marangoci¹

¹ *Centre of Advanced Research in Bionanoconjugates and Biopolymers, "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania*

² *Advanced Center for Research and Development in Experimental Medicine "Prof. Ostin C. Mungiu", "Grigore T. Popa" University of Medicine and Pharmacy, Iasi, Romania*

SECTION S2 (posters)

Biomaterials and devices for medical applications

S2-P24 (788) Modification of Antimicrobial, Antioxidant and Catalase Activities in Cell Free Supernatant of Some Bacillus Strains Induced by Iron Oxide Nanoparticles

Ludmila Balan^(✉), Valerina Slanina, Nina Bogdan-Golubi and Svetlana Djur

Institute of Microbiology and Biotechnology of Technical University of Moldova, Chisinau, Moldova

S2-P25 (840) New Ionic Liquids Based on Benzimidazole Cation: Synthesis, Characterization and Antibacterial Activity

Rareș-Georgian Mocanu, Dana Bejan, Irina Roșca, Mihaela Silion, Narcisa Marangoci, Mariana Pinteală

"Petru Poni" Institute of Macromolecular Chemistry Iași 700487 Romania

S2-P26 (736) A Comparative Analysis of the Antibacterial Properties of Biogenic Silver Nanoparticles and Their Antibiotic Complexes Against Sensitive and Resistant Strains of Escherichia coli

Seda Oganian, Juleta Tumoyan, Shushanik Kazaryan, Ashkhen Hovhannisyan^(✉)

Russian-Armenian University, Yerevan, Armenia

S2-P27 (841) Aero-Semiconductors and Carbon Nanodots: Nanostructured Solutions for Antibiotic Contamination Remediation and Cancer Theranostics

Florica Doroftei^{1(✉)}, Adina Coroaba¹, Narcisa-Laura Marangoci¹

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SECTION S3 (posters)

Bioinstrumentation, signal and image processing

S3-P28 (748) Ultrasound Biomicroscopy in Ocular Trauma: Impact on Management Decisions

Marina Papanaga^{1(✉)}, Angela Corduneanu¹, Mario De La Torre², Oleg Arnaut¹, Aristia Șeremet¹, Eugeniu Bendelic¹

¹ *Nicolae Testemițanu State University of Medicine and Pharmacy, Chișinău, Republic of Moldova*

² *National University of San Marcos, Lima, Peru*

S3-P29 (751) Image Acquisition and Analysis of Conjunctival Microvascular Network

Aristia Șeremet^{1(✉)}, Marina Papanaga², Nicu Drumea³, Lorina Vudu¹, Eugeniu Bendelic², Dumitru Harea¹, and Pavel Leahu⁴

¹ *Endocrinology department, Nicolae Testemițanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova*

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SECTION S4 (posters)

New technologies for personalized medicine

S4-P30 (675) Statistical Analysis of Exosome Diagnostic Methods in Patients with Schizophrenia

Igor Nastas^(✉), Larisa Boronin

Nicolae Testemițanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S4-P31 (681) Statistical Analysis of Combined Screening and Diagnostic Tests for Postpartum and Schizophrenia-Like Disorders

Larisa Boronin, Igor Nastas

Nicolae Testemițanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S4-P32 (682) Serum Levels of Interleukin-6 and Tumor Necrosis Factor-Alpha in Renal Anomalies and Diseases in Children

Adrian Revenco⁵, Jana Bernic^{1,2,6(✉)}, Angela Ciuntu^{3,5,6}, Elena Țarcă^{3,5}, Valentin Bernic^{7,8}, Tatiana Băluțel^{3,5,6}, Cristina Popușoi^{1,3,4}, Eva Gudumac^{1,4,5}

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⁷Department of Surgery II, St. Maria Emergency Clinical Hospital, Iași, Romania,

⁸University of Medicine and Pharmacy "Gr. T. Popa", Iași, Romania

S4-P33 (688) Assessment of Oxidative Stress Related to Clinical and Imagistic Peculiarities in Hospitalized Patients with Community-Acquired Pneumonia and Chronic Heart Failure

Virginia Cascaval^(✉), Tatiana Dumitras, Livi Grib, Diana Fetco-Mereuta, Sergiu Matcovschi, Andrei Cealan, Mariana Dumitras

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S4-P34 (705) Health-Related Quality of Life in Autoimmune Hypothyroidism: A Prospective Cohort Study with Cross-Sectional Comparison Using ThyPRO-39

Stela Vudu, Fathima Nizamudeen^(✉)

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S4-P35 (714) Peculiarities of Atypical Forms of Chronic Inflammatory Demyelinating Polyneuropathies

Eugeniu Gavriluc^{1(✉)}, Alexandru Matei¹, Irina Bicos¹, Valeria Alexa¹, Maria Dumanscaia¹, Evelina Gherghelegiu², Vitalie Lisnic²

¹ International Hospital MEDPARK, Chisinau, Republic of Moldova

² Department of Neurology, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S4-P36 (717) Changes in Intestinal Electrical Bioactivity in Postoperative Intestinal Failure Syndrome

Gheorghe Anghelici^{1(✉)}, Viorel Moraru¹, Serghei Samohvalov², Sergiu Pisarenco¹, Oleg Crudu², Tatiana Zugrav², and Marina Ceban¹

¹ Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

² Holy Trinity Municipal Clinical Hospital, Chisinau, Republic of Moldova

S4-P37 (767) Risk Stratification in Pulmonary Thromboembolism: Validation of the ECOAGE Score

Doina Ranga^{1(✉)}, Natalia Capros¹, Andrei Cealan², Hristiana Capros¹, Cornelia Talmaci¹, Sergiu Matcovschi¹

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² Public medical-sanitary institution Municipal hospital „Saint Trinity”, Radiology and Imagistic department, Chisinau, Republic of Moldova

S4-P38 (790) Predictive Factors of Major Acute Coronary Events in Patients with Chronic Coronary Syndrom

Tatiana Harghel, Natalia Capros, Ana Popa^(✉), Sergiu Matcovschi

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S4-P39 (791) Cardiovascular Risk Prediction Model Tailored for Chronic Kidney Disease Patients

Iuliana Romaniuc, Natalia Capros, Ana Popa^(✉), Sergiu Matcovschi
Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S4-P40 (802) Predictive Models of Sympathovagal Balance Based on the Parameters of Controlled Breathing Pattern

Ina Timoti, Svetlana Lozovanu, Andrei Ganenco^(✉), Aliona Dobrovolskaia, Adrian Lupusor, Victor Ojog
"Nicolae Testemitanu" State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S4-P41 (780) The Hidden Arrhythmic Toll of Antitumor Therapy in Non-Hodgkin Lymphoma

Daniela Bursacovschi¹ (✉), Maria Robu², Viorica Ochisor³, Georgeta Mihalache³, Oleg Arnaut^{4,5}, Valeriu Revenco³

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⁵National Cancer Registry of Moldova

S4-P42 (761) Implementation of an Advanced Surgical Strategy for the Correction of Strabismus

Alsaliem Sulaiman, Curocichin Ghenadie, Galea-Abduşa Daniela
Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S4-P43 (781) Predictive Model for Estimating the Risk of Major Adverse Cardiovascular Events in Patients Undergoing Dual Antiplatelet Therapy with Aspirin and Clopidogrel, Including the CYP2C19*2 Polymorphism

Marta Dogot, Daniela Galea-Abdusa, Anastasia Buza, Ghenadie Curocichin, Natalia Capros

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

SECTION S5 (posters) **Bioinformatics, e-health and telemedicine**

S5-P44 (806) Non-Invasive Monitoring of Desaturation Events in Stroke Patients

Ana Popa^(✉), Gabriela Soric, Ana Popescu, Adriana Botezatu, Nicolae Bodrug, Diana Fetco-Mereuta, Ion Sirbu

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

SECTION S7 (posters) Regenerative medicine and tissue engineering

S7-P45 (757) Evaluation of the Regenerative Efficacy of Biological Dressings Developed Through Tissue Engineering

Macagonova Olga^{1(✉)}, Cociug Adrian², Ciobanu Vladimir³, Verestiuc Liliana⁴, and Viorel Nacu^{1, 2}

¹ Laboratory of Tissue Engineering and Cellular Culture, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

² Human Tissue Bank, Traumatology and Orthopedy Hospital, Chisinau, Republic of Moldova

³ National Center for Materials Study and Testing, Technical University of Moldova, Chisinau, Republic of Moldova

⁴ Department of Biomedical Sciences Faculty of Medical Bioengineering, Grigore T. Popa University of Medicine and Pharmacy, Iasi, Romania

S7-P46 (768) Future Trends for Corneal Implants, Keratoplasty Solutions

Cociug Adrian^{1(✉)}, Macagonova Olga², Cușnir Valeriu³, Viorel Nacu^{1, 2}

¹ Human Tissue Bank, Traumatology and Orthopedy Hospital, Chisinau, Moldova

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³ Department of Ophthalmology and Optometry, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Moldova

S7-P47 (827) Bioactive Propolis-Loaded Hydrogels for Enhanced Diabetic Foot Wound Healing

Andreea Alexandrov, Andrei-Alexandru Ivu, Isabella Nacu, Florina-Daniela Cojocar, Andreea Luca, Liliana Verestiuc, Maria Butnaru^(✉)

Grigore T. Popa University of Medicine and Pharmacy, Iasi, Romania

SECTION S8 (posters) Medical physics & biophysics

S8-P48 (754) Ultrasound Assessment of Subcutaneous Adipose Tissue as a Predictor of Cardiometabolic Risk in Young Women

Carolina Pitserschi^{1(✉)}, Catalina Meaun², Stela Vudu¹, Lorina Vudu¹

¹ Department of Endocrinology, Nicolae Testemitanu State University of Medicine and Pharmacy, Republic of Moldova

² Department of Radiology and Imaging, Nicolae Testemitanu State University of Medicine and Pharmacy, Republic of Moldova

S8-P49 (772) Biomedical Engineering as a Subject of Study and Promotion in the Educational Market of Moldova: Research Results

Elena Railean^{2(✉)}, Serghei Railean¹, and Oxana Savciuc²

¹ Tehnical University of Moldova, Chisinau, Republic of Moldova

² Academy of Economic Studies of Moldova, Chisinau, Republic of Moldova

SECTION S9 (posters) Interdisciplinary research for medicine

S9-P50 (722) Patient Safety Culture in the Primary Health Care Institutions from the Republic of Moldova

Galina Buta^(✉), Raisa Deleu, and Raisa Puia

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S9-P51 (735) INS-GPS Simplified Architecture for a Small Quadrotor Platform used in Healthcare Logistics

Ionuț-Mihai Nacu^{1,2}, Cristian Vidan², Ciprian-Marius Larco², Nicolae Julia²,
Teodor Lucian Grigorie^{1(✉)}

¹*National University of Science and Technology POLITEHNICA Bucharest, Romania*

²*Military Technical Academy, Bucharest, Romania*

SECTION YIC YOUNG INVESTIGATORS COMPETITION Nanotechnologies and Biomedical Engineering 11:10 - 13:00 Room 1

13:00 – 14:00 LUNCH

13:45-Visit to Cricova (only with invitations)

IFMBE/MBEC Section How to write and publish a scientific paper? 14:00 - 15:00 Conference Hall

S-IFMBE/MBEC -1 How to Write and Publish a Scientific Paper?

Andrei Dragomir

National University of Singapore, Singapore

October 10, 2025

SECTION S6-1 Bioengineering in oral health 09:00-11:00 Room 4

Co-chairs: *Maria Magdalena Turek Rahoveanu, Svetlana Plamadeala*

S6-1.1 (740) Assessment of Anatomical Balance Alterations Following Orthognathic Surgery Based on the FAB Concept

Stanislav Strîșca¹✉, Victor Șontea², Nicolae Chele¹, and Andrei Mostovei¹

¹ State University of Medicine and Pharmacy 'Nicolae Testemitanu', Chisinau, Republic of Moldova

² Technical University of Moldova, Chisinau, Republic of Moldova

S6-1.2 (741) Assessment of Anatomical Balance in Dento-Facial Anomalies Using Virtual Surgical Planning

Stanislav Strîșca¹✉, Victor Șontea², Dumitru Sîrbu¹, and Andrei Mostovei¹

¹ State University of Medicine and Pharmacy 'Nicolae Testemitanu', Chisinau, Republic of Moldova

² Technical University of Moldova, Chisinau, Republic of Moldova

S6-1.3 (745) Influence of Streptococcus Mutans on the Level of Immune System Biomarkers in Oral Fluid in Children

Svetlana Plamadeala[✉], Olga Bălțeanu, Elena Hristea, Olga Tagadiuc, Aurelia Spinei, Iurie Spinei

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Moldova

S6-1.4 (747) Level of Immunoregulatory Molecules and Vitamin D3 in Oral Fluid in Children with Carious Lesions

Svetlana Plamadeala[✉], Elena Hristea, Olga Bălțeanu, Olga Tagadiuc, Aurelia Spinei, Iurie Spinei

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Moldova

S6-1.5 (749) Structural and Chemical Peculiarities of Tooth Enamel in Prematurely Born Children

Olga Bălțeanu[✉], Svetlana Plamadeala, Elena Hristea, Iurie Spinei, Aurelia Spinei

¹ Ion Lupan" Department of Paediatric Oral - Maxillofacial Surgery and Pedodontics, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S6-1.6 (750) Crystallization Potential of Oral Fluid in Preterm Children

Olga Bălțeanu[✉], Svetlana Plamadeala, Elena Hristea, Aurelia Spinei, Iurie Spinei

„Ion Lupan” Department of Paediatric Oral - Maxillofacial Surgery and Pedodontics, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S6-1.7 (825) Aesthetic Perception of Dental Fluorosis and Quality of Life Related to Oral Health

Elena Stepco¹✉, Alina Ferdohleb², Silvia Stratulat³, Irina Tonofa¹, Maria Patranac¹

¹ Ion Lupan Department of Pediatric Oral - Maxillofacial Surgery and Pedodontics, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Moldova

² Nicolae Testemitanu Department of Social Medicine and Management, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Moldova

³Department of Biochemistry and Clinical Biochemistry, Nicolae Testemitanu State University of Medicine and Pharmacy, Chişinău, Moldova

S6-1.8 (832) Healthy Diet as a Preventive Factor for Dental Caries in Children across the European Union: A Comparative Analysis and Best Practices

Maria Magdalena Turek Rahoveanu^{1(✉)}, Ruxandra Andreea Turek Rahoveanu², and Adrian Turek Rahoveanu²

¹ "Dunarea de Jos" University of Galati, Galaţi, Romania,

² Carol Davila University of Medicine and Pharmacy, Bucharest, Bucureşti, Romania

³ University of Agronomic Sciences and Veterinary Medicine Bucharest, Bucureşti, Romania

SECTION S2-1

Biomaterials and devices for medical applications

09:00-11:00 Room 5

Co-chairs: Susanna Tiratsuyan, Liliana Cepoi

S2-1.1 (678) Role of Copper-Thiosemicarbazone Coordination Compounds in Modulating Lipid Peroxidation Indices: an *in Vitro* Evaluation

Valeriana Pantea^(✉), Ecaterina Pavlovschi

Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S2-1.2 (710) In Silico Profiling of Natural Bioactive Multitarget Compounds: Implications for Modulation of Inhibitory Neurotransmission

Susanna Tiratsuyan^(✉), Yelena Hambardzumyan

Russian-Armenian University, Yerevan, Armenia

S2-1.3 (715) Modulating Phenolic Compounds Synthesis and Antioxidant Activity in *Dunaliella salina* Microalgae by Metal Oxide Nanoparticles under Variable Salinity Conditions

Liliana Cepoi^(✉), Ludmila Rudi, Tatiana Chiriac, Svetlana Djur, Iulia Iatco, and Svetlana Codreanu

Institute of Microbiology and Biotechnology of Technical University of Moldova, Chisinau, Moldova

S2-1.4 (737) Antitumor Potential of Biogenic Iron Oxide (Fe₃O₄) and Silver Nanoparticles, as well as Complex with 5-Fluorouracil, Against the ZR-75 Human Breast Carcinoma Cell Line

Juleta Tumoyan, Shushanik Kazaryan, Seda Oganian and Ashkhen Hovhannisyan^(✉)

Russian-Armenian University, Department of Medical Biochemistry and Biotechnology, Yerevan, Armenia

S2-1.5 (746) Biogenic Iron Oxide and Platinum Nanoparticles: Characterization and Biological Activity

Shushanik Kazaryan^(✉), Nona Adamyan, Juleta Tumoyan, Seda Oganian and Ashkhen Hovhannisyan

Russian-Armenian University, Department of Medical Biochemistry and Biotechnology, Yerevan, Armenia

S2-1.6 (817) Translocation of Nano-Gold, -Silver and -Copper in *Calendula officinalis* L. Tissues under Foliar Exposure

Liliana Cepoi^{1(✉)}, Alexandra Peshkova², Inga Zinicovscaia³, Ludmila Rudi¹, Tatiana Chiriac¹, Nikita Yushin²

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²Doctoral School of Natural Sciences, Moldova State University, Chisinau, Republic of Moldova

³Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering,
Măgurele, România

S2-1.7 (835) Assembly and Stability of Trastuzumab-Conjugated and Unmodified poly(L-histidine)-poly(Ethylene Glycol) Micelles for Targeting HER2-Positive Cells
Razvan Ghiarasim¹(✉), Gabriel Luta², Mihail-Gabriel Dimofte^{2,3}, Tore-Geir Iversen⁴, Mariana Pinteala¹ and Alexandru Rotaru¹

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³Regional Institute of Oncology, 2-4 General Henri Mathias Berthelot Street, 700483 Iasi, Romania

⁴Department of Molecular Cell Biology, Institute for Cancer Research, Oslo University Hospital, Oslo 0379, Norway

S2-1.8 (837) Supramolecular G4 Hydrogel Systems for Cell Support and Antimicrobial Applications

Alexandru ROTARU

“Petru Poni” Institute of Macromolecular Chemistry, Romanian Academy Centre of Advanced Research in Bionanoconjugates and Biopolymers, Aleea Grigore Ghica Voda 41 A, 700487 Iasi, Romania.

SECTION S9-1
Interdisciplinary research for medicine
09:00-11:00 Room 6

Co-chairs: Felix-Constantin Adochiei, Viorel Munteanu

S9-1.1 (694) Abdominal Non-Hodgkin's Lymphoma in Children

Irina Livsits^{1,3,4}, Jana Bernic^{1,2,3,4}(✉)

¹ Laboratory of Surgical Infections in Children, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Moldova,

² Department of Pediatric Surgery, Orthopedics and Anesthesiology “Natalia Gheorghiu”, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Moldova,

³ Institute of Mother and Child, Chisinau, Moldova,

⁴ National Scientific-Practical Center of Pediatric Surgery acad. “Natalia Gheorghiu”, Chisinau, Moldova.

S9-1.2 (702) Comparative Evaluation of K-Anonymity, Differential Privacy, and Pseudonymization for Data Protection in Rare Disease Registries

Sergiu Siminiuc, Dinu Țurcanu, Rodica Siminiuc(✉)

Technical University of Moldova, Chisinau, Republic of Moldova

S9-1.3 (744) Medical University Biobank: Advancing Sustainable National and Global Research

Elena Romancenco(✉), Tatiana Malcova, Maria Mogaldea, and Ghenadie Curocichin
Nicolae Testemitanu State University of Medicine and Pharmacy: Chisinau, MD

S9-1.4 (798) Integrating Sensor Nodes into a Wireless Sensor Node Network

Tatiana Maslova(✉), Adrian Bîrnaz, Cristian Lupan, Artur Buzdugan

Technical University of Moldova, Chisinau, Moldova

S9-1.5 (815) Development of a Smart Platform for Managing Medical Inventory

Daniel Tirche(✉), Catalin Creciunel, Vladimir Ciobanu, Victor Sontea, and Eduard Monaico

National Center for Materials Study and Testing, Technical University of Moldova, Chisinau, Moldova

S9-1.6 (820) Modular Mobile Robotic Platform for Smart City and Indoor Service Applications

Ioana-Raluca Adochiei^{1,2}, Florin Ciprian Argatu³, Bogdan-Adrian Enache³, Cosmin Karl Banica⁴, Sorin Dan Grigorescu³ and Felix-Constantin Adochiei^{2,3} (✉)

¹ Military Technical Academy Ferdinand I, Bucharest, Romania

² Academy of Romanian Scientists, Bucharest, Romania

³ National University of Science and Technology POLITEHNICA Bucharest, Bucharest, Romania

⁴ SC LIGHTNING NET SRL, Bucharest, Romania

S9-1.7 (821) Embedded Power Management and State-of-charge Estimation in Modular Robotic Platforms: Experimental Validation and Web-based Monitoring

Florin Ciprian Argatu¹, Ioana-Raluca Adochiei^{2,3}, Bogdan-Adrian Enache¹, Cosmin Karl Banica⁴, George-Călin Serîţan¹ and Felix-Constantin Adochiei^{1,3} (✉)

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³ Academy of Romanian Scientists, Bucharest, Romania

⁴ SC LIGHTNING NET SRL, Bucharest, Romania

S9-1.8 (706) Multi-Agent Decision Support for Sepsis: Balancing Precision and Hallucination Risks in Biomedical Engineering

Roman Ciubara^{1,2}, Otilia Odajiu³, Viorel Munteanu⁴, Oleg Arnaut^{5,6,7}, Adrian Belîi¹, Victor Iapăscurtă^{1,4} (✉)

¹ Department of Anesthesia and Intensive Care, N. Testemiţanu State University of Medicine and Pharmacy, Chişinău, Moldova

² Medpark International Hospital, Chişinău, Moldova

³ Intensive Care Unit, St. Trinity Municipal Clinical Hospital, Chişinău, Moldova

⁴ Department of Software Engineering and Automatics, Technical University of Moldova, Chişinău, Moldova

⁵ Department of Human Physiology and Biophysics, N. Testemiţanu State University of Medicine and Pharmacy, Chişinău, Moldova

⁶ Bioinformatics and Computational Medicine Laboratory, National Institute for Health and Medical Research, N. Testemiţanu State University of Medicine and Pharmacy, Chişinău, Moldova

⁷ National Cancer Registry, Oncological Institute, Republic of Moldova

11:00-11:30 COFFEE BREAK

PLENARY SESSION PL-4 - *Polyvalent Hall* 11:30 – 13:00

Co-chairs: *Ion Tiginyanu, Victor Sontea, Vasile Tronciu*

11³⁰ **PL-4.1 Superconducting Components for Brain-Inspired Neural Networks:
Spintronic Innovations for Neuromorphic Computing**

Anatolie Sidorenko

*D. Ghitu Institute of Electronic Engineering and Nanotechnologies, Technical University of Moldova,
Chisinau, Republic of Moldova*

12⁰⁰ **PL-4.2 Advanced Hybrid Nanomaterials for Biomedical and Environmental
Sensor Technology**

Oleg Lupan

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12³⁰ **PL-4.3 Artificial Intelligence for Evidence-Based Management of Medical
Devices**

Ernesto Iadanza^(✉), Alessio Luschi, Alessandro Zazzeri

University of Siena, ITALY

13:00 CLOSING CEREMONY

*Announcement of the YIC winners
Ion Tiginyanu, Victor Sontea*

Notes



Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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