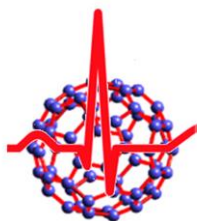


6th INTERNATIONAL CONFERENCE on Nanotechnologies and Biomedical Engineering

September 20-23, 2023, Chisinau, Republic of Moldova

Program



ICNBME - 2023

6th INTERNATIONAL CONFERENCE
on Nanotechnologies and
Biomedical Engineering

6th International Conference *Nanotechnologies and Biomedical Engineering*

Organized by

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



Information Note

ICNBME-2023 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 through the website <https://icnbme.sibm.md/>

Program Committee
Organizing Committee

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The Organizing Committee of the **6th 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 Society of Biomedical Engineering**
- **National Agency for Research and Development of the Republic of Moldova, project 20.80009.8007.26**
- **International Federation for Medical and Biological Engineering (IFMBE)**
- **European Alliance for Medical and Biological Engineering & Science**
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- **Aproservice-X S.R.L.**
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PREFACE

It is our great pleasure to welcome all of you at the 6th International Conference on Nanotechnologies and Biomedical Engineering (ICNBME), to be held on September 20–23, 2023, in Chisinau, Republic of Moldova. ICNBME-2023 continues the series of international conferences in the field of nanotechnologies and biomedical engineering with the main goal focused 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 covers a wide range of subjects of primary importance for research and development such as nanotechnologies and nanomaterials; bio-micro/nano technologies and devices, biomaterials for medical applications, biosensors and bioinstrumentation, biomedical signal and image processing, bioinformatics and computational biology, medical physics and biophysics, molecular, cellular and tissue engineering, clinical engineering, health technology management and assessment, innovation, development and interdisciplinary research, nuclear and radiation safety and security, medical physics and radiation protection, new technologies for diagnosis, treatment and rehabilitation, personalized approaches in medicine.

The contributions of the Conference reflect the results of multidisciplinary research undertaken by about one hundred of groups worldwide. 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 use in regenerative medicine, cellular and tissue engineering. Interesting data on novel chemical and biosensors are reported which are based on nanostructured metal oxides and hybrid nanocomposite materials. A wide range of new technologies for diagnosis, treatment and rehabilitation, 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. 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 papers reflect the state of the art in controlling the properties of several classes of nanocomposite materials for important future applications in various fields.

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, young scientists, students and broad community wishing to get up-to-date information on progress in the fast-developing areas of nanotechnology and biomedical engineering.

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

Chisinau, Republic of Moldova, September 2023

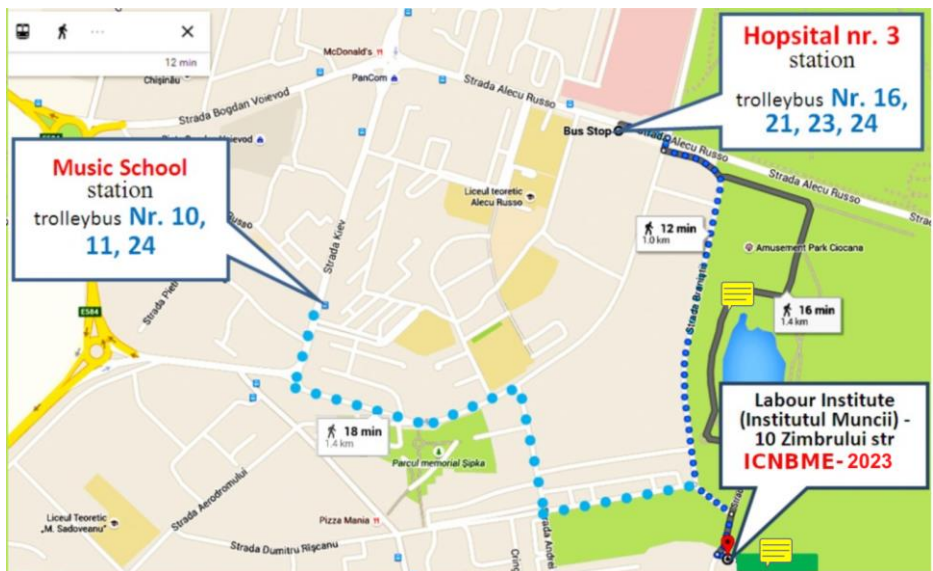
The Conference will take place at the Labour Institute located at 10 Zimbrului street, Chisinau, Moldova. The building is located in the park area between two city districts: Rishkanovka and Chekani.

Participants registration will take place in the building of the Labour Institute, 10 Zimbrului street, Chisinau, Moldova on September 19th from 10.00 to 22.00 and September 20th from 8.30 to 16.00.

The conference will open at 9.30, September 20th, 2023.

Language

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



Conference Chairmen

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

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Organizing Committee

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Tudor Braniste	Moldovan Society of Biomedical Engineering
Vladimir Ciobanu	Technical University of Moldova

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 7, Microsoft Office 2010 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 21 according to the program.

Poster set up time: 12.00-13.00 h. Authors are requested to be next to their posters during poster session: 13.00-17.00 h.



Conference Sections

S1 - Nanotechnologies and Nanomaterials

S2 - New Technologies for Diagnosis, Treatment, and Rehabilitation, Personalized Approaches in Medicine

S3 - Clinical Engineering and Bioinstrumentation

S4 - Biomaterials for Medical Applications

S5 - Innovation, Development, and Interdisciplinary Research

S6 - Bioinformatics, Biomedical Signal and Image Processing

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

CONFERENCE PROGRAM

19 September 2023

10⁰⁰ – 22⁰⁰ Accommodation, Registration, Distribution of the Conference materials

19:00-22:00 Welcome Reception (*restaurant's terrace*)
(*only with invitations*)

20 September 2023

8³⁰ – 9³⁰ Registration

9³⁰ – 10³⁰ Conference Opening, Welcome speeches (*Polyvalent Hall*)

PLENARY SESSION PL-1 *Polyvalent Hall*
10:30 – 13:30

Co-chairs: *Nicolas Pallikarakis, Rainer Adelung*

10³⁰ **PL-1.1** Genes, Cells and Discovery in Basic Science and Disease

Randy Schekman

Department of Molecular and Cell Biology, Howard Hughes Medical Institute, University of California, Berkeley, USA

11⁰⁰ **PL-1.2** New Areas of Research and Applications for GaN

Ion M. Tiginyanu and Tudor Braniste

Academy of Sciences and Technical University of Moldova, Chisinau, Republic of Moldova

11³⁰ **PL-1.3** Rehabilitation Using a Data Glove for Moving the Paralyzed Fingers

Hidenori Mimura, Soich Takigawa, Katsunori Suzuki, Kamen Kanev,
Toru Aoki and Masakazu Kimura

Research Institute of Electronics, Shizuoka University, Japan

12:00 – 12:30 COFFEE BREAK

Co-chairs: *Hidenori Mimura, Ion Tiginyanu*

12³⁰ **PL-1.4** Importance of Training Health Care Professionals in Medical Technology

Nicolas Pallikarakis

University of Patras, Patras, Greece

13⁰⁰ **PL-1.5 Tetrapods and Aeromaterials for Antiviral and Antibacterial Treatment and Therapy**

Rainer Adelung

Functional Nanomaterials, department for material Science, Kiel University, Germany

13:30 – 14:30 LUNCH

SECTION S1-1
Nanotechnologies and Nanomaterials
14:30-18:30 Room 4

Co-chairs: Yevgen Sokol, Veaceslav V. Ursaki

S1-1.1 Tunable Properties of Vacuum-Evaporated CH₃NH₃PbCl_{3-x}I_x Perovskite Layers

Gagik Ayyvazyan¹, Surik Khudaverdyan¹, Lenrik Matevosyan²,
Harutyun Dashtoyan¹, Ashok Vaseashta³

Corresponding author Gagik Ayyvazyan (526) - agagarm@gmail.com

¹ National Polytechnic University of Armenia

² Institute of Radiophysics and Electronics, Armenia

³ International Clean Water Institute, USA

S1-1.2 Gamma Radiation Sensitization of ZnO/Al₂O₃ Sensors Based on Nanoheterostructures

Cristian Lupan¹, Adrian Birnaz¹, Artur Buzdugan¹, Nicolae Magariu¹, and
Oleg Lupan^{1,2}

Corresponding author Artur Buzdugan (544) - artur.buzdugan@mib.utm.md

¹ Technical University of Moldova, Chisinau, Moldova

² Kiel University, Kiel, Germany

S1-1.3 Functional Capabilities of Two-barrier Semiconductor Structures
**Surik Khudaverdyan¹, Ashok Vaseashta², Gagik Ayyvazyan¹,
Mane Khachatryan¹, and Ashot Khudaverdyan¹**

Corresponding author Ashok Vaseashta (535) - prof.vaseashta@ieeee.org

¹ Armenian National Polytechnic University, 105 Teryan str., Yerevan, Armenia

² Office of Applied Research, International Clean Water Institute, Manassas, VA USA

S1-1.4 Electrical Properties of the (Copper, Dysprosium)-Containing Complex Compound

Andriy Semenov¹, Volodymyr Martyniuk¹, Maria Evseeva², Oleksandr Osadchuk¹,
Olena Semenova¹, and Tetyana Yushchenko²

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

S1-1.5 Morphological and Sensing Properties of the ZnO - Zn₂SnO₄ Ternary Phase Nanorod Arrays

Dinu Litra¹, Cristian Lupan¹, Tim Tjardts², Haoyi Qiu³, Tudor Zadorojneac¹, Dominic Malai¹, Alexandr Sereacov¹, Cenk Aktas², Leonard Siebert³, Oleg Lupan^{1,2,3}

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³ Department of Materials Science, Chair for Functional Nanomaterials, Faculty of Engineering, Kiel University, Kaiserstraße 2, D-24143 Kiel, Germany.

S1-1.6 Nanocomposite Films Based on Photosensitive Azopolymer with Gold Nanoparticles: Synthesis, Film Deposition, Diffractive Optical Elements Recording and Characterization

Elena Achimova¹, Vladimir Abashkin¹, Alexei Meshalkin¹, Constantin Losmanschii¹, Vladislav Botnari¹, and Giancarlo Pedrini²

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² Institut für Technische Optik, Universität Stuttgart, Germany

16:00-16:30 COFFEE BREAK

Co-chairs: *Vladimir M. Fomin, Adrian Dinescu*

S1-1.7 MOF-coated 3D-printed ZnO Tetrapods as a Two-in-one Sensor for H₂ Sensing and UV Detection

Barnika Chakraborty¹, Philipp Schadte¹, Mirjam P. M. Poschmann³, Cristian Lupan², Tudor Zadorojneac², Nicolae Magariu², Ajay Padunnappattu³, Fabian Schütt¹, Oleg Lupan^{1,2}, Leonard Siebert¹, Norbert Stock³, Rainer Adelung¹

Corresponding author Leonard Siebert (571) - lesi@tf.uni-kiel.de

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² Department of Microelectronics and Biomedical Engineering, Center for Nanotechnology and Nanosensors, Technical University of Moldova, Chisinau, Republic of Moldova

³ Institute for Inorganic Chemistry, Kiel University, Kiel, Germany

S1-1.8 Organic Nanostructured Crystals for Thermoelectric Cooling in Medical Applications

Ionel Sanduleac, Silvia Andronic, and Ion Balmuş

Corresponding author Ionel Sanduleac (581) - ionel.sanduleac@mt.utm.md

Technical University of Moldova, Faculty of Electronics and Telecommunications, Chisinau, Republic of Moldova

S1-1.9 General Nature of Serration Effect in Crystals and Other Materials Under Indentation

Daria Grabco¹, Constantin Pyrtsac^{1,2}, and Olga Shikimaka¹

Corresponding author Daria Grabco (582) - grabco@mail.ru

¹ Institute of Applied Physics, Moldova State University, Chişinău, MD2028, Republic of Moldova,

² Technical University of Moldova, Chişinău, MD2004, Republic of Moldova

S1-1.10 Optical and Photoelectric Properties of Cadmium Diarsenide and Surface-barrier Structures Based on it

Ivan Stamov, Dmitry Tkachenko

Corresponding author Ivan Stamov (594) - istamov51@mail.ru

Pridnestrovian State University, Tiraspol, Republic of Moldova

S1-1.11 Preliminary Study on Silver Nanoparticle Synthesis Through Chemical and Biological Methods

Ramona Mirela Plesnicute¹, Anamaria Vacariu¹, Iuliana Motrescu², Dorina Creanga¹

Corresponding author Dorina Creanga (597) - dorina.emilia.creanga@gmail.com

¹ *Alexandru Ioan Cuza University, Physics Faculty, Iasi, Romania,*

² *University of Life Sciences, Horticulture Faculty, Iasi, Romania*

S1-1.12 Advanced Nanotechnology-based Approaches to Waste Water Purification from Organic Pollutants

Tatiana Datsko¹, Veacheslav Zelentsov¹, and Dmitri Dvornikov²

Corresponding author Tatiana Datsko (608) - datsko.tatiana@yandex.ru

¹ *Institute of Applied Physics, Moldavian State University*

² *Technical University of Moldova, IEEN D.Ghitu*

S1-1.13 Micro-Raman Analysis of Some As-S-Sb-Te Nanostructured Semiconductors

Oxana Iaseniuc, Mihail Iovu

Corresponding author Oxana Iaseniuc (609) - oxana.iaseniuc@gmail.com

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

S1-1.14 Ground and Excited States of Excitons in GaSe Single Crystals

Ecatarina Cristea^{1,3}, Ivan Stamov² and Victor Zalamai³

Corresponding author Victor Zalamai (614) - victor.zalamai@cnstm.utm.md

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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*

SECTION S2-1

New Technologies for Diagnosis, Treatment, and Rehabilitation, Personalized Approaches in Medicine

14:30-18:30 Room 5

Co-chairs: *Ghenadie Curocichin, Liliana Verestiuc*

S2-1.1 Role of Botulinum Toxin A Injections as a Salvage Therapy for Refractory Overactive Bladder: Insights from Urodynamic Studies

Mihaela Ivanov, Emil Ceban

Corresponding author Mihaela Ivanov (528) - mihaela.ivanov@usmf.md

Department of Urology and Surgical Nephrology, „Nicolae Testemitanu“ State University of Medicine and Pharmacy, The Republican Clinical Hospital „Timofei Mosneaga“, Chisinau, Republic of Moldova

S2-1.2 Assessing the Impact of Parental Labor Migration on Children's Health

Galina Gorbunov

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

S2-1.3 The Implementation of Personalized Medicine in the Republic of Moldova: Challenges and Opportunities in Cardiology

Alexei Levitchi¹, Daniela Galea-Abdusa¹, Victor Sontea², Ghenadie Curocichin¹

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² Technical University of Moldova, Chisinau, Republic of Moldova

S2-1.4 Thiol-Disulfide Homeostasis in Kidney Tumors in Children

Jana Bernic^{1,3}, Angela Ciuntu^{2,3}, Elena Hanganu⁴, Victor Roller^{1,3}, Vergil Petrovici⁵, Tatiana Bălutel^{2,3}, Eva Gudumac^{1,3}

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⁴ Department of Biomedical Sciences, Gr.T. Popa University of Medicine and Pharmacy, Iasi, Romania

⁵ Department of Morphopathology and Cytology, Mother and Child Institute, Chisinau, Republic of Moldova

S2-1.5 Non Conventional Methods in Visual Function Training for Children with Sight Disabilities

Barbu-Cristian Braun, Corneliu-Nicolae Drugă, Ionel Şerban, Leonard Mitu

Corresponding author Barbu-Cristian Braun (541) - braun@unitbv.ro

Product Design, Mechatronics and Environment Department, Transilvania University of Braşov, Romania

S2-1.6 Modern Methods for Identification and Reduction of Visual Problems in Children

Barbu-Cristian Braun, Corneliu Nicolae Drugă, Ionel Şerban, Alexandru Tulică

Corresponding author Barbu-Cristian Braun (542) - braun@unitbv.ro

Product Design, Mechatronics and Environment Department, Transilvania University of Braşov, Romania

16:00-16:30 COFFEE BREAK

Co-chairs: Victor Vovc, Ghenadie Curocichin

S2-1.7 Method for Increasing the Production or Activity of Catalase in the Body

Lilia Andronache¹, Valeriana Pantea¹, Emil Ceban¹, Aurelian Gulea², Vasilii Graur², Victor Ţapcov², Valerii Matcovschii³, Valentin Gudumac¹

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² Moldova State University, Republic of Moldova,

³ Department of Neurosurgery, Institute of Neurology and Neurosurgery, Republic of Moldova

S2-1.8 Diagnosing Pulmonary Embolism with Computed Tomography Pulmonary Angiography

Doina Ranga¹, Natalia Capros¹, Andrei Cealan², Ion Sirbu¹, Cornelia Talmaci¹, Sergiu Matcovschi¹

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² Radiology and Imagistic Department, Public Medical-Sanitary Institution Municipal Hospital „Saint Trinity”, Chişinau, Republic of Moldova

S2-1.9 Improvement of Cardiovascular System Diseases Diagnostics by Using Multiparametric Data

Mykhailo Shyshkin, Serhii Holdobin, Olha Butova

Corresponding author Mykhailo Shyshkin (547) - mykhailo.shyshkin@khp.edu.ua

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

S2-1.10 Combined and Complex Treatment-optimal Therapies in Rectal Cancer

Cezara Ungureanu¹, Nicolae Ghidirim^{1,2}

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

² Oncology Institute of the Republic of Moldova, Chişinau, Republic of Moldova

S2-1.11 The Peculiarities of Circadian Rhythms and their Implications on Parkinson's Disease

Lilia Rotaru², Mădălina Cebuc¹, Adrian Lupuşor^{1,2}, Oxana Grosu², Victor Vovc^{1,2}, Svetlana Lozovanu¹, Ghenadie Cărăuşul¹, Stanislav Groppa¹

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² Neurology and Neurosurgery Institute "D. Gherman" Chişinău, Republic of Moldova

S2-1.12 Updates on the Use of Ozone Therapy in Patients with COVID-19. A Review

Natalia Cernei¹, Cristina Trofimov¹, Ion Grabovschi², Ruslan Baltaga³, Oleg Arnaut²

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S2-1.13 The Prevalence of Allele Frequencies of CYP2C19 Polymorphisms of Clinically Important Drug-metabolizing Enzymes CYP2C19 in Moldova Healthy Population

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

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

S2-1.14 Prospective, Descriptive Study of Rotaviral Infection in Vaccinated and Non-vaccinated Infants from Republic of Moldova

Ala Donos, Albina-Mihaela Iliev

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SECTION S3-1

Clinical Engineering and Bioinstrumentation

14:30-18:30 Room 6

Co-chairs: Nicolae Druga, Kostyantyn Kolisnyk

S3-1.1 Publication Practices Among Pivotal Clinical Trials of High-risk Medical Devices

Gleb Donin, and Martin Kozik

Corresponding author Gleb Donin (590) - gleb.donin@fbmi.cvut.cz

Department of Biomedical Technology, Czech Technical University in Prague, Kladno, Czech Republic

S3-1.2 Biomechanical Analysis of the Balance of the Human Body

Anca Ioana (Ostafe) Tătaru, Mihaela Ioana Baritz, Angela Repanovici,
Corneliu Nicolae Druga, Daniela Mariana Barbu and Mirela Gabriela Apostoaie

Corresponding author Anca Ioana (Ostafe) Tătaru (595) - anca.tataru@unitbv.ro

Transylvania University from Braşov, Braşov, Romania

S3-1.3 Primary Measuring Transducer of a Diagnostic Spirometer Based on a Venturi Flowmeter

Roman Tomashevskiy¹, Dmitry Vasilchuk²

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² Ukrainian Engineering Pedagogics Academy, Educational-scientific Professionally-pedagogical Institute, Bahmut, Ukraine

S3-1.4 A LabVIEW based Brain-Computer Interface Application for Controlling a Virtual Robotic Arm Using the P300 Evoked Biopotentials and the EEG Bandpower Rhythms Acquired from the GTEC Unicorn Headset

Oana Andreea Rusanu

Corresponding author Oana Andreea Rusanu (601) - oana.rusanu@unitbv.ro

Transylvania University of Brasov, Romania

S3-1.5 Analysis of the Distribution of Forces and Pressures on the Plantar Surface in Different Walking Types

Anca Ioana (Ostafe) Tătaru, Mihaela Ioana Baritz, Angela Repanovici,
Corneliu Nicolae Druga, Daniela Mariana Barbu and Mirela Gabriela Apostoaie

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16:00-16:30 COFFEE BREAK

Co-chairs: Roman Tomashevskiy, Calin Corciova

S3-1.6 Evaluation of the Maintenance System of Medical Equipment - a Necessity for Implementing an Effective Quality System

Calin Corciova¹, Robert Fuior¹, Catalina Luca¹, Victor Sontea²

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² Technical University of Moldova, Cisinaiu, Republic of Moldova

S3-1.7 Assisting Deaf and Hard-of-Hearing People in Critical Situations: Alleviating Stress and Enhancing Safety

Oana-Isabela Știrbu^{1,4}, Ioana-Raluca Adochiei^{1,2}, Ruxandra-Victoria Paraschiv^{1,3}, Șerban-Teodor Nicolescu^{1,4}, Felix-Constantin Adochiei⁴, George-Călin Serișan⁴

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³ Titu Maiorescu University, Bucharest, Romania

⁴ University Politehnica of Bucharest, Romania

S3-1.8 The Surveillance System of Medical Devices, in which the Responsible Individuals Have an Active Role, is the Guarantee of Patient and Medical Device User

Gheorghe Gorceag, Victor Sontea

Corresponding author Gheorghe Gorceag (669) - gorceag.gheorghe@gmail.com

Technical University of Moldova, Cisinaiu, Republic of Moldova

S3-1.9 Monitoring the Physiological Parameters of Patients with Non-Communicable Chronic Diseases

Victor Sontea¹, Vladimir Vidiborschii¹, Valeriu Paliș²

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² Holy Trinity Municipal Hospital, Chisinaiu, Republic of Moldova

S3-1.10 Techniques for Human Body Biomedical Signals Processing and Storing

Anatolie Iavorschi

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S3-1.11 Three Dimensional X-ray CT Reading Assistance System With Video See Through Display

Hiroki Kase^{1,2}, Junichi Nishizawa¹, Kento Tabata², Katsuyuki Takagi², and Toru Aoki^{1,2}

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² Research Institute of Electronics, Hamamatsu, Japan

19:00-22:00 CONFERENCE DINNER

(only with invitations)

21 September 2023

PLENARY SESSION PL-2 *Polyvalent Hall*

09:00 – 12:30

Co-chairs: *Anatolie Sidorenko, Balázs Újfalussy*

09⁰⁰ **PL-2.1 Nanocomposites and Polymer Thin Films: from Gas Phase Synthesis to Functional Applications**

Stefan Schröder¹, Alexander Vahl¹, Salih Veziroglu¹, Oleg Lupan^{1,2}, Cenk Aktas¹, Thomas Strunskus¹, and Franz Faupel¹

¹ Chair for Multicomponent Materials, Department of Materials Science, Faculty of Engineering, Kiel University, Kaiserstraße 2, D-24143 Kiel, Germany

² Center for Nanotechnology and Nanosensors, Department of Microelectronics and Biomedical Engineering, Technical University of Moldova, 168 Stefan cel Mare Av., MD-2004 Chisinau, Moldova

09³⁰ **PL-2.2 Single Crystal Diamond Radiation Detector**

Toru Aoki

Shizuoka University, Hamamatsu, Japan

10⁰⁰ **PL-2.3 Strategic Integration of Electrospinning and Additive Processing for Smart and Sustainable Nanostructures**

Ashok Vaseashta^{1,2}

¹International Clean Water Institute, Manassas, VA USA

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

10:30 – 11:00 COFFEE BREAK

Co-chairs: *Franz Faupel, Ashok Vaseashta*

11⁰⁰ **PL-2.4 Brain like Artificial Neural Network Based on Superconducting Neurons and Synapses**

Anatolie Sidorenko^{1,2}

¹Technical University of Moldova, Institute of Electronic Engineering and Nanotechnologies "D.GHITU", str. Academiei 3/3 Chisinau, 2028 Moldova;

²Skobeltsyn Institute of Nuclear Physics, Moscow State University, Moscow 119991, Russia

11³⁰ **PL-2.5 Engineering Heterostructured Nanomaterials for Nanoelectronic and Biomedical Applications**

Oleg Lupan^{1,2}

¹ Technical University of Moldova, 168 Stefan cel Mare Av., MD-2004 Chisinau, Moldova

² Kiel University, Kaiserstraße 2, D-24143 Kiel, Germany

12⁰⁰ **PL-2.6 Superconducting Order Parameter in Inhomogeneous Superconductor**

Balázs Újfalussy¹, Gábor Csire², Bendegúz Nyári³

¹Wigner Research Centre for Physics, Budapest, HUNGARY

²Materials Center Leoben Forschung GmbH, Leoben, Austria.

³Budapest University of Technology and Economics, Budapest, Hungary

12:30 – 13:30 LUNCH

SECTION S1-2 Nanotechnologies and Nanomaterials 13:30-17:00 Room 4

Co-chairs: *Oleg Lupan, Vasile Tronciu*

S1-2.1 New Characteristics of Blue Self-pulsating InGaN Lasers

Eugeniu Grigoriev, Spiridon Rusu, and Vasile Tronciu

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S1-2.2 Parametric Anomaly of the Phonon Spectrum of a Thin Free-Standing Membrane

Sergiu Cojocaru

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Horia Hulubei National Institute for Physics and Nuclear Engineering, 077125 Magurele, Romania

S1-2.3 Photoluminescence and Cathodoluminescence of Layered ZnIn₂S₄ and Zn₂In₂S₅ Compounds Thermally Processed in Sulfur Vapor and Vacuum

Efim Arama¹, Valentina Pinte², Tatiana Shemyakova³

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

S1-2.4 Synthesis Technology for CdSe/CdTe Heterojunctions and Characterization of their Photoelectric Properties

Ludmila Gagara¹, Ion Lungu¹, Lidia Ghimpu², Tamara Potlog¹

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

S1-2.5 ZnO Microtetrapods Covered by Au Nanodots as a Platform for the Preparation of Complex Micro-nano-structures

Eduard V. Monaico¹, Armin Reimers², Vladimir Ciobanu¹, Victor V. Zalamai¹,

Veaceslav V. Ursaki^{1,3}, Rainer Adelung², and Ion M. Tiginyanu^{1,3}

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

15:00-15:30 COFFEE BREAK

Co-chairs: *Adrian Dinescu, Leonid Kulyuk*

S1-2.6 Illumination-Dependent Photovoltaic Parameters of CdS/ZnTe Solar Cells

Ion Lungu¹, Lidia Ghimpu², Victor Suman², Dumitru Untila¹, Tamara Potlog¹

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S1-2.7 Fine Dispersion and Intensification of Heat Transfer at Boiling in Electric Field on the Modified Surfaces

Ion Chernica, and Mircea Bologa

Corresponding author Ion Chernica (632) - ion_chernica@yahoo.com

Institute of Applied Physics, Chisinau, Moldova

S1-2.8 The Water-Soluble Zinc Phthalocyanine Substituted with Sulfur-Containing Groups

Iacob Gutu¹, Victor Suman², Alic Barba³, Tamara Potlog⁴

Corresponding author Tamara Potlog (658) - tpotlog@gmail.com

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S1-2.9 Patterning Nanoelectronic Devices using Field Emission Scanning Electron Microscope

Adrian Dinescu¹, Mircea Dragoman¹, Andrei Avram¹, Daniela Dragoman²

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² *Faculty of Physics, University of Bucharest, Bucharest, Romania*

S1-2.10 Quantum Oscillations in Topological Insulator Bi₂Te₂Se Microwires Contacted with Superconducting In₂Bi Leads

Leonid Konopko¹, Albina Nikolaeva¹, and Tito Huber²

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² *Howard University, Washington, USA*

SECTION S2-2

New Technologies for Diagnosis, Treatment, and Rehabilitation, Personalized Approaches in Medicine 13:30-15:00 Room 5

Co-chairs: *Viorel Nacu, Liliana Cepoi*

S2-2.1 Personalised Medicine Implementation in Low- and Middle-income Countries

Ilenuta Gusila^{1,2}, Alexandra Topa^{1,3}, Natalia Zarbailov^{1,4}, Natalia Lungu^{1,5},
Ghenadie Curocichin¹

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² Health Centre of Ciorescu, Ciorescu, Republic of Moldova

³ Health Centre of Muncesti, Territorial Medical Association of Botanica, Chisinau, Republic of Moldova

⁴ The Moldovan-Swiss project "Reducing the burden of non-communicable diseases in the Republic of Moldova", Republic of Moldova

⁵ Centre of Family Doctors No. 3, Territorial Medical Association of Botanica, Chisinau, Republic of Moldova

S2-2.2 In vivo Evaluation of PMMA Antiglaucoma Shunt's Biocompatibility

Maria Iacubitchii¹, Eugeniu Bendelic¹, Ala Paduca¹, Adrian Cociug², and Maria Jesus Giraldez Fernandez³

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

³ University of Santiago de Compostela, Santiago de Compostela, Spain

S2-2.3 The Role of Molecular-genetic Assays in Diagnosis of Pulmonary Tuberculosis in the Republic of Moldova

Evelina Lesnic, Malic Alina

Corresponding author Evelina Lesnic (617) - evelina.lesnic@usmf.md

Nicolae Testemitanu State Medicine and Pharmacy University, Republic of Moldova

S2-2.5 Impact of Tumor Necrosis Factor Alfa on Dental Caries Development in Children with Severe SNC Disorders

Aurelia Spinei, Svetlana Plamadeala, Olga Balteanu, Elena Hristea, Iurie Spinei

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Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova

S2-2.4 The Relationship Between Dental Caries Damage, Tooth Enamel Hypoplasia and the Particularities of Calcium Homeostasis in Children

Aurelia Spinei, Olga Balteanu, Svetlana Plamadeala, Elena Hristea, Iurie Spinei

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S2-2.6 ECMO Experience in Post-cardiotomy Cardiogenic Shock. Case Presentation

Viorica Cospormac¹, Victoria Rusu¹, Alexandru Botizat¹, Vlad Maevschi²,
Alina Usataya², Dan Mandrila², Natalia Ursu², Igor Ceban², Lucia Girbu²,
Alexandru Marginean², Victor Cojocaru^{1,2}

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² Timofei Moşneaga Republican Clinical Hospital, Chisinau, Republic of Moldova

S2-2.7 Clinical and Cost Effectiveness of Telerehabilitation System in Balance Disorder Patients

Karla Mothejllova¹, Gleb Donin¹, and Romana Svobodova²

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² Department of Information and Communication Technologies in Medicine, Czech Technical University in Prague, Kladno, Czech Republic

15:00-15:30 COFFEE BREAK

SECTION S5-1

Innovation, Development, and Interdisciplinary Research

15:30-17:00 Room 5

Co-chairs: *Corneliu-Nicolae Drugă, Artur Buzdugan*

S5-1.1 Design of the Hardware Subsystem of a Proposed Autonomous Drone

Ionel Șerban, Corneliu-Nicolae Drugă, Barbu Cristian Braun, and Alexandru-Constantin Tulică

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Transilvania University of Brașov, Romania

S5-1.2 Nanotechnology, Counterproliferation and Proliferation

Artur Buzdugan

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Technical University of Moldova, Chisinau, Moldova

S5-1.3 The Recovery of Alpha-Lactalbumin at the Electroactivation of Whey

Elvira Vrabie¹, Irina Paladii¹, Mircea Bologa¹, Natalia Țislinscaia², Valeria Vrabie³, Albert Policarpov¹, Tatiana Stepurina¹, Catalina Sprincean¹

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³ Institute of Physiology and Sanocreatology, Moldova State University, Chisinau, Republic of Moldova

S5-1.4 Antibacterial Activity of “Green” Silver Nanoparticles (AgNPs) in Combination with Benzylpenicillin and Kanamycin

Seda Ohanyan, Lilit Rshtuni, Ashkhen Hovhannisyan

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Russian-Armenian University, Department of Medical Biochemistry and Biotechnology, H. Emin 123, 0051 Yerevan, Armenia

S5-15 Influence of CYP2C19*2 Polymorphism on Clinical Outcomes in Moldova’s Patients Treated with Clopidogrel After Percutaneous Coronary Intervention

Marta Dogot^{1,2}, Daniela Galea-Abdusa², Anastasia Buza², Andrei Grib^{1,2}, Ghenadie Curocichin², Eleonora Vataman¹, Natalia Capros²

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SECTION YIC
YOUNG INVESTIGATORS COMPETITION
Nanotechnologies and Biomedical Engineering
13:30-17:00 Room 6

Co-chairs: Vladimir M. Fomin, Eduard V. Monaico, Liliana Verestiuc, Kostyantyn Kolisnyk, Calin Corciova

YIC-1.S5 Thyroid Hormones Interpretation in Children With Juvenile Idiopathic Arthritis

Rodica Eremciuc^{1,2}, Olga Gaidarji¹, Irina Nikitina³ and Ninel Revenco^{1,2}

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³ Almazov National Medical Research Centre, Saint Petersburg, Russia

YIC-2.S1 Characterization of Films Prepared by Aerosol Spray Deposition in the (MgO)_x(In₂O₃)_(1-x) System

Vadim Morari¹, Daniela Rusu³, Emil V. Rusu¹, Veaceslav V. Ursaki²,
Ion M. Tiginyanu²

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³ Petru Poni Institute of Macromolecular Chemistry, Romanian Academy, Iasi, Romania

YIC-3.S1 A Nanosized Heteronuclear {Fe₁₈Tb₆} Coordination Wheel Based on Pivalate and Triethanolamine Ligands

Daniel Podgornii¹, Sergiu Shova², Victor Ch. Kravtsov¹, and Svetlana G. Baca¹

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² Institute of Macromolecular Chemistry, Petru Poni, Iasi, Romania

YIC-4.S2 Hemodynamic Protective Assessment of BurnNavi-guided Fluid Management in Burned Patients: Pilot Study

Mykola Melnychenko¹, Dmytro Dmytriiev¹, Oleksandr Nazarchuk²,
Ludmila Sidorenko³, Roman Chornopyshchuk⁴, Vasyl Nagaichuk⁴,
Svetlana Sidorenko⁵

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⁴ Department of General Surgery, National Pirogov Memorial Medical University, Vinnytsya, Ukraine

⁵ Rehabilitation Center, Department of Neurological, Musculoskeletal and Oncologic Rehabilitation, Bad Ragaz, Switzerland

YIC-5.S4 The Significance of Computed Tomography in Diagnosing Pediatric Tuberculosis

Constantin Iavorschi, Stela Kulcitkaia, Igor Ivanes, Nadejda Pisarenco

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

YIC-6.S4 Mechanical Characterization of Decellularized Blood Vessels: A Valuable Tool to Provide Comprehensive Information about the Scaffold

Tatiana Malcova^{1,2,3}, Gheorghe Rojnovceanu¹, Anatol Ciubotaru⁴, and Viorel Nacu³

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⁴ Department of Cardiovascular Surgery, Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova, Chisinau, Republic of Moldova

YIC-7.S4 Comparative Assessment of *in vitro* Effects on the Human Lymphocytes in Tuberculosis Patients of the Zinc Oxide Nanoparticles Biofunctionalized by Sulfated Polysaccharides from Spirulina

Tatiana Chiriac³, Evelina Lesnic¹, Serghei Ghinda², Ludmila Rudi³, Liliana Cepoi³

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³ Institute of Microbiology and Biotechnology of Technical University of Moldova, Republic of Moldova

15:00-15:30 COFFEE BREAK

Co-chairs: Vladimir M. Fomin, Eduard V. Monaico, Liliana Verestiuc, Kostyantyn Kolisnyk, Calin Corciova

YIC-8.S2 Personalized Medicine Perspectives and Policies in European Nordic Countries

Maria Garabajiu, Daniela Galea-Abdusa, Alexandra Topa, Ilenuta Gusila, and Ghenadie Curocichin

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YIC-9.S3 Videosupported Treatment as Method of Delivering the Healthcare to Tuberculosis

Evelina Lesnic, Alina Malic, Adriana Niguleanu, Tatiana Osipov

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YIC-10.S4 Ionic Crosslinked Biopolymer-Ceramic Beads for Bone Tissue Engineering

Florina Daniela Cojocaru¹, Claudia Valentina Toader¹, Gianina Dodi^{1,2},
Ioannis Gardikiotis^{1,2}, Anca Elena Calistru³, Aurelian Rotaru⁴, Vera Balan¹, and
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³ Department of Pedotechnics, Iasi University of Life Sciences, Iasi, Romania

⁴ Department of Electrical Engineering and Computer Science, Stefan cel Mare University of Suceava, Suceava, Romania

YIC-11.S3 Feasibility Study for a Robotic Laparoscopic Surgical System in a Greek Public Hospital

Spilios Zisimopoulos, Aris Dermitzakis, Anastasia Daskalaki, Mary Marinou, and
Nicolas Pallikarakis

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Institute of Biomedical Technology (INBIT), Patras, Greece

YIC-12.S1 Photodetector Based on β -Ga₂O₃ Nanowires on GaS_xSe_{1-x} Solid Solution Substrate

Veaceslav Sprincean¹, Mihail Caraman¹, Haoyi Qiu², Tim Tjardts³,
Alexandr Sereacov⁵, Cenk Aktas^{3,4}, Rainer Adelung², Oleg Lupan^{2,3,5}

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YIC-13.S3 Integration of Scpi over Vxi-11 Protocols in an Automated Gas Sensing Measurement System

Alexandr Sereacov

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YIC-14.S6 Approaches to the Processing and Segmentation of Non-electrical Biological Signals

Robert Fuior^{1,2}, Călin Corciovă², Cătălina Luca², Alexandru Sălceanu¹

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POSTERS SESSION

September 21 13:00 - 17:00

Co-chairs: *Artur Buzdugan, Vasile Cretu, Tudor Braniste, Dinu Litra*

SECTION S1 Nanotechnologies and Nanomaterials

S1-P1 Trends in Evolution of the Energy Band Structure of Chalcopyrite $\text{CuB}^{\text{III}}\text{X}^{\text{VI}}_2$ Compounds with Variation of the B and X Compositions

Alisa Maşnic¹, Victor Zalamai², and Veaceslav Ursaki^{2,3}

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S1-P2 Flexible Cellulosic Matrices for Proton Exchange Membranes Fabrication

Andreea L. Chibac-Scutaru, Madalina E. Culica, Sergiu Coseri

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S1-P3 Optical Properties and Photoinduced Anisotropy of PEPC-co-SY3

Nanocomposite

Constantin Loşmanschii, Elena Achimova, Vladimir Abaskin, Alexei Mesalchin, Alexandr Prisacar, and Vladislav Botnari

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S1-P4 Synthesis and Physicochemical Characterization of Surface-functionalized ZnO Nanoparticles

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S1-P5 Effect of Particle Size and Roughness on Contact Angle of ZnTe Thin Films

Ion Lungu¹, Simon Busuioc², Elena I. Monaico², and Tamara Potlog¹

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S1-P6 Controlling Hydrophobic/Hydrophilic Properties of ZnO Microtetrapods Structures by Means of Thermal Treatment

Vladimir Ciobanu¹, Veaceslav V. Ursaki^{1,2}, Armin Reimers³, Geanina Mihai⁴, Victor V. Zalamai¹, Eduard V. Monaico¹, Rainer Adelung³, Marius Enachescu⁴, and Ion M. Tiginyanu^{1,2}

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S1-P7 Technological Features of Creating Hole Structures on The Base of MoS₂ and The Electrochemical Behavior of MXene/Holey MoS₂ Hybrids in Oxygen Reduction Reactions

Havva Nur Gurbuz^{1,2}, Hasan H. Ipekci^{1,2}, Vladimir Goremichin³, Nikita Siminel³, Leonid Kulyuk³, Aytekin Uzunoglu^{1,2}

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SECTION S2

New Technologies for Diagnosis, Treatment, and Rehabilitation, Personalized Approaches in Medicine

S2-P8 Synergy Effect of Ascorbic Acid and α -Tocopherol in Kinetic Model of Lipid Peroxidation

Evghenii Kanarovskii, Olga Yaltychenko

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S2-P9 Assessment of Oxidative Stress Markers in Obese Patients with Community-acquired Pneumonia

Tatiana Dumitras, Diana Fetco-Mereuta, Natalia Capros, Viorica Chihai, Eudochia Terna, Sergiu Matcovschi, Virginia Cascaval

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S2-P10 Some Considerations of Combined Treatment in Digestive Non-Hodgkin's Lymphomas: Literature Review

Natalia Botnaru-Dub

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S2-P11 Literature Review: Nanotechnologies and Biomedical Engineering in Dupuytren Disease

Fortuna Elvira, Verega Grigore

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S2-P12 Measurement of Arterial Blood Gases in Elderly Patients with COVID-19 Pneumonia and Chronic Obstructive Pulmonary Disease

Tatiana Dumitras¹, Diana Fetco-Mereuta¹, Virginia Cascaval^{1,2}, Livi Grib¹, Elena Bivol², Daria Romaniuc¹, Viorica Chihai^{1,2}

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SECTION S3

Clinical Engineering and Bioinstrumentation

S3-P13 Impact of Frailty in Patients With Cardiovascular Diseases. A Review

Snejana B. Vetrila, Livi T. Grib, Anastasia A. Ivanec

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SECTION S4

Biomaterials for Medical Applications

S4-P14 Interaction Between Thin Layers of Polysaccharides Studied by Quartz Crystal Microbalance with Dissipation (QCM-D)

Sergiu Coseri, Gabriela Biliuta, and Andreea Laura Chibac-Scutaru

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S4-P15 Synthesis and Study of Dextran: Zinc Aminomethylphthalocyanine Copolymers for Medicinal Applications

Stefan Robu, Petru Bulmaga, Ana Poposoi, Ion Bulimestru, Ion Lungu, Tamara Potlog

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S4-P16 Stem Cells in the Wrist Instabilities. Experimental Study

Vitalie Iacubitchii¹, Nicolae Capros¹, Ion Vacarciuc¹, Viorel Nacu², Vitalie Cobzac², Adrian Cociug²

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SECTION S5

Innovation, Development, and Interdisciplinary Research

S5-P17 Nutritional Quality of Bread and Bakery Products. Case Study: Republic of Moldova

Rodica Siminiuc¹, Dinu Ţurcanu¹, and Sergiu Siminiuc²

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S5-P18 Environmental, Activity-dependent Modulation of Theta Rhythm During REM Sleep by its Selective Deprivation and Subsequent rebound

Anatolie Jacob Baciu¹, Ion Mereuta^{1,2}, Lyudmila Listopadova³, Vasile Fedas¹

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S5-P19 Application of the Josephson Junction for the ANNs Energy Efficient Memory

Maria Lupu, Anatolie Sidorenko

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S5-P20 Combination Thermostated Vacuum Gauge

Igori Belotercovschii, Anatolie Sidorenko, Elena Condrea, and Vladimir Smyslov

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SECTION S6

Bioinformatics, Biomedical Signal and Image Processing

S6-P21 UV-A to Red Light Induced Neutrophil Extracellular Traps

Kahramon Mamatkulov¹, Anka Yevremovic², Yersultan Arynbek^{1,3}, Nina Vorobjeva⁴, Grigory Arzumanyan¹

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17:00-Visit to Cricova

(only with invitations)

22 September 2023

SECTION S4-1 Biomaterials for Medical Applications 09:00-13:00 Room 4

Co-chairs: *Liliana Verestiuc, A.Najah Saud*

S4-1.1 Design and Simulation of a Biocompatible Prosthesis Ti-15Mo-XTa Alloy: An Analysis of Mechanical Integrity Using Finite Element Modeling

A.Najah Saud^{1,2}, Hasan Sh. Majdi¹, Erkan Koç², and Mohammed Al Maamori¹

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²Biomedical Engineering, Karabuk University, Karabuk, Turkey

S4-1.2 The Critical Size Bone Defects - In-vivo Experimental Method of the Treatment with the Decellularized Vascularized Bone Allografts

Elena Pavlovski¹, Alina Stoian¹, Grigore Verega², and Viorel Nacu²

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S4-1.3 Modification of Acrylic Paint by Acetamide to be Antibacterial Used for Medical Applications

Mohammed Al Maamori¹, Hasan Sh. Majdi¹, Ali Kareem², and A.Najah Saud^{1,3}

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S4-1.4 Antigenic and Biodegradable Characteristics of the Extracellular Matrices from the Pig Dermis

Olga Macagonova¹, Adrian Cociug¹, Tatiana Țaralunga¹, Vladimir Ciobanu², and Viorel Nacu¹

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S4-1.5 Effectiveness of Tissue Engineering in Obtaining the Extracellular Composite Vascularized Bone Matrix

Alina Stoian^{1,2}, Elena Pavlovski¹, Nicolae Caproș², Grigore Verega², Viorel Nacu¹

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S4-1.6 A New Approach in Detection of Biomarker 2-propanol with PTFE-coated TiO₂ Nanostructured Films

Stefan Schröder¹, Mihai Brinza², Vasile Cretu², Lukas Zimoch³, Monja Gronenberg³, Nicolai Ababii², Serghei Railean², Thomas Strunskus¹, Thierry Pauporte⁴, Rainer Adelung³, Franz Faupel¹, and Oleg Lupan^{1,2,3}

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10:30-11:00 COFFEE BREAK

Co-chairs: *Liliana Verestiuc, Liliana Cepoi*

S4-1.7 Effect of Gold Nanoparticles Functionalized by *Arthrospira platensis* on Rats

Liliana Cepoi¹, Ludmila Rudi¹, Tatiana Chiriac¹, Inga Zinicovscaia², Dmitrii Grozdov², and Valeriu Rudic¹

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S4-1.8 Synthesis and Characterization of Self-Assembled Hydrogels Based on Amphiphilic Derivates of Chitosan and Gelatin

Andreea Simion, Andreea Luca, Florina-Daniela Cojocaru, Liliana Verestiuc, and Vera Balan

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S4-1.9 Composites based on Biopolymers and Ag Nanoparticles as Potential Wound Dressing Materials

Maria-Gabriela Sibechi¹, Simina-Andreea Laslău¹, Iustina-Petronela Dițu¹, Isabella Nacu^{1,2}, Florina-Daniela Cojocaru¹, Maria Butnaru¹, Liliana Verestiuc¹

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S4-1.10 Effects of Nickel, Molybdenum, and Cobalt Nanoparticles on Photosynthetic Pigments Content in Cyanobacterium *Arthrospira platensis*

Ludmila Rudi, Tatiana Chiriac, Liliana Cepoi, Vera Miscu

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S4-1.11 Preservation of Microorganisms of Biotechnological Interest Involving Fe₂O₃, Fe₂ZnO₄, and ZnO Nanoparticles

Tamara Sirbu, Cristina Moldovan, Olga Turcan

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S4-1.12 Synthesis and Study of Some Compounds with Antibacterial Properties Obtained from Nitrofuran and Chitosan Derivatives

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SECTION S5-2

Innovation, Development, and Interdisciplinary Research

09:00-10:30 Room 5

Co-chairs: *Ala Donos, Ashkhen Hovhannisyán*

S5-2.1 The Impact of Biogenic Silver Nanoparticles on the Enzymatic Antioxidant System of Wistar Rats' Kidney

Juleta Tumoyan, Shushanik Kazaryan, Ashkhen Hovhannisyán

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S5-2.2 The Sentinel Surveillance System of Severe Acute Respiratory Infections Associated with Influenza in Children from Republic of Moldova

Ala Donos, Albina-Mihaela Iliev

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S5-2.3 Neural Circuits-Adjusted Diagnostic Approach to Predict Recurrence of Atrial Fibrillation

Ludmila Sidorenko¹, Irina Sidorenko², Roman Chornopyschchuk³, Igor Cemortan¹, Svetlana Capcelea¹, Fliur Macaeu⁴, Ludmila Rotaru¹, Liliana Badan¹, Niels Wessel^{5,6}

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⁶ MSB Medical School Berlin GmbH, Berlin, Germany

S5-2.4 Predicting Pain Scores Using Personality Trait Facets and Personality Trait Domains Assessed by Personality Inventory for DSM-5

Ina Timotin¹, Svetlana Lozovanu¹, Andrei Ganenco¹, Ion Moldovanu², Oleg Arnaut¹, Ion Grabovschi¹, Eugeniu Corețchi¹, Tudor Besleaga¹, Victor Ojog¹

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S5-2.5 Towards Improved Assistive Inertial Positioning Solutions by Using Finely Tuned Wavelet Functions

Ioana-Raluca Adochiei^{1,2,4}, Teodor Lucian Grigorie², Felix-Constantin Adochiei², Petre Negrea³, Vidan Cristian³, Ciprian-Marius Larco⁴, Nicolae Julă⁴

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10:30-11:00 COFFEE BREAK

SECTION SPRINGER

11:00-13:00 Room 5

11⁰⁰ How to write and publish a scientific paper

12⁰⁰ Meet MBEC Editor

SECTION S6-1

Bioinformatics, Biomedical Signal and Image Processing

09:00-13:00 Room 6

Co-chairs: *Kostyantyn Kolisnyk, Nistor Grozavu*

S6-1.1 Measurement of Biokinetic Parameters with the CvMob Program at the Level of the Lower Limb with a Functional 3D Printed Knee Orthosis

Alexandru-Constantin Tulică, Ileana-Constanța Roșca, Corneliu-Nicolae Drugă, Ionel Șerban

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S6-1.2 Legal Frameworks for the Integration of Artificial Intelligence

Said Saidakhrarovich Gulyamov

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S6-1.3 Irregular Step of Changing for Neural Network Data Sets Improves the Accuracy of Resistive Sensors Calculation

Alexandr Penin¹, Anatolie Sidorenko^{1,2}

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² Skobeltsyn Institute of Nuclear Physics, Moscow State University, Moscow, Russia

S6-1.4 Statistical Distortion Detection of Interference Microscope Image

Yevgen Sokol, Pavlo Shchapov, Tatyana Bernadskaya, Oksana Chmykhova,
Kostyantyn Kolisnyk

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S6-1.5 Mathematical Modelling of the Multifactorial Influence of Striking Fragments on the Dynamics of the Rehabilitation Processes of the Wounded

Kostyantyn Kolisnyk¹, Yevgen Sokol¹, Pavlo Shchapov¹, Volodymyr Nehoduiko²

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S6-1.6 NLP Tools for Epileptic Seizure Prediction Using EEG Data: A Comparative Study of Three ML Models

Victor Iapascurta^{1,2}, Ion Fiodorov¹

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10:30-11:00 COFFEE BREAK

Co-chairs: *Kostyantyn Kolisnyk, Nistor Grozavu*

S6-1.7 A Less Common Algorithmic Complexity Approach to EEG Signal Processing for Machine Learning

Victor Iapascurta^{1,2}

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S6-1.8 Opportunities and Risks in the Use of Artificial Intelligence Models in Healthcare

Aurelian Buzdugan¹, Gheorghe Capatana¹, and Artur Buzdugan²

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S6-1.9 In vivo and in silico Studies of the Neuroprotective Effect of Artemisinin in Prevention of Alzheimer's Disease in an Animal Model

Susanna Tiratsuyan¹, Yelena Hambardzumyan¹, Michael Poghosyan²,

Margarita Danielyan², Ashkhen Hovhannisyan¹

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S6-1.10 Methodology and Use of Experimental Techniques in Analyzing Wound Dynamics of Penetrating Injuries

Roman Tomashevskiy¹, Oleksiy Larin¹, Kostyantyn Kolisnyk¹, Andrey Zuev¹, Kostyantyn Gumeniuk², Igor Lurin³, and Volodymyr Nehoduiko⁴

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S6-1.11 Computational Modeling and Analysis of Wound Formation in Gunshot Injuries

Oleksiy Larin¹, Roman Tomashevskiy¹, Igor Lurin², Kostyantyn Gumeniuk³, and Volodymyr Nehoduiko⁴

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S6-1.12 Multimodal Machine Learning for Sign Language Prediction

Yassèr Khalafaoui¹, Nistor Grozavu¹, Basarab Matei², Nicoleta Rogovschi³

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S6-1.13 Unsupervised Knowledge Extraction from Biomedical Data

Basarab Matei¹, Petru Alexandru Vlaicu², Nicoleta Rogovschi³, and Nistor Grozavu⁴

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13:00 – 14:00 LUNCH

PLENARY SESSION PL-3 - Conference Hall
14:00 – 16:00

Co-chairs: *Ion Tiginyanu, Victor Sontea*

Presentation of the IFMBE Young Investigators Awards

14⁰⁰ PL-3.1 3D Nanoarchitectures – a Novel Class of Materials: Perspective for Sustainable Development

Vladimir M. Fomin^{1,2}

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14³⁰ PL-3.2 Evaluation of Health Technology in Republic Moldova

Victor Sontea¹ and Artur Buzdugan²

¹President of Moldovan Biomedical Engineering Society; Head of National Center of Biomedical Engineering, Technical University of Moldova, Chişinău, Republic of Moldova

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15⁰⁰ PL-3.3 Manifestations of Unconventional Pairing Symmetry in Superconducting Hybrids

Alexander Golubov^{1,2}

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15:30 CLOSING CEREMONY

16:00 SOCIAL EVENTS – Visit to the Technical University of Moldova



22 September 2023

10:00-14:00

SOCIAL EVENTS – Chisinau City Sightseeing
(only with invitations)



IMUNOTEHNOMED
echipament și produse medicale

IMUNOTEHNOMED was founded in 1993, initially specializing in trading and distribution of medical, laboratory and analytical equipment, consumables and pharmaceutical products, including also installation, training, warranty and post-warranty service.

Gradually, company developed and increased the range of traded products by adding import of diagnostic equipment (blood transfusion and, radioimmunoology products, endoscopy and ultrasound equipment, RX-systems, CT and MRI equipment).

Contact

SC IMUNOTEHNOMED LTD
42, Gh. Asachi, str. Chisinau,
Republic of Moldova, MD-2028
office@imunotehnomed.md
www.imunotehnomed.md
www.medexpert.md

Main partners: Ortho-Clinical Diagnostics, Fujifilm, Bio-Rad, Becton Dickinson, R-Biopharm, Beckman Coulter, Orgentec, SysTec, Fukuda Denishi, DRGEM, Neusoft etc.



FUJIFILM



Neusoft Medical Systems



DRGEM
Your Best Healthcare



Dialab Solutions

Our company, one of the top diagnostic distributors in Romania, was founded in 1992 as a family business. Headquartered in Bucharest, Dialab Solutions provides country-wide service coverage by operating through its six regional centers located in Romania's major cities - Bucharest, Ploiesti, Constanta, Iasi, Cluj and Timisoara, as well as in Republic of Moldova - Chisinau.

Dialab Solutions has a long-standing tradition in providing high-performing solutions for both life science research and the clinical and veterinary diagnostic markets.

Our main goal is to offer tailor-made and complete solutions designed specifically for the workflow of your laboratory. In order to achieve this goal, we have formed highly specialized sales and service teams who continuously work towards exceeding our customers' expectations. Moreover, Dialab Solutions works closely with all its suppliers, with the aim to ensure high quality products and services.

📍 40 Serghiei Lazo Street, 4th floor, office 2, Chisinau, Republic of Moldova

☎ + (373) 68-13-29-22

✉ office@dialabsolutions.md

BIO-RAD

GENCURIX

KW APPARECCHI SCIENTIFICI

M&G Int'l

NOVACYT

TAHAT

SENTINEL DIAGNOSTICS

diagnostics with passion
sifin

SARTORIUS



YOUR EXPERT IN MEDICAL TECHNOLOGIES

We develop cost-efficient solutions for health care service needs of our clients

Life time support for all our installed bases

We provide sustainable technologies that provide long-term output for our clients

**150 +
INSTALLED
BASES**

**100 +
SATISFIED
CUSTOMERS**

TURNKEY SOLUTIONS

Our company provides turn key solutions to our customers and every project starts from the assessment of customers needs and issues that need to be solved

- ✓ Installation site planning and design
- ✓ Site development and finishing
- ✓ Equipment bringin-in and installation
- ✓ Servicing and application training
- ✓ Documentation development for necessary site authorisations

WHY CHOOSE US ?

- ✓ 20+ years of professional experience
- ✓ Team of experienced engineers & PMs
- ✓ Strong knowledge of health care sector
- ✓ Portfolio of quality equipment and well known brands

