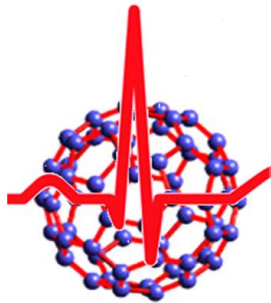


4th INTERNATIONAL CONFERENCE on Nanotechnologies and Biomedical Engineering

September 18-21, 2019, Chisinau, Republic of Moldova

Program



ICNBME - 2019

**4th INTERNATIONAL CONFERENCE
on Nanotechnologies and
Biomedical Engineering**

PREFACE

This volume presents the Proceedings of the 4th International Conference on Nanotechnologies and Biomedical Engineering (ICNBME) held on September 18-21, 2019 in Chisinau, Republic of Moldova. ICNBME-2019 continued 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 covered a wide range of subjects of primary importance for research and development such as nanotechnologies and nanomaterials; plasmonics and metamaterials; bio-micro/nano technologies and devices; biomaterials for medical applications; biomimetics and sensors; biomedical instrumentation; biomedical signal processing; biomedical imaging and image processing; bioinformatics; medical physics and biophysics; molecular, cellular and tissue engineering; clinical engineering; health technology management and assessment; health informatics, e-health and telemedicine; biomedical engineering education; innovation, development and interdisciplinary research; nuclear and radiation safety and security.

The papers included in the Proceedings 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 bio-compatible 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.

Considerable progress has been achieved at the intersection of nanotechnologies, information technologies and biomedicine as, for example, in health informatics, biomedical signal and image processing. New theoretical and experimental results are highlighted in such fields as superconductivity, novel magnetic materials, metamaterials, aeromaterials, optoelectronic and photonic materials, photovoltaic structures, quantum dots, one- and two-dimensional nanomaterials, multifunctional hybrid materials like core-shell structures etc. The Proceedings reflect the state-of-the-art in controlling the properties of several classes of nanocomposite materials for important future applications in various fields. It is worth to note that the Proceedings include also a number of review papers reflecting the fascinating history and recent achievements in the development of novel solid-state structures as well as nanoelectronic and optoelectronic devices on their basis.

We hope that the papers included in the ICNBME-2019 Proceedings 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.

Acad. Prof. Ion Tiginyanu, Prof. Victor Sontea
Chairmen

Chisinau, Republic of Moldova, August 2019

The Organizing Committee of the **4th 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**
- **Academy of Sciences of Moldova**
- **State Medical and Pharmaceutical University "Nicolae Testemitanu" of the Republic of Moldova**
- **Moldavian Society of Biomedical Engineering**
- **International Federation for Medical and Biological Engineering**
- **European Commission under the Grant #810652 "NanoMedTwin"**
- **National Agency of Research and Development**
- **Global Biomarketing Group – Moldova**
- **SC IMUNOTEHNOMED SRL**
- **Medexcom-Teh SRL**



4th International Conference *Nanotechnologies and Biomedical Engineering*

Organized by

- Technical University of Moldova
- Academy of Sciences of Moldova
- State Medical and Pharmaceutical University "Nicolae Testemitanu" of the Republic of Moldova
- Moldavian Society of Biomedical Engineering

Information Note

ICNBME-2019 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 <http://www.icnbme.sibm.md>

Program Committee
Organizing Committee

Address:

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

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E-mail: icnbme2019@gmail.com, victor.sontea@mib.utm.md ,

Web: <https://icnbme.sibm.md/>

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 17th from 10.00 to 22.00 and September 18th from 8.30 to 16.00.

The conference will open at 9.30, September 18th, 2019.

Language

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

Conference Chairs

- Ion Tiginyanu Academy of Sciences of Moldova, Republic of Moldova
- Victor Sontea Technical University of Moldova, Republic of Moldova

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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 19 according to the program.

Poster set up time: 14.00-15.30 h. Authors are requested to be next to their posters during poster session: 15.30-17.30 h.

Conference Sections

S1 - Nanotechnologies and Nanomaterials

S2 - Bio-nanotechnologies and Biomaterials

S3 - Biomedical Instrumentation and Sensors

S4 - Biomedical Signal and Image Processing

**S5 - Biophysics, Health Informatics and Cellular and Tissue
Engineering**

S6 - Innovation, development and interdisciplinary research

**S7 - Clinical Engineering, Nuclear and Radiation Safety and
Security**

CONFERENCE PROGRAM

18 September 2019

8⁰⁰ – 9³⁰ Registration

9³⁰ – 10⁰⁰ Conference Opening, Welcome speeches (*Polyvalent hall*)

PLENARY SESSION PL-1 *Polyvalent hall*

10:00 – 11:00

Co-chairs: *Ion Tiginyanu, Bogdan Simionescu*

10⁰⁰ **PL-1.1 Recent Progress of Cold Cathodes: Volcano-structured Field Emitters and GOS Tunneling Cathodes**

H. Mimura^{1*}, T. Masuzawa¹, Y. Neo¹, K. Murakami², and M. Nagao²

¹Research Institute of Electronics, Shizuoka University, Hamamatsu, Japan

²National Institute of Advanced Industrial Science and Technology, Tsukuba Japan

10³⁰ **PL-1.2 From Transplantation to Organ and Tissue Biofabrication**

Axel Haverich

Department of Cardiothoracic, Transplantation and Vascular Surgery, Hannover Medical School, Germany

11:00 – 11:30 COFFEE BREAK

Co-chairs: *Hidenori Mimura, Boris Gorshunov*

11³⁰ **PL-1.3 Macromolecular Nanovectors for Gene Delivery**

Bogdan C. Simionescu^{1,2}

¹"Petru Poni" Institute of Macromolecular Chemistry of the Romanian Academy, Iasi, Romania

²"Gheorghe Asachi" Technical University of Iasi, Romania

12⁰⁰ **PL-1.4 New Areas of Research and Applications for GaN**

Ion Tiginyanu

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

12³⁰ **PL-1.5 Medical Devices Regulations, Management and Assessment; New Trends new Needs**

Nicolas Pallikarakis

INBIT Institute of Biomedical Technology, Patras, Greece

13:00 – 14:00 LUNCH

SECTION S1-1

Nanotechnologies and Nanomaterials

14:00-17:30 Room 4

Co-chairs: Veaceslav Ursachi, Grigor Tatishvili

S1-1.1 Polysaccharide (Nano)Composites (Invited)

V. Harabagiu, R. Rotaru, and A.C. Humelnicu
Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania

S1-1.2 Unusual Size Dependence of Acoustic Properties in Layered Nanostructures

S. Cojocaru
Horia Hulubei National Institute for Physics and Nuclear Engineering, Magurele, Romania

S1-1.3 Broad-band Spectroscopy of Nanoconfined Water Molecules

M.A. Belyanchikov¹, M. Savinov², Z.V. Bedran¹, P. Bednyakov², P. Proschek³, J. Prokleska³, V.I. Torgashev⁴, E.S. Zhukova¹, S.S. Zhukov¹, L.S. Kadyrov¹, V. Thomas^{5,6}, A. Dudka⁷, A. Zhugayevych⁸, V.B. Anzin^{1,9}, R.K. Kremer¹⁰, J.K.H. Fischer¹¹, P. Lunkenheimer¹¹, A. Loidl¹¹, E. Uykur¹², M. Dressel¹², and B. Gorshunov¹

¹*Moscow Institute of Physics and Technology, Moscow Region, Russia*

²*Institute of Physics, Czech Academy of Sciences, Praha 8, Czech Republic*

³*Department of Condensed Matter Physics, Faculty of Mathematics and Physics, Charles University, Prague 2, Czech Republic*

⁴*Faculty of Physics, Southern Federal University, Rostov-on-Don, Russia*

⁵*Institute of Geology and Mineralogy, RAS, Novosibirsk, Russia*

⁶*Novosibirsk State University, Novosibirsk, Russia*

⁷*Shubnikov Institute of Crystallography, “Crystallography and Photonics”, RAS, Moscow, Russia*

⁸*Skolkovo Institute of Science and Technology, Moscow, Russia*

⁹*Prokhorov General Physics Institute, RAS, , Moscow, Russia*

¹⁰*Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany*

¹¹*Experimental Physics V, University of Augsburg, Augsburg, Germany*

¹²*Physikalisches Institut, Universität Stuttgart, Stuttgart, Germany*

S1-1.4 Adsorption of Lead Ions on Carbonaceous Sorbents of Nutshell Obtained from Secondary Raw Material

T. Marsagishvili, G. Tatishvili, N. Ananiashvili, N. Giorgadze, E. Tskhakaia, M. Gachechiladze, J. Metreveli, and M. Machavariani
R. Agladze Institute of Inorganic Chemistry and Electrochemistry, Iv. Javakhishvili Tbilisi State University, Tbilisi, Georgia

S1-1.5 Carbon Based Materials Synthesized by Microwave Plasma Enhanced Chemical Vapor Deposition

O. Brinza¹, F. Benedic¹, S. Farhat¹, A. Tallaire², R. Issaoui¹, and J. Achard¹
1LSPM, Université Paris 13, Sorbonne Paris Cité, CNRS, Villetaneuse 93430, France
2Institut de Recherche de Chimie Pari, Paris, France

S1-1.6 Superposition States of the Two-Dimensional Magnetoexcitons with Dirac Cone Dispersion Law and Quantum Interference Effects in Optical Transitions

S.A. Moskalenko¹, I.V. Podlesny¹, I.A. Zubac¹, and B.V. Novikov²
¹Institute of Applied Physics, Ministry of Education, Culture and Research, Chisinau, Moldova
²Institute of Physics, St. Petersburg, Russia

15:30-16:00 COFFEE BREAK

Co-chairs: *Oleg Lupan, Marius Kamp*

S1-1.7 Active Spectral Absorption Control in a Tunable Liquid Crystal/Metamaterial Structure by Polarization Plane Rotation

A. Bărar¹, O. Dănilă², D. Mănăilă-Maximean² and V. A. Loiko³

¹Department of Electronic Technology and Reliability, University Politehnica of Bucharest, Romania

²Physics Department, University Politehnica of Bucharest, Romania

³Stepanov Institute of Physics, National Academy of Sciences of Belarus, Minsk, Belarus

S1-1.8 Spin Crossover in Iron(II) Complexes with Mixed Nitrogen-Sulfur Coordination: DFT Modeling

S.I. Klokishner and O.S. Reu

Institute of Applied Physics, Chişinău, Moldova

S1-1.9 Change in Microstructure and Magnetic Properties of Transition Metal Nitride Thin Films by Substrate Temperature

M. Kamp, L. Voß, T. Bichel, M. Hicke, U. Schürmann, and L. Kienle

Institute for Materials Science, Synthesis and Real Structure, Christian-Albrechts-Universität Kiel, Kiel, Germany

S1-1.10 Near-edge Optical Properties of Layered Tin Sulfide (Selenide) Crystals

V.V. Zalamai¹, A.V. Tiron¹, E.V. Rusu², E.V. Monaico¹, and N.N. Syrbu¹

¹Technical University of Moldova, Chisinau, Republic of Moldova

²Institute of Electronic Engineering and Nanotechnologies, Chisinau, Republic of Moldova

S1-1.11 Recent Progress in GaN-based Devices for Terahertz Technology

V.P. Sirkeli^{1,2}, I.M. Tiginyanu³, and H.L. Hartnagel¹

¹Institute for Microwave Engineering and Photonics, Technische Universität Darmstadt, Darmstadt, Germany

²Department of Applied Physics and Computer Science, Moldova State University, Chisinau, Moldova

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

S1-1.12 Sensorial and Local Reflectivity Properties of the Columnar ZnO:Eu Films

C. Lupan¹, A. Schütt², A. Bîrnaz¹, M. Hoppe², and R. Adelung²

¹Department of Microelectronics and Biomedical Engineering, Technical University of Moldova/, Chisinau, Republic of Moldova

²Chair for Functional Nanomaterials, Institute for Materials Science, Kiel University, Kiel, Germany

SECTION S3-1

Biomedical Instrumentation and Sensors

14:00-17:30 Room 5

Co-chairs: *Călin Corciova, Mikhail Danilkin*

S3-1.1 Cathodoluminescent UV Sources for Biomedical Applications

D.I. Ozol¹, E.P. Sheshin¹, M.I. Danilkin², and N.Yu. Vereschagina²

¹ Moscow Institute of Physics and Technology, Dolgoprudny, Russia

² P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russia

S3-1.2 Visual Control of Human Locomotion

H.N. Rozorinov, N.I. Chichikalo, E.H. Arkhiereieva, and E.Yu. Larina
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine

S3-1.3 Intelligent System for Monitoring Vital Signs at Patient's Home

R. Fuior, D. Andrițoi, C. Luca, and C. Corciovă
University of Medicine and Pharmacy "Grigore T. Popa", Biomedical Sciences Department, Iasi, Romania

S3-1.4 Portable Campimeter to Evaluate Visual Field Modifications of Subjects with Low Vision State

M.I. Baritz, M.G. Apostoaie, and A.M. Lazar
Transylvania University from Brasov/Product Design, Mechatronics and Environment Department, Brasov, Romania

S3-1.5 Smart Device for Therapeutic Hypothermia

V. Cojocaru^{1,2}, R. Galus¹, and T. Fedorisin¹
¹*D. Ghitu Institute of the Electronic Engineering and Nanotechnologies, Chisinau, Moldova*
²*Technical University of Moldova, Chisinau, Moldova*

S3-1.6 Profile Forming of Infrared Cabin User's Biomedical Indicators

M.M. Mezhenaya, A.V. Vorobey, V.Y. Drapeza, A.N. Osipov, S.K. Dick, and M.X-M. Thostov
Belarusian state University of Informatics and Radioelectronics, Minsk, Belarus

15:30-16:00 COFFEE BREAK

Co-chairs: Vyacheslav Pershenkov, Ionel Șerban

S3-1.7 Method for Performance Evaluation of Electrostimulation of the Lower Esophageal Sphincter

V. Sontea¹, S. Ungureanu², N. Sipitco², D. Fosa², and V. Vidiborschii¹
¹*Technical University of Moldova, Republic of Moldova*
²*State University of Medicine and Pharmacy „Nicolae Testemitanu“, Republic of Moldova*

S3-1.8 Design and Evaluation of a low Cost Electrical Muscle Stimulator (EMS) with Biopac

I. Șerban¹, C. Drugă¹, I. Tătulea¹, B. Braun¹, and R. Necula²
¹*Product Design, Mechatronics and Environment Department, Faculty of Product Design and Environment, Transylvania University, Brașov, Romania*
²*Faculty of Medicine, Transylvania University, Brașov, Romania*

S3-1.9 The Review of Bipolar Ion Mobility Spectrometers

Y.R. Shaltaeva, A.V. Golovin, V.K. Vasilyev, E.A. Gromov, M.A. Matusko, E.K. Malkin, I.A. Ivanov, V.V. Belyakov, and V.S. Pershenkov
Institute of Nanoengineering In Electronics, Spintronics And Photonics, National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Moscow, Russia

S3-1.10 Ionizing Radiation Dose Sensor Based on n-channel MOSFET

B.I. Podlepetsky, V.S. Pershenkov, V.V. Belyakov, A.S. Bakerenkov, V. Felitsyn, and A.S. Rodin
Micro- and nanoelectronics Department, National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Moscow, Russia

S3-1.11 The Algorithms Modernization of Temperature and Gas Control Systems of Ion Mobility Spectrometer

Y.R. Shaltaeva, A.V. Golovin, V.K. Vasilyev, E.A. Gromov, M.A. Matusko, E.K. Malkin, I.A. Ivanov, V.V. Belyakov, and V.S. Pershenkov

Institute of Nanoengineering In Electronics, Spintronics And Photonics, National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Moscow, Russia

SECTION S4-1

Biomedical Signal and Image Processing

14:00-17:30 Room 6

Co-chairs: Oleksandr Ushenko, Felix Adochiei

S4-1.1 Deep Learning in Processing Medical Images and Calculating the Orbit Volume

V.S. Asipovich¹, O.N. Dudich², V.L. Krasilnikova², A.A. Karakulko¹, A.L. Radnionok¹, P.A. Moroz¹, A.Y. Nikolaev¹, M.A. Konovalova¹, and K.D. Yashin¹

¹*Belorussian State University of Informatics and Radioelectronics, Human Engineering and Ergonomics, Minsk, Belarus*

²*Belorussian Medical Academy of Postgraduate Education, Department of Ophthalmology, Minsk, Belarus*

S4-1.2 Statistical Analysis of Polarization Images of Histological Cuts of Parenchymatic Tissues in Diagnostics of Volume of Blood Loss

N. Sivokorovskaya¹, V.T. Bachinskyi¹, O.Ya. Vanchulyak¹, O.G. Ushenko², A.V. Dubolazov², Yu.O. Ushenko², Yu.Ya. Tomka², and L.Ya. Kushnerik²

¹*Bukovinian State Medical University, Chernivtsi, Ukraine*

²*Chernivtsi National University, Chernivtsi, Ukraine*

S4-1.3 A Real-Time WebGL Rendering Pipeline for MRI Using RayCasting Transfer Functions

R. Ciucu¹, F. Adochiei¹, I. Adochiei², F. Argatu¹, C. M. Larco², and L. Grigorie²

¹*University Politehnica of Bucharest, Romania*

²*Military Technical Academy "Ferdinand I" Bucharest, Romania*

S4-1.4 Evaluation of the Quercetin Semisynthetic Derivatives Interaction with ABCG2 and Cyclooxygenase-2

A.E. Manukyan

Department of Bioengineering, Bioinformatics and Molecular Biology, Russian-Armenian University, Yerevan, Armenia

S4-1.5 Encephalographic Signal LabView Processing

I.C. Roșca¹, C. Drugă¹, I. Șerban¹, and R.D. Necula²

¹*Transilvania University/Product Design, Mechatronics and Environment Department, Brașov, Romania*

²*Transilvania University/Department of Medical and Surgery Specialties, Brașov, Romania*

S4-1.6 Polarization Tomography of Synovial Fluids Polycrystalline Layers

V.V. Protsiuk¹, V.L. Vasiyk¹, Y.M. Vasylichshyn¹, A.G. Ushenko², M.V. Shaplavskiy¹, O.B. Bodnar¹, A.V. Dubolazov², Yu.A. Ushenko², and Yu.Ya. Tomka²

¹*Bukovinian State Medical University, Chernivtsi, Ukraine*

²*Chernivtsi National University, Chernivtsi, Ukraine*

15:30-16:00 COFFEE BREAK

Co-chairs: Yevgen Sokol, Oleksandr Ushenko

S4-1.7 Differential Muller-matrix Microscopy of Protein Fractions of Vitreous Preparations in Diagnostics of the Pressure of Death

Yu. Sarkisova¹, V.T. Bachinsky¹, M. Garazdyuk¹, O.Ya. Vanchulyak¹,
O.Yu. Litvinenko¹, O.G. Ushenko², B.G. Bodnar¹, A.V. Dubolazov²,
Yu.O. Ushenko², Yu.Ya. Tomka², I.V. Soltys², and S. Foglinskiy²

¹Bukovinian State Medical University, Chernivtsi, Ukraine

²Chernivtsi National University, Chernivtsi, Ukraine

S4-1.8 Testing The Heart Rate Coherence Function For Detecting And Identifying Atrial Fibrillation

Y. Sokol, P. Shapov, M. Shyshkin, and R. Tomashevskyi

National technical University «Kharkiv Polytechnic institute», Department of Industrial and Biomedical Electronics,
Kharkiv, Ukraine

S4-1.9 Laser Autofluorescent Microscopy of Histological Sections of Parenchymatous Biological Tissues of the Dead

O.G. Ushenko¹, A.-V. Syvokorovskaya², V.T. Bachinsky², O.Ya. Vanchuliak²,
A.V. Dubolazov¹, Yu.O. Ushenko¹, Yu.Ya. Tomka¹, and M.L. Kovalchuk¹

¹Chernivtsi National University, Chernivtsi, Ukraine

²Bukovinian State Medical University, Chernivtsi, Ukraine

S4-1.10 Information Analysis of Biochemical Parameters for Glucose Tolerance Tests

Y.I. Sokol¹, O.V. Chmykhova¹, V.V. Boyko², P.N. Zamyatin², and D.P. Zamiatin³

¹ Dept. "Industrial and biomedical electronics", National technical university "Kharkiv Politechnical institute",
Kharkiv, Ukraine

² State Institution "V.T. Zaytsev Institute of General and Urgent Surgery of NAMS of Ukraine", Kharkiv, Ukraine

³ Department of surgery № 1 "Kharkiv national medical university", Kharkiv, Ukraine

S4-1.11 Mode of Artemisinins' Action on Oxidative Stress, Genomic and G-quadruplex DNA

S.G. Ginosyan¹, G.V. Chilingaryan², H.V. Grabski¹, L.A. Ghulikyan³,
N.M. Ayvazyan³, and S.G. Tiratsuyan²

¹ Department of Medical Biochemistry and Biotechnology, Institute of Biomedicine and Pharmacy, Russian-Armenian University, Yerevan, Armenia

² Department of Bioinformatics, Bioengineering and Molecular Biology, Institute of Biomedicine and Pharmacy, Russian-Armenian University, Yerevan, Armenia

³ Laboratory of Toxinology and Molecular Systematics, L.A. Orbeli Institute of Physiology NAS RA, Yerevan, Armenia

17:30-20:00 Visit to Cricova

19 September 2019

PLENARY SESSION PL-2 *Polyvalent hall*

09:00 – 13:00

Co-chairs: *Lorenz Kienle, Oleg Lupan*

09⁰⁰ PL-2.1 The Use of Metal Oxide Semiconductors for THz Spectroscopy of Biological Applications

Hans Hartnagel¹ and Vadim Sirkeli^{1,2}

¹*Institute of Microwave Engineering and Photonics, Technische Universität Darmstadt, Darmstadt, Germany*

²*Department of Applied Physics and Computer Science, Moldova State University, Chisinau, Moldova*

09³⁰ PL-2.2 Unique properties of Aeromaterials and their Applications in Medicine, Optics, Sensors and Energy

Rainer Adelung

Christian Albrechts University Kiel, Institute for Material Science, Germany

10⁰⁰ PL-2.3 Cyber-Physical Systems - Nanomaterial Sensors Based Unmanned Aerial Platforms for Real-time Monitoring and Analysis

Ashok Vaseashta

International Clean Water Institute, Manassas, VA USA, and

NJCU – A State University of New Jersey, NJ, USA

10:30 – 11:00 COFFEE BREAK

Co-chairs: *Nicolas Pallikarakis, Ashok Vaseashta*

11⁰⁰ PL-2.4 Complex Nanostructured Materials

Lorenz Kienle

Institute of Material Science, Synthesis and Real Structure, CAU Kiel, Kiel, Germany

11³⁰ PL-2.5 Photon and Charge Counting X-ray Imager Based on Nanovision Science

Toru Aoki

Research Institute of Electronics, Shizuoka University, Japan

12⁰⁰ PL-2.6 Engineered Microbots for Biomedical Applications

Mariana Medina Sánchez

IFW Leibniz Institute, Germany

12³⁰ PL-2.7 Topology- and Geometry-Induced Properties of Advanced Nanoarchitectures

Vladimir M. Fomin^{1,2}

¹*Laboratory of Physics and Engineering of Nanomaterials, Department of Theoretical Physics, Moldova State University, Chisinau, Republic of Moldova*

²*Institute for Integrative Nanosciences, Leibniz IFW Dresden, Dresden, Germany*

13:00 – 14:00 LUNCH

SECTION S1-2

Nanotechnologies and Nanomaterials

14:00-17:30 Room 4

Co-chairs: Mihai Macovei, Vladimir Fomin

S1-2.1 Modeling of the Valence Tautomeric Transformation in Heterometallic [Cr-dhbq-Co] Molecules

M.A. Roman and S.I. Klokishner

Institute of Applied Physics, Chisinau, Republic of Moldova

S1-2.2 Quantum Interferences with Equidistant Three-level Quantum Wells

V. Ceban and M. A. Macovei

Institute of Applied Physics, Chişinau, Moldova

S1-2.3 Electrical and Photoelectrical Properties of Zn_{1-x}Mg_xO Thin Films Obtained by Spin Coating and Aerosol Deposition Method

V. Morari¹, V. Postolache², G. Mihai⁴, E. Rusu¹, Ed. Monaico², V.V. Ursachi¹, K. Nielsch³, and I.M. Tiginyanu^{1,2}

¹*Institute of Electronic Engineering and Nanotechnologies "D. Ghitu", Chisinau, Moldova*

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

³*Leibniz Institute for Solid State and Materials Research (IFW Dresden), Institute for Metallic Materials (IMW), Dresden, Germany*

⁴*Center for Surface Science and NanoTechnology, University Politehnica of Bucharest*

S1-2.4 Mössbauer Effect in 57Fe-doped Gallium Antimonide

A. Mihalache

Tiraspol State University, Chişinau, Republic of Moldova

S1-2.5 Peculiarities of Surface Relief Grating Formation in Nanomultilayer Structures Based on As₂S₃-Se Chalcogenide Glasses

A. Meshalkin¹, O. Paiuk², E. Achimova¹, A. Stronski², V. Abaskin¹, A. Prisacar¹, G. Triduh¹, A. Korchovyi², and P. Oleksenko²

¹*Institute of Applied Physics, 5 Academiei str., Chisinau, Moldova*

²*V.Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Kyiv, Ukraine*

S1-2.6 Features of Radiative Recombination of Iron-doped Gallium Antimonide

A. Mihalache

Tiraspol State University, Chisinau, Republic of Moldova

15:30-16:00 COFFEE BREAK

Co-chairs: Ionel Sanduleac, Vasile Tronciu

S1-2.7 Electrical Properties of Thermal Annealed in Vacuum Spray Deposited Al-Doped ZnO Thin Films

T. Potlog¹, I. Lungu¹, S. Raevschi¹, V. Botnariuc¹, S. Robu¹, S. Worasawat², and H. Mimura²

¹*Physics Department and Engineering Moldova State University Chisinau, Republic of Moldova*

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

S1-2.8 Modeling of Charge Transfer Induced Spin Transition in a Linear {FeCoFe} Complex

S.M. Ostrovsky and S.I. Klokishner
Institute of Applied Physics, Chişinau, Moldova

S1-2.9 Nanostructured Organic Crystals as Prospective Thermoelectric Materials for Infrared Sensors

I.I. Sanduleac, S.C. Andronic, and A.I. Casian
Department Electronics and Telecommunications, Technical University of Moldova, Chisinau, Moldova

S1-2.10 Me-ZnP₂ Diodes Sensible to Optical Gyration

A.V. Dorogan¹, S.I. Beril², I.G. Stamov², and N.N. Syrbu¹
¹ *Laboratory of Micro-Optoelectronics, Technical University of Moldova, Chisinau, Republic of Moldova*
² *T.G. Shevchenko State University of Pridnestrovie, Tiraspol, Republic of Moldova*

S1-2.11 The Influence of the External Magnetic Field on the Electronic Density of States of Quasi-1D System in the Mixed Phase of Superconductivity and Spin Density Wave

M.E. Palistrant, I.D. Cebotari, and S.A. Palistrant
Institute of Applied Physics, Chisinau, Republic of Moldova

SECTION S3-2

Biomedical Instrumentation and Sensors

14:00-15:30 Room 5

Co-chairs: Heorhii Rozorinov, Andriy Semenov

S3-2.1 3D-Printed Sensor Array of Semiconducting Oxides

L. Siebert¹, M.I. Terasa¹, N. Ababii², O. Lupan^{1,2}, and R. Adelung¹
¹ *Institute for Materials Science – Functional Nanomaterials, Faculty of Engineering, Kiel University, Kiel, Germany*
² *Center for Nanotechnology and Nanosensors, Department of Microelectronics and Biomedical Engineering, Technical University of Moldova, Chisinau, Republic of Moldova*

S3-2.2 Effects of Heat Treatment on Palladium-doped Zinc Oxide on Sensory Selectivity

N. Magariu
Department of Microelectronics and Biomedical Engineering, Technical University of Moldova, Chisinau, Moldova

S3-2.3 Acetone Sensing Properties of Nanostructured Copper Oxide Films on Glass Substrate

V. Cretu¹, N. Ababii¹, V. Postica¹, N. Magariu¹, M. Hoppe², V. Verjbitki¹, V. Sontea¹, R. Adelung², and O. Lupan^{1,2}
¹ *Department of Microelectronics and Biomedical Engineering, Technical University of Moldova, Chisinau, Moldova*
² *Kiel University, Kiel, Germany*

S3-2.4 Bio-behavioral Aspects of Patients with Ocular Problems with Implications for Optometric Comfort

M.I. Baritz, A.M Lazar, and M.G. Apostoaie
Transilvania University from Brasov / Product Design, Mechatronics and Environment Department, Brasov, Romania

S3-2.5 Eye Protection System for Drivers

D. Barbu

Transilvania University of Brasov, Romania

S3-2.6 Eye Protection Device for People With low Vision

D. Barbu

Transilvania University of Brasov, Romania

SECTION S4-2

Biomedical Signal and Image Processing

14:00-15:30 Room 6

Co-chairs: Nicolae Enaki, Victor Vovc

S4-2.1 Cardiorespiratory Coupling: a Review of the Analysis Methods

V. Tonu^{1,2}, V. Vovc¹, and N. Enache²

¹ State University of Medicine and Pharmacy "Nicolae Testemitanu", Department of Human Physiology and Biophysics, Chisinau, Moldova

² Institute of Applied Physics of Academy of Sciences, Quantum Optics Laboratory, Chisinau, Moldova

S4-2.2 Recording of the Breathing Pattern in the Test with Controlled Hyperventilation in Subjects with a Borderline Type Personality Disorder

S. Lozovanu¹, I. Moldovanu^{1,2}, V. Vovc¹, T. Besleaga¹, and A. Ganenco¹

¹ State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Republic of Moldova

² Department of Headache and Autonomic Disorders within Institute of Neurology and Neurosurgery, Chisinau, Republic of Moldova

S4-2.3 Sleep-Related Epilepsy Diagnosis: Standard Video-EEG or Video-EEG Telemetry?

V.A. Chiosa^{1,2}

¹ Neurology Department no. 2, State University of Medicine and Pharmacy "Nicolae Testemitanu", Chisinau, Moldova

² Laboratory of Neurobiology and Medical Genetics, State University of Medicine and Pharmacy "Nicolae Testemitanu", Chisinau, Moldova

S4-2.4 Alterations of Brain Structure Linked to Myoclonic Epilepsy

A. Vataman^{1,2}

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

² Department of Neurology, Institute of Emergency Medicine, Chisinau, Republic of Moldova

S4-2.5 Dense Array Electroencephalography-based Electric Source Imaging of Interictal Epileptiform Discharges

S.A. Groppa^{1,2}, D. Ciolac^{1,2}, A. Vataman^{1,2}, and V. Chiosa¹

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

² Department of Neurology, Institute of Emergency Medicine, Chisinau, Republic of Moldova

S4-2.6 Remodeling of Cortical Structural Networks in Multiple Sclerosis

D. Ciolac^{1,2,3}

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

² Department of Neurology, Institute of Emergency Medicine, Chisinau, Republic of Moldova

³ Department of Neurology, Focus Program Translational Neuroscience (FTN), Rhine-Main Neuroscience Network (rmn2), University Medical Center of the Johannes Gutenberg University Mainz, Mainz, Germany

S4-2.7 Multifocal Repetitive Transcranial Magnetic Stimulation – a Novel Paradigm in Migraine Treatment

P. Leahu², S.A. Groppa², M. Bange¹, S. Scheiter¹, D. Ciolac², V.C. Chirumamilla¹, M. Muthuraman¹, and S. Groppa¹

¹*Section of Movement Disorders and Neurostimulation, Biomedical Statistics and Multimodal Signal Processing Unit, Department of Neurology, Focus Program Translational Neuroscience (FTN), University Medical Center of the Johannes Gutenberg-University Mainz, Germany.*

²*Department of Neurology, State University of Medicine and Pharmaceutics “Nicolae Testemitanu”, Chisinau, Republic of Moldova*

15:30-16:00 COFFEE BREAK

SECTION S6-1

Innovation, development and interdisciplinary research 16:00-17:30 Room 5

Co-chairs: *Nicolae Varachiu, Oleg Cojocaru*

S6-1.1 Make Innovation Happen: Scientific and Statistic Tools to Accelerate the Way Toward Technology Readiness Level TRL 9 – a Deployed Application

N. Varachiu

National Institute for R&D in Microtechnologies / Center for Technology Transfer in Micro Nano Engineering, IMT Bucharest, Romania

S6-1.2 European Terahertz Technology for Environmental Monitoring and Bio-friendly Imaging

O. Cojocari, M. Hoefle, D. Mopro-Melgar, I. Oprea, and M. Rickes

ACST GmbH, Hanau, Germany

S6-1.3 Qualitative Method to Control Toxic Impurities in Drinking Water

O. Kulikova, A. Siminel, A. Micu, and N. Siminel

Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Moldova

S6-1.4 Bibliometric Analysis of the Nanotechnology Research Area in the Republic of Moldova

A.I. Rosca¹, I. P. Cojocaru¹, and A.Gh. Turcanu²

¹*Information Society Development Institute, Ministry of Education, Culture and Research, Chisinau, Republic of Moldova*

²*University of Petrosani, Ministry of National Education, Petrosani, Romania*

S6-1.5 Integration of Cyber Security in Healthcare Equipment

Au. Buzdugan

National Nuclear Security Support Center, Technical University of Moldova, Chisinau, Republic of Moldova

SECTION S5-1

Biophysics, Health Informatics and Cellular and Tissue Engineering

16:00-17:30 Room 6

Co-chairs: *Viorel Nacu, Susanna Tiratsuyan*

S5-1.1 Creation of Regional Telemedicine Diagnostic and Treatment Complex

K.V. Kolisnyk¹, R.S. Tomashevskyi¹, T.V. Sokol², S.M. Koval³, and D.M. Deineko⁴

¹ National Technical University "KhPI", Kharkiv, Ukraine

² Kharkiv Medical Academy of Postgraduate Education, Kharkiv, Ukraine

³ Government agency "National Institute of Therapy named after L.T. Maloyi of the National Academy of Medical Sciences of Ukraine" Kharkiv, Ukraine

⁴ New Medical Technologies Ltd, Kharkov, Ukraine

S5-1.2 Static Analysis of the Human Body Balance Following an Induced Vertigo

I. Șerban, C. Drugă, A. Tătaru, and B. Braun

Product Design, Mechatronics and Environment Department, Faculty of Product Design and Environment
Transylvania University, Brașov, Romania

S5-1.3 Use of Physical Methods as an Element of Complex Treatment of Burn Wound Microbiome

V. Nagaichuk^{1,2}, R. Chornopyschuk¹, O. Yunusova³, and M. Onyshchenko¹

¹ National Pirogov Memorial Medical University, Vinnytsya, Ukraine

² Regional Clinical Hospital named after M.I. Pirogov, Vinnytsya, Ukraine

³ Regional Laboratory Center of the MOH, Vinnytsya, Ukraine

S5-1.4 Interaction of Quercetin with LasR of Pseudomonas Aeruginosa: Mechanistic Insights of the Inhibition of Virulence Through Quorum Sensing

H.V. Grabski and S.G. Tiratsuyan

Department of Medical Biology and Biotechnology, Institute of Biomedicine and Pharmacy,
Russian-Armenian University, Yerevan, Armenia

S5-1.5 Mechanical and Morphological Characterization of Decellularized Umbilical Vessels as Tissue Engineering Scaffolds

T. Malcova, L. Globa, A. Vascan, E. Țugui, A. Stoian, and V. Nacu

Laboratory of Tissue Engineering and Cell Cultures, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

S5-1.6 The Procedure of Bone Cells Obtaining, Culture and Identification

M. Jian, V. Cobzac, A. Mostovei, and V. Nacu

Laboratory of Tissue Engineering and Cells Cultures, State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Republic of Moldova

S5-1.7 Evaluation of the Endothelial Cell Regenerative Proprieties of the Cornea in the Culture Media. Results and Prospects

A. Cociug², O. Macagonova¹, V. Cusnir³ jr., V. Cusnir³, and V. Nacu^{1,2}

¹ Tissue Engineering and Cells Cultures Laboratory, "Nicolae Testemitanu" State University of Medicine and Pharmacy

² Tissue Bank, Chisinau, Republic of Moldova

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

19:00-21:30 CONFERENCE DINNER

20 September 2019

SECTION S1-3 Nanotechnologies and Nanomaterials 09:00-13:00 Room 4

Co-chairs: *Vadim Sirkeli, Eduard Monaico*

S1-3.1 Surface Modification of PVDF Copolymer Nanofiber by Chitosan/Ag(NP)/Nanosilica Composite

M. Nasir¹, R.I. Sugatri¹, and D.M. Agustini²

¹Research Unit for Clean Technology, Indonesian Institute of Sciences (LIPI), Jalan Cicitu Sangkuriang, Bandung, West Java, Indonesia

²Department of Chemistry, Jendral Achmad Yani University (Unjani), Cimahi, West Java, Indonesia

S1-3.2 ZnO-based Quantum Structures for Terahertz Sources

V.P. Sirkeli^{1,2}, H.L. Hartnagel¹, O. Yilmazoglu¹, and S. Preu¹

¹Institute for Microwave Engineering and Photonics, Technische Universität Darmstadt, Merckstrasse 25, Darmstadt, Germany

²Department of Applied Physics and Computer Science, Moldova State University, A. Mateevici str. 60, Chisinau, Moldova

S1-3.3 Investigation of the Electrochemical Properties of Lithium-Sulfur Cells with Sulfur Electrodes Based on Carbon Inverted Opals

N.S. Sukhinina¹, E.V. Karaseva², V.M. Masalov¹, E.V. Kuzmina², A.A. Zhokhov¹, V.S. Kolosnitsyn², and G.A. Emelchenko¹

¹Institute of Solid State Physics Russian Academy of Sciences (ISSP RAS), Chernogolovka, Moscow District, Russia

²Ufa Institute of Chemistry UFRS RAS, Ufa, Republic of Bashkortostan, Russia

S1-3.4 Luminescence Properties of a Novel Eu³⁺ Dinuclear Coordination Compound

V. I. Verlan¹, I. P. Culeac¹, O. Bordian¹, V. E. Zubareva², I. Bulhac², M. S. Iovu¹, M. Enachescu³, N. A. Siminel¹, and V. V. Nedelea¹

¹Institute of Applied Physics, Chisinau, Republic of Moldova

²Institute of Chemistry, Chisinau, Republic of Moldova

³University Politehnica Bucharest, Bucharest, Romania

S1-3.5 Radiative Recombination of Bound Excitons in MoSe₂:I₂ Layered Crystals

N. Siminel¹, V. Nedelea^{1,2}, K. Sushkevich^{1,2}, A. Siminel¹, A. Micu¹, and L. Kulyuk¹

¹Institute of Applied Physics, Academiei str. 5, Chisinau MD-2028, Republic of Moldova

²Moldova State University, Mateevici str. 60, Chisinau MD-2009, Republic of Moldova

10:30-11:00 COFFEE BREAK

Co-chairs: *Elena Achimova, Anatoli Sidorenko*

S1-3.6 Peierls Structural Transition in Organic Crystals of TTT₂I₃ with Intermediate Carrier Concentration

S.C. Andronic, I.I. Sanduleac, and A.I. Casian

Department of Physics, Technical University of Moldova, Chisinau, Republic of Moldova

S1-3.7 Polarization Holographic Recording on Photosensitive Polymers

E. Achimova¹, V. Abaskin¹, A. Meshalkin¹, A. Prisacar¹, L. Loghina²,
M. Vlcek², and A. Yakovleva²

¹*Institute of Applied Physics, Chisinau, Moldova*

²*Pardubice University, Pardubice, Czech Republic*

S1-3.8 QDs Doped Azopolymer for Direct Holographic Recording

C. Loşmanskii¹, E. Achimova¹, V. Abaskin¹, A. Meshalkin¹, A. Prisacar¹,
L. Loghina², M. Vlcek², and A. Yakovleva²

¹*Institute of Applied Physics, Chisinau, Moldova*

²*Pardubice University, Pardubice, Czech Republic*

S1-3.9 The Structure and Chemical Composition of Ga₂O₃ Oxide Prepared by Annealing of Ga₂Se₃ Crystals

V. Sprincean¹, E. Vatavu¹, L. Dmitroglu¹, D. Untila¹, I. Caraman², and M. Caraman¹

¹*Moldova State University, Chisinau, Moldova*

²*University of Bacau, Bacau, Romania*

S1-3.10 Luminescence of β -Ga₂O₃ Nanoforms Obtained by Oxidation of GaSe Doped with Eu

V. Sprincean¹, D. Untila², A. Chirita¹, I. Evtodiev², and I. Caraman³

¹*Faculty of Physics and Engineering, Moldova State University, Chisinau, Moldova Republic*

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

³*Department of Environmental Engineering and Mechanical Engineering, University of Bacau, Bacau, Romania*

S1-3.11 Steady-state Behaviors of a Quantum Oscillator Coupled with a Three-level Emitter

A. Mirzac and M. A. Macovei

Institute of Applied Physics, Chişinau, Republic of Moldova

SECTION S6-2

Innovation, development and interdisciplinary research

09:00-10:30 Room 5

Co-chairs: Leonid Kulyuk, Nicolae Jula

S6-2.1 A Positioning Mechanism Based on MEMS-INS/GPS and ANFIS Data Fusion for Urban Life Mobility Improvement

L.T. Grigorie¹, N. Jula¹, C.L. Corcău², I.R. Adochiei¹, C. Larco¹ and S.M. Mustaţă¹

¹*Military Technical Academy "Ferdinand I", Faculty of Aircraft and Military Vehicles, Bucharest, Romania*

²*University Politehnica of Bucharest, Faculty of Aerospace Engineering, Bucharest, Romania*

S6-2.2 Investigation into Interlayer Water Structure in Na⁺- and Ca²⁺-Montmorillonite: A Molecular Dynamics Study

N. Siminel

Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Moldova

S6-2.3 Comparison the Marginal Fit of Metal Coping Cast Made Through Different Methods

A. Badarau¹, A. Gumeniuc², and E.V. Monaico³

¹ Faculty of Dental Medicine, State University of Medicine and Pharmacy “Nicolae Testemițanu”, Chisinau, Republic of Moldova

² Department of Otorhopedic Dentistry “Ilarion Postolachi”, Faculty of Dental Medicine, State University of Medicine and Pharmacy “Nicolae Testemițanu”, Chisinau, Republic of Moldova

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

S6-2.4 Voltage Management of a Remote Load

A. Penin¹, Yu. Savva², and A. Sidorenko¹

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

²I.S.Turgenev Orel State University, Orel, Russian Federation

S6-2.5 Nanotechnological Aspects at Electro-activation of Secondary Dairy Products

E.G. Vrabie¹, M.K. Bologa¹, I.V. Paladii¹, V.G Vrabie³, A. Policarpov¹, V. Gonciaruc¹, C.Gh. Sprincean¹, and T. Stepurina²

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²Moldova State University, Chisinau, Republic of Moldova;

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

10:30-11:00 COFFEE BREAK

SECTION S7-1

Clinical Engineering, Nuclear and Radiation Safety and Security

11:00-13:00 Room 5

Co-chairs: Artur Buzdugan, Mikhail Danilkin

S7-1.1 Assessment of Human Tissue Transplantation Activities in the Republic of Moldova

T. Timbalari^{1,2}, I. Codreanu¹, O. Lozan³, and V. Nacu^{2,4}

¹Transplant Agency/Transplantology Department, Chisinau, Republic of Moldova

²SMPPhU “Nicolae Testemițanu”/Laboratory of Tissue Engineering and Cells Cultures, Chisinau, Republic of Moldova

³School of Public Health Management, Chisinau, Republic of Moldova

⁴Human Tissue Bank, Chisinau, Republic of Moldova

S7-1.2 Electro-acoustical Examination in Noninvasive Monitoring as a Basis for Treatment Selection

S. Diacova

State University of Medicine and Pharmacy “Nicolae Testemițanu”, Department of Otorhinolaryngology, Chisinau, Moldova

S7-1.3 Functional and Morphological Correlations in Prolonged Otitis Media in Childhood

S. Diacova¹, I. Ababii¹, L. Danilov¹, M. Maniuc¹, P. Ababii^{1,2}, V. Gavriluta^{1,2}, and A. Levcenco^{1,2}

¹State University of Medicine and Pharmacy “Nicolae Testemițanu”, Department of Otorhinolaryngology,

²Pediatric Clinic “Em. Cotaga”, Otorhinolaryngology Division, Chisinau, Moldova

S7-1.4 Evaluation of Radiation Hardness of the Bipolar Devices in the Space Conditions

A.S. Rodin, A.S. Bakerenkov, V.A. Felitsyn, V.S. Pershenkov, and V.A. Telets
National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Moscow, Russian Federation

S7-1.5 Integral Estimate of LSI Radiation Hardness as a Fuzzy Number of Multiplicity of Nodes

V.M. Barbashov, N.S. Trushkin, and A.K. Osipov
National Research Nuclear University "MEPHI", Moscow, Russia

S7-1.6 Li₂B₄O₇ for Thermoluminescent Dosimetry: A New Life of an Old Material

M.I. Danilkin¹, N.Yu. Vereschagina¹, A.S. Selyukov¹, and D.I. Ozol²
¹*Department of Optics, P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russia*
²*Department of Vacuum Electronics, Moscow Institute of Physics and Technology, Dolgoprudny, Moscow Region, Russia*

S7-1.7 “True” Dose Rate Effect of the ELDRS Conversion Model

V.S. Pershenkov, A.S. Bakerenkov, V.A. Telets, V.V. Belyakov, V.A. Felitsyn, and A.S. Rodin
National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Moscow, Russian Federation

S7-1.8 Revision of the Curriculum on Nuclear Safety and Security in the Light of Recent International Recommendations

Ar. Buzdugan^{1,2} and Au. Buzdugan²
¹*Technical University of Moldova, Chisinau, Moldova*
²*National Nuclear Security Support Centre, Chisinau, Republic of Moldova*

S7-1.9 National Nuclear Security Support Centre and Non-Proliferation of Weapon of Mass Destruction

Ar. Buzdugan¹ and A. Ţurcanu²
¹*Technical University of Moldova, Chisinau, Republic of Moldova*
²*University of Petrosani, Petrosani, Romania*

SECTION S2-1 Bio-nanotechnologies and Biomaterials 09:00-13:00 Room 6

Co-chairs: Liliana Verestiuc, Liudmyla Sukhodub

S2-1.1 Synthesis and Characterization of Self-assembled Submicron Particles Based on Biotinylated N-palmitoyl Chitosan

V. Balan, C.I. Moise, and L. Verestiuc
Faculty of Medical Bioengineering, Grigore T. Popa University of Medicine and Pharmacy, Iasi, Romania

S2-1.2 A Novel Nanocomposite (SR/HA/-nZnO) Material for Medical Application

H.Sh. Majdi¹, A.N. Saud², and M.H. Al-Mamoori¹
¹*Biomedical Engineering Department, Al-Mustaqbail University College, Babylon, Iraq*
²*Material engineering, University of Babylo, Babylon, Iraq*

S2-1.3 Functionalization of Flavonoids (quercetin) to Chitosan Matrix and Determination of Antioxidant Activity of Obtained Bio-composites

M. Gonta¹, E. Sirbu¹, S. Robu¹, A. Gonta², and L. Mocanu¹

¹Moldova State University, Chisinau, Republic of Moldova

²Institute of Chemistry, Academy of Science of Moldova, Chisinau, Republic of Moldova

S2-1.4 Use of the Auto Osteomatrix Forte Graft in Total Tympanomastoid Dissection

I. Ababii, S. Vetrician, V. Smetanca, and L. Danilov

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

S2-1.5 Molecular Docking of Compounds Modulating Amyloid Peptide Aggregation Schemes

S. Ginosyan¹, Y. Hambardzumyan¹, T. Mkrtchyan², H. Grabski¹, and S. Tiratsuyan^{2,3}

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³Department of Biophysics, Faculty of Biology, Yerevan State University, Yerevan, Armenia

S2-1.6 Influence of MW Irradiation on the Hydroxyapatite/Chitosan Composite Structure and Drug Release Kinetics

L.B. Sukhodub, M.O. Kumeda, and L.F. Sukhodub

Laboratory Bionanocomposite, Sumy State University, Sumy, Ukraine

S2-1.7 Composite Metamaterials for Biological Decontamination of Fluids

N.A. Enaki¹, M. Turcan¹, S. Bazgan¹, E. Starodub¹, T. Paslari¹, A. Nistreanu¹, C. Ristoscu², and I.N. Mihailescu²

¹Quantum Optics and Kinetic Processes Laboratory, Institute of Applied Physics, Chisinau, Republic of Moldova

²Laser-Surface-Plasma Interactions Laboratory, National Institute for Lasers, Plasma and Radiation Physics (INFLPR), Romania

10:30-11:00 COFFEE BREAK

Co-chairs: *Viorel Nacu, Oleg Arnaut*

S2-1.8 Improvement of the Antibacterial Activity of Benzylpenicillin in combination with Green Silver Nanoparticles against *Staphylococcus aureus*

S. Ohanyan, H. Grabski, L. Rshtuni, S. Tiratsuyan, and A. Hovhannisyan

Russian-Armenian University, Department Medical biochemistry and biotechnology

S2-1.9 Testing Green Silver Nanoparticles for Genotoxicity, Antioxidant and Anticancer Activity

M. Petrosyan¹, T. Gevorgyan¹, G. Kirakosyan^{1,2}, L. Ghulikyan², A. Hovhannisyan¹, and N. Ayvazyan²

¹Russian-Armenian University, IMBiF, department of Medical Biochemistry and Biotechnologies, Yerevan, Armenia

²L. Orbeli Institute of Physiology NAS, Yerevan, Armenia

S2-1.10 Effects of Green Silver Nanoparticles on CCl₄ Injured Albino Rats' Liver

Sh. Kazaryan¹, M. Petrosyan¹, L. Rshtuni¹, V. Dabaghyan², and A. Hovhannisyan¹

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S2-1.11 The Influence of Semiconductor Nanoparticles upon the Activity of Mesenchymal Stem Cells

T. Braniste¹, V. Cobzac², P. Ababii³, I. Plesco¹, S. Raevschi⁴, A. Didencu³, M. Maniuc³, V. Nacu², I. Ababii³, and I. Tiginyanu¹

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³Department of Otorhinolaryngology. State University of Medicine and Pharmacy "Nicolae Testemiteanu", Chisinau, Moldova

⁴Department of Physics and Engineering, State University of Moldova, Chisinau, Moldova

S2-1.12 Study of a Customized Implant in Cranio-Maxillofacial Surgery

C. Miron-Borzan, H. Chezan, C. Buciuman, and E. Sabau

Technical University of Cluj-Napoca, Cluj-Napoca, Romania

S2-1.13 Evaluation of Stimulatory, Antifungal and Thermo-resistant Action of Aqueous Dispersions of Nanoparticles on Seeds of Parental Forms and Reciprocal Hybrids of Winter Wheat

S.N. Maslobrod¹, G.A. Lupashku¹, S.I. Gavzer¹, A.I.Gore¹, and Yu.A. Mirgorod²

¹Institute of Genetics, Physiology and Plant Protection of ASM, Chisinau, Moldova

²Southwest State University, Kursk, Russia

S2-1.14 The Cathepsin D as a Potential Biomarker for Survival Rate in Polytrauma. Pilot Research

O. Arnaut^{1,2}, S. Șandru^{1,2}, A. Sauleal¹, I. Grabovschi^{1,2}, and Gh. Rojnoveanu^{1,2}

¹„Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova, Chișinău, Republic of Moldova

²Emergency Medicine Institute, Chișinău, Republic of Moldova

S2-1.15 Synthesis and Biological Properties of the Novel Coordination Compound with Rhodanine-3-Acetic Acid

A. Vitiu^{1,2}, D. Chișca^{1,3}, E. Gorincioi^{2,3}, E. Coropceanu^{2,3}, and P. Bourosh^{1,3}

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²Institute of Chemistry, Chisinau, Republic of Moldova

³Tiraspol State University, Chisinau, Republic of Moldova

S2-1.16 Smart Mucoadhesive Polymeric Biomaterials for Medical /Pharmaceutical Applications and in Vitro Models for Their Evaluation

L. Verestiuc and B.I. Ciubotaru

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

13:00 – 14:00 LUNCH

PLENARY SESSION PL-3 - *Polyvalent hall* 14:00 – 15:30

Co-chairs: *Ion Tiginyanu, Victor Sontea*

Ceremony of signing the Agreement of Collaboration between the Academy of Sciences of Moldova and Shizuoka University, Japan

14⁰⁰ PL-3.1 Introduction of Shizuoka University Research, Industry-University Cooperation and Technology Transfer

Masakazu Kimura

Shizuoka University, 836, Ohya, Suruga-ku, Shizuoka-Shi, Shizuoka, Japan

14³⁰ PL-3.2 Nanosensors: Current Status and Perspectives

Oleg I. Lupan^{1,2,3}, L. Chow³, and R. Adelung²

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

² *Kiel University / Institute for Materials Science/Functional Nanomaterials, Kiel, Germany*

³ *University of Central Florida/Department of Physics, Orlando, USA*

15⁰⁰ PL-3.3 Exploiting the versatility of nanostructured transistors for biosensing applications

Bergoi Ibarlucea

Technical University of Dresden, Dresden, Germany

15:00 CLOSING CEREMONY

16:00 SOCIAL EVENTS

POSTERS SESSION

September 19 13:00 - 17:30

Co-chairs: *Artur Buzdugan, Ion Pocaznoi, Vasilii Cretu*

SECTION S1

Nanotechnologies and Nanomaterials

S1-P.1 Spectral Investigation of Surface Plasmon Resonance Bands of Silver Nanoparticles Capped with Gallic Acid

L. Popescu¹, G. Ababei², D. Babusca¹, D. Creanga¹, C.A. Benchea¹, N. Lupu², and L. Oprica³

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

²National Institute of Research and Development for Technical Physics, Iasi, Romania

³Alexandru Ioan Cuza University, Biology Faculty, Iasi, Romania

S1-P.2 Application of CdS Insulator Nano Layers in SIS Structures Based on pSi

L. Gagara¹, P. Gashin¹, and M. Revenco²

¹ Faculty of Physics and Engineering, Moldova State University, Kishinau, Moldova

² Faculty of Chemistry and Chemical Technology, Moldova State University, Kishinau, Moldova

S1-P.3 ZnO Nanometric Layers Used in Photovoltaic Cells

V. Botnariuc, L. Gorceac, A. Coval, B. Cinic, P. Gaugas, P. Chetrus, I. Lungu, and S. Raevschi

Department of Physics and Engineering, Moldova State University, Chisinau, Republic of Moldova

S1-P.4 Resistivity Response to Stress and Strain of a Flexible Bi₂Te₃ Based Thermoelectric Material

L.O. Akinsinde¹, S. Scheitz¹, L. Zimoch², J. K. Sierck², L. Siebert², R. Adelung², U. Schürmann², M. A. Rübhausen¹, T. Dankwort², and L. Kienle²

¹Center for Free Electron Laser Science (CFEL), Institute for Nanostructures and Solid State Physics (INF), Universität Hamburg

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S1-P.5 Fabrication and Application of TEM-compatible Sample Grids for *ex situ* Electrical Probing

O. Gronenberg¹, N. Carstens², A. Vahl², F. Faupel², and L. Kienle¹

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² Institute of Material Science, Nanocomposite Materials, CAU Kiel, Kiel, Germany

S1-P.6 Optical Activity in Mn Doped As₂S₃ Glasses

V.V. Zalamai¹, A.V. Tiron¹, M.S. Iovu², and N.N. Syrbu¹

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S1-P.7 Growth of p-GaN on Silicon Substrates with ZnO Buffer Layers

S. Raevschi¹, L. Gorceac¹, V. Botnariuc¹, and T. Braniste²

¹Moldova State University, Institute of Research and Innovation, Chisinau, Moldova

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

S1-P.8 TEM and Electrochemical Investigation of Different Morphology Silicon Anodes

K. Saleem¹, U. Schürmann¹, S. Hansen², H. Cavers², R. Adelung², and L. Kienle¹

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² Institute for Material Science, Functional Nanomaterials, CAU Kiel, Germany

S1-P.9 Structural and Photoluminescence Properties of Nanoparticles Formed by Laser Ablation of Porous Silicon in Ethanol and Liquid Nitrogen

A.V. Skobelkina¹, F.V. Kashaev¹, S.V. Zabortnov¹, A.V. Kolchin¹, T.P. Kaminskaya¹, D.E. Presnov^{1,2,3}, E.A. Sergeeva^{4,1}, M.Yu. Kirillin⁴, L.A. Golovan¹, and P.K. Kashkarov¹

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

³ Quantum Technology Centre, Faculty of Physics, Lomonosov Moscow State University, Moscow, Russia

⁴ Institute of Applied Physics RAS, Nizhny Novgorod, Russia

S1-P.10 Micromechanical Properties and Plastic Deformation Features of the Pb_{1-x}Yb_xTe Ternary Semiconductors

D.Z. Grabco¹, V.Z. Nicorici², Z.A. Barbos¹, D. Topal^{1,2}, and O.A. Shikimaka¹

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² State University of Moldova, Chisinau, Republic of Moldova

S1-P.11 Comparative Study of the p-CdS/n-CdTe Photovoltaic Devices with Depleted Intrinsic Layer

A. Al Qassem, L. Gagara L., V. Fedorov, I. Lungu, and T. Potlog

Physics Department and Engineering Moldova State University Chisinau, Republic of Moldova

S1-P.12 GaN-based 2D and 3D Architectures for Electronic Applications

V. Ciobanu

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

S1-P.13 Silanized Citric Acid Capped Magnetic Nanoparticles and Influence on Chlorophyll

L. Popescu¹, L. Sacarescu², M. Grigoras³, C. Morosanu¹, D. Creanga¹, D. Dorohoi¹, and C. Stan⁴

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

² P. Poni Institute of Macromolecular Chemistry, Iasi, Romania

³ National Institute National Institute of Research and Development for Technical Physics, Iasi, Romania

⁴ Politehnica University, Applied Science Faculty, Bucuresti, Romania

S1-P.14 Enhancement in Conductivity and Photoresponse of Ga Doped ZnO Nanofibers

M.N. Martyshov¹, A.S. Ilin¹, V.B. Platonov², P.A. Forsh³, and P.K. Kashkarov^{1,3}

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² Chemistry Department, Lomonosov Moscow State University, Moscow, Russia

³ National Research Centre "Kurchatov Institute", Moscow, Russia

S1-P.15 Scattering Indicatrix for Absorbing Porous Medium with Dark Modes

V.V. Sergentu¹, E.V. Monaico², and V.V. Ursaki³

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³ Institute of Electronic Engineering and Nanotechnologies "D.Ghitu", Chisinau, Republic of Moldova

S1-P.16 Mechanical and Wetting Properties of Three-Dimensional Flexible Tetrapodal ZnO Networks ALD-coated with Al₂O₃

A. Gapeeva¹, M.T. Bodduluri², S. Kaps¹, F. Rasch¹, B. Wagner², R. Adelung¹, and O. Lupan^{1,3}

¹ Functional Nanomaterials, Institute for Materials Science, Kiel University, Kiel, Germany

² Materials and Processes for Nanosystem Technologies, Institute for Materials Science, Kiel University, Kiel, Germany

³ Department of Microelectronics and Biomedical Engineering, Technical University of Moldova, Chisinau, Republic of Moldova

S1-P.17 Surface Enhanced Raman Spectroscopy of Organic Molecules Adsorbed on Silvered Porous Silicon Covered with Graphene

K. Mamatkulov G. Arzumanyan¹, M. Vorobyeva¹, H. Bandarenka¹, S. Zavatski¹, and N. Khinevich¹

¹ Department of Raman spectroscopy, Joint Institute for Nuclear Research, Russia

² Laboratory of Applied Plasmonics, Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus

S1-P.18 Spectral and Dynamical Characterization of Multiexcitons in CdSe/CdS/CdZnS Colloidal Quantum Dots

V.I. Pavlenko¹, I.V. Belousov¹, I.I. Dobynde¹, and D.I. Ozol²

¹ Institute of Applied Physics, Kishinev, Republic of Moldova

² Moscow Institute of Physics and Technology, Dolgoprudny, Moscow Region, Russian Federation

S1-P.19 Influence of the Growth Temperature on the Properties of the Transparent and Conductive NiO Thin Films Obtained by RF Magnetron Sputtering

L.Ghimpu¹, V. Suman¹, and D. Rusnac²

¹ Institute of Electronic Engineering and Nanotechnologies, Academy of Sciences of Moldova, Chisinau, Moldova

² Department of Physics and Engineering, Moldova State University, Chisinau, Moldova

S1-P.20 Mimicking Brain Activities: Artificial Synapses and Learning Using GaN Membranes

M. Dragoman¹, A. Dinescu¹, D. Dragoman^{2,3}, T. Braniste⁴, V. Ciobanu⁴, and I. Tiginyanu^{4,5}

¹ National Research and Development Institute in Microtechnology, Bucharest, Romania

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⁵ Academy of Sciences of Moldova, Chisinau, Moldova

S1-P.21 Exploitation of Ultra-porous Aerogalnite for Microwave Electromagnetic Interference Shielding

M. Aldrigo¹, M. Dragoman¹, T. Braniste², S. Iordanescu¹, S. Raevski³, S. Shree⁴, R. Adelung⁴, and I. Tiginyanu^{2,5}

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S1-P.22 Superconductivity and Weak Ferromagnetism in Inclination Bicrystal Interfaces of Bismuth and Antimony

F.M. Muntyanu¹, K. Nenkov², A.J. Zaleski³, and V. Chistol⁴

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⁴ Technical University of Moldova, Chisinau, Moldova

S1-P.23 Elastic Coupling at Epitaxial Multiferroic Interfaces: *in situ* X-ray Studies of Electric Field Induced Strain

C. T. Koops¹, S. B. Hrkac¹, M. Abes¹, P. Jordt¹, J. Stettner¹, A. Petraru², H. Kohlstedt², V. Hrkac³, N. Wolff³, L. Kienle³, O. H. Seeck⁴, G. Nisbet⁵, O. M. Magnussen^{1,6}, and B. M. Murphy^{1,6}

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⁴ Photon Science, DESY, Hamburg, Germany

⁵ Diamond Light Source, Harwell Science and Innovation Campus, Didcot, United Kingdom

⁶ Ruprecht Haensel Laboratory, Kiel University, Kiel, Germany

S1-P.24 Photocatalytic Degradation of Methylene Blue with Composite Nanocrystalline TiO₂+diatomite

T.Ya. Datsko¹, V.I. Zelentsov¹, and D.P. Dvornikov²

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S1-P.25 Luminescent Properties on ZnO:Cr Nanocrystals and Thin Layers

T. Goglidze¹, I. Dementiev¹, E. Goncarencu^{1,2}, N. Nedeoglo¹, T. Iurieva¹, and D. Nedeoglo¹

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S1-P.26 Applications of Chalcogenides as Electron Transport Layers and Doping Materials in Perovskite Solar Cells

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S1-P.27 Applications of Chalcogenides as Hole Transport Layers and Dopants in Perovskite Solar Cells

M.E. Popa

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S1-P.28 Refractive Index in the Region of Excitonic Resonances in TlGaSe₂ Crystals

A.V. Tiron

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SECTION S2

Bio-nanotechnologies and Biomaterials

S2-P.1 Hydrogels Based on Collagen and Dextran for Bioartificial Tissues

M. Butnaru, A.M. Lucaci, B.P. Cosman, and L. Verestiuc

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S2-P.2 Synthesis of New Zinc Phthalocyanine with Block Copolymers in Nanomedicine Applications

P. Tiuleanu¹, S. Robu¹, V. Prisakari², V. Furtuna¹, R. Rusnac¹, and T. Potlog¹

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² Nicolae Testemițanu State University of Medicine and Pharmacy

S2-P.3 Acid Corrosion Inhibitor from Tobacco Waste for Steel of Oil Pipes

Yu. A. Mirgorod¹, A.M. Storozhenko¹, and E.P. Condrea²

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² Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova,

SECTION S3

Biomedical Instrumentation and Sensors

S3-P.1 An Optimal Path Planning Proposal for Motion Robots with Specific Constraints Applicable in Biomedical Engineering

C. Corciovă, M. Turnea, A. Gheorghiiță, and D. Arotăriței

University of Medicine and Pharmacy "Grigore T. Popa", Biomedical Sciences Department, Iasi, Romania

S3-P.2 Conductance and Photoconductance of Indium Oxide-Zinc Oxide Composites in the Hydrogen-Containing Atmosphere

A.S. Ilin¹, P.A. Forsh^{1,2}, M.I. Ikim³, A.V. Koroleva¹, M.N. Martyshov¹,

L.I. Trakhtenberg^{3,4}, and P.K. Kashkarov^{1,2}

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³ N.N. Semenov Federal Research Center for Chemical Physics, Russian Academy of Sciences, Moscow, Russia

⁴ Chemistry Department, Lomonosov Moscow State University, Moscow, Russia

S3-P.3 Clothes Sensor System for Children

V. Danila¹, A. Curteza², M. Irovan¹, and S. Railean¹

¹ Technical University of Moldova, Chisinau, Republic of Moldova

² Gheorghe Asachi Technical University of Iasi, Iasi, Romania

S3-P.4 Infrared Therapy Device with Amplitude Modulated Broadband Signal

Iu. Nica, S. Zavrăjniei, L. Pogorelischi, and V. Cebotari

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

S3-P.5 Microelectronic Pyroelectric Measuring Transducers

A.O. Semenov, S.V. Baraban, O.V. Osadchuk, O.O. Semenova, K.O. Koval, and A.Yu. Savvitskyi

Faculty for Infocommunications, Radioelectronics and Nanosystems, Vinnytsia National Technical University, Vinnytsia, Ukraine

S3-P.6 Effects of Paucity of Medical Equipment Maintenance Manpower: a Case Study of the Health Care Delivery Systems, South-Eastern Nigeria

U.C. Okorocho¹ and S. Okafor²

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² Department of Biomedical Technology, Federal University of Technology, Owerri, Imo State, Nigeria

SECTION S4

Biomedical Signal and Image Processing

S4-P.1 Wavelet Diagnostics of the Limitation of Death by a Method of an Azimuthally-invariant Mueller-matrix Microscopy

Yu. Sarkisova¹, V.T.Bachinskyi¹, M. Garazdyuk¹, O.Ya. Vanchulyak¹,
 O.Yu. Litvinenko¹, O.G. Ushenko², B.G. Bodnar¹, A.V. Dubolazov²,
 Yu.O. Ushenko², Yu.Ya. Tomka², I.V. Soltys², and S.Foglnskiy²

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SECTION S5

Biophysics, Health Informatics and Cellular and Tissue Engineering

S5-P.1 Telemedicine - Advanced Technology at the Service of Society

E. Arama¹, S. Maximilian², L. Rotaru¹, and V. Vovc¹

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

²State University of Moldova, Chisinau, Moldova

S5-P.2 Theoretical Model of Lipid Peroxidation Kinetics for Complexes of Cytochrome *c* and Cardiolipin with Participation of Antioxidants

E.Yu. Kanarovskii¹, O.V. Yaltychenko¹, and N.N. Gorinchoy²

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²Institute of Chemistry of Physics, ASM, Kishinev, Republic of Moldova

S5-P.3 Influence of Polarization on Electron Localization in the Coated Tetramer Nanoclusters Used as Elements of Biorecognition Systems

E.Yu. Kanarovskii and O.V. Yaltychenko

Institute of Applied Physics, ASM, Kishinev, Republic of Moldova

SECTION S6

Innovation, development and interdisciplinary research

S6-P.1 Phenomena of Radiative Recombination in Single Crystals of Cadmium Thiogallate with Cadmium (CdGa₂S₄:Cd) or Sulfur (CdGa₂S₄:S) Excess

E. Arama¹, V. Pantea², T. Shemyakova³, and V. Vovc¹

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²Technical University of Moldova, Chisinau, Moldova

³Institute of Applied Physics, Chisinau, Moldova

S6-P.2 Development of the High-resolution Scintillator Type Imager Using Si GRID structures

K. Tabata¹, R. Ohtake¹, J. Nishizawa¹, A. Koike², and T. Aoki¹

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S6-P.3 Packing Conditions of Optical Separated CsI:Tl Scintillator by Silicon Collimator

R. Ohtake¹, K. Tabata², J. Nishizawa², A. Koike³, and T. Aoki^{1,2,3,4}

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S6-P.4 Study on Ferroelectric Thin Film Capacitor for AC-coupled CdTe X-ray Detector

M. Hayakawa¹, H. Nakagawa², K. Sakaida¹, and T. Aoki²

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

S6-P.5 Static vs Novel Dynamic Biofouling-Testing of Fouling-Release Coatings for Marine Applications: Pros and Cons

H. Qiu^{1,2}, I. Hölken², A. Gapeeva¹, R. Adelung¹, and M. Baum¹

¹ Functional Nanomaterials, Institute for Materials Science, Faculty of Engineering, Kiel University, Kiel, Germany

² Phi-Stone AG, Kiel, Germany

S6-P.6 Dynamics of Atoms and Heteronuclear Dimers Conversion in Bose-Einstein Condensate

A. Zingan and O. Vasilieva

Dnister State University, Tiraspol, Moldova

S6-P.7 Devices for Measuring the Parameters of Semiconductor Nanostructured Gas Sensors

V. Verjbitki, S. Railean, and O. Lupan

Department of Microelectronics and Biomedical Engineering Technical University of Moldova, Chisinau, Moldova

S6-P.8 Aluminium-BSF Versus PERC Solar Cells: Study of Rear Side Passivation Quality and Diffusion Length

A. Schütt¹, O. Lupan^{1,2}, and R. Adelung¹

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S6-P.9 Stimulating Action of Micro- and Nanodimensional Cavitation Bubbles on Germination of Seeds

P. Dumitras¹, M. Bologa¹, T. Shemyakova¹, S. Maslobrod², and G. Balan¹

¹ Institute of Applied Physics, Chisinau, Moldova

² Institute of Genetics, Physiology and Plant Protection, Chisinau, Moldova

SECTION S7

Clinical Engineering, Nuclear and Radiation Safety and Security

S7-P.1 Assessing the Safety of Using Incubators for Newborns

C. Pislaru, V. Sontea, and S. Railean

Technical University of Moldova, Chisinau, Republic of Moldova

