

03 November 2021

9¹⁵ – 10⁰⁰ Opening of the Conference. Congratulations to Professor Victor Sontea on the occasion of his 70th birthday

PLENARY SESSION PL-1 **10:00 – 11:30**

Co-chairs: *Hidenori Mimura, Ion Tiginyanu*

10⁰⁰ PL-1.1 Fabrication and Applications of Drawable CNT

Hidenori Mimura

Research Institute of Electronics, Shizuoka University, Hamamatsu, Japan

10³⁰ PL-1.2 Clinical Engineering: Invaluable Contribution in Modern Hospital Management

Nicolas Pallikarakis

Institute of Biomedical Technology, Patras, Greece

11⁰⁰ PL-1.3 Applying the Negligible Mass of Graphene Aeromaterials: Repeatable Air Explosions and Instant Sterilization

Rainer Adelung

Institute for Material Science, Kiel University, Germany

11:30 – 11:45 COFFEE BREAK

Co-chairs: *Veaceslav Ursaki, Apurba Dev*

11⁴⁵ PL-1.4 The Route from Microelectronics via Nanotechnology to Biomedicine: A Multidisciplinary Approach

Ion Tiginyanu

Academy of Sciences of Moldova, Republic of Moldova

12¹⁵ PL-1.5 Management of Medical Technologies - Component of Ensuring the Safety, Efficiency and Quality of Medical Services

Victor Sontea

Technical University of Moldova, Chisinau, Republic of Moldova

12³⁰ PL-1.6 Characterization of Nanoscale Extracellular Vesicles: Opportunities and Challenges

Apurba Dev

Uppsala University, Uppsala, Sweden

13⁰⁰ PL-1.7 Towards the Development of a Biohybrid Lung

Bettina Wiegmann

Lower Saxony Centre for Biomedical Engineering, Implant Research and Development, Hannover, Germany

13:30 – 14:15 LUNCH

SECTION S1-1

Nanotechnologies and Nanomaterials

14:15-17:30

Co-chairs: *Eduard Monaico, Vasile Tronciu*

S1-1.1 Tunable Ferromagnetic Nanomaterials for 6G Technology: Fundamentals and Prospects (*Invited*)

L. Alyabyeva¹ and E. Gorbachev²

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¹ Moscow Institute of Physics and Technology, Dolgoprudny, Russia

² Moscow State University, Moscow, Russia

S1-1.2 Influence of Double Feedback on Stationary States of Quantum Dots Lasers

E. Grigoriev, S. Rusu and V. Tronciu

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S1-1.3 Quantum Photon Conversion via Coherently Driven Permanent Dipole Systems

S. Carlig, A. Mirzac, P. Bardetski and M. A. Macovei

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S1-1.4 Electrical Characterization of Individual Boron Nitride Nanowall Structures

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S1-1.5 Aerosol Spray Deposited Wurtzite ZnMgO Alloy Films with MgO Nanocrystalline Inclusions

V. Morari¹, E. V. Rusu¹, V. V. Ursaki², K. Nielsch³ and I. M. Tiginyanu²

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S1-1.6 Phase Transition in Laser Irradiated TiO₂ Thin Films

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⁴ Center for Surface Science and Nanotechnology, University Politehnica of Bucharest, Bucharest, Romania

15:45-16:00 COFFEE BREAK

Co-chairs: Mihai Iovu, Sergiu Cojocaru

S1-1.7 Variation of Acoustic Properties with Material Parameters in Layered Nanocomposites (*Invited*)

S. Cojocaru

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

S1-1.8 Highly Conductive ZnO Thin Films Deposited Using CVT Ceramics as Magnetron Targets

G.V. Colibaba^{1,2}, D. Rusnac^{1,2}, V. Fedorov³, N. Costriucova², E.V. Monaico⁴ and T. Potlog¹

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S1-1.9 Relaxation Parameters of Cu/substrate Type Coated Systems under Nanoindentation

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S1-1.10 Controlling the Degree of Hydrophilicity/Hydrophobicity of Semiconductor Surfaces via Porosification and Metal Deposition

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S1-1.11 Structural Characterization of Some As-S-Sb-Te Nanostructured Materials

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S1-1.12 Photoluminescence Properties of $\text{Eu}(\text{TTA})_3(\text{Ph}_3\text{PO})_2$

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SECTION S2-1

Biomedical Instrumentation and Signal Processing

14:15-17:30

Co-chairs: *Elena Achimova, Nicolae Jula*

S2-1.1 Smartphone-based Pupillometer with Chromatic Stimuli to Screen Neuro-ophthalmological Diseases (*Invited*)

I. Sousa¹, C. M. Neves² and P. Vieira¹

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S2-1.2 Low Power Constant Current Driver for Implantable Electrostimulator of the Lower Esophageal Sphincter

V. Vidiborschii¹, V. Sontea¹, S. Ungureanu², N. Sipitco² and D. Fosa²

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S2-1.3 Optoelectronic Devices for Blood Testing

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National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv, Ukraine

S2-1.4 The Anisotropy of Light Propagation in Biological Tissues

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S2-1.5 Cathodoluminescent UV Sources for Air Disinfection Applications

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

S2-1.6 A MEMS-INS/GPS Positioning Device for Urban Life Mobility Improvement

T.L. Grigorie, N. Jula, I.R. Adochiei, C.M. Larco, R.V. Mihai, R.C. Pahonie and S. Mustata

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15:45-16:00 COFFEE BREAK

Co-chairs: Calin Corciovă, Corneliu-Nicolae Drugă

S2-1.7 Selective Ammonia Detection by Field Effect Gas Sensor as an Instrumentation Basis for HP-Infection Primary Diagnosis (*Invited*)

N. Samotaev¹, M. Etrekova¹, A. Litvinov¹ and A. Mikhailov²

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S2-1.8 In Vitro Analysis of Enamel Surfaces with Scanning Electron Microscope after Orthodontic Stripping Reduction Using Various Instruments

D. Rotarciuc¹, A. Țurcanu², E. Bud¹ and E.V. Monaico²

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S2-1.9 Identifying the Level of Ionizing Radiation Using a Device Implemented on the Arduino Development Board

A.C. Tulică and I. Șerban

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S2-1.10 Analysis of Mechatronic Devices or Systems that Identify the Biomechanical Parameters of the Lower Limb

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S2-1.11 Minimally Invasive, Fully Implantable Left Ventricular Assist Device: Concept, Design, and Early Prototyping

F. A. Pleșoianu¹, C.E. Pleșoianu^{2,3}, A. Țăruș⁴ and G. Tinică^{2,4}

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S2-1.12 Near-threshold Electron Emission Spectroscopy to Characterize Nanoobjects for Biomedical Applications

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SECTION S5-1

Innovation, Development and Interdisciplinary Research

14:15-17:30

Co-chairs: *Ion Moldovanu, Rodica Siminiuc*

S5-1.1 Molecular Modeling of the Interaction of Taxifolin with Quorum Sensing

Regulator LasR of *Pseudomonas Aeruginosa* (Invited)

H. Grabski¹, S. Ginosyan¹ and S. Tiratsuyan²

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S5-1.2 Breathing Pattern in Subjects with Borderline Personality Disorder in Pain Test

S. Lozovanu¹, I. Moldovanu^{1,2}, V. Vovc¹, T. Besleaga¹, A. Ganenco¹ and I. Tabirta¹

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S5-1.3 Cathodoluminescence and X-Ray Luminescence of ZnIn₂S₄ and CdGa₂S₄ Single Crystals

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S5-1.4 Investigation of Dynamical Properties of a Laser with Incorporated DBR Section Under the Influence of External Optical Feedback

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S5-1.5 Preclinical Stage of Building a Machine Learning System for Sepsis Prediction: A Comparative Study of Four Algorithms

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S5-1.6 Impact of the Covid-19 Pandemic on the Use of Microsoft 365 and Learning Outcomes at the Technical University of Moldova

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15:45-16:00 COFFEE BREAK

Co-chairs: *Artur Buzdugan, Grigor Tatishvili*

S5-1.7 Measuring and Information System for Monitoring Microwave Contamination of Urban Environment (*Invited*)

A. Simakov, I. Vodokhlebov, Y. Bocharov, V. Butuzov and M. Simakov

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S5-1.8 Sorbents Obtained From Cellulose-Containing Waste for Water Purification

T. Marsagishvili, G. Tatishvili, N. Ananiashvili, E. Tskhakaia, N. Giorgadze, M. Gachechiladze, M. Matchavariani and L. Kvinikadze

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S5-1.9 Nanotechnology and Nonproliferation

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S5-1.10 The Effects of Terahertz Radiation on the Development of Biological Organisms I: Wheat Seeds

R.C. Bucur-Portase

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S5-1.11 Microbiological Decontamination of Air and Surfaces due to Nanosecond Discharges

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04 November 2021

PLENARY SESSION PL-2

09:00 – 12:15

Co-chairs: *Boris Gorshunov, Mircea Dragoman*

09⁰⁰ PL-2.1 Surface Modifications of Biomedical Devices

Abdel Salam Makhoul¹, Abdalla Abdal-hay²

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¹Central Metallurgical R&D Institute, Cairo, Egypt

²The University of Queensland, School of Dentistry, Herston, Australia

09³⁰ PL-2.2 The Rediscovery of Ferroelectricity at the Nanoscale

Mircea Dragoman

National Institute for Research and Development in Microtechnologies, Bucharest, Romania

10⁰⁰ PL-2.3 Understanding the Structure of Gels Using X-ray Scattering Methods

Annala Seddon

HH Wills Physics Laboratory, University of Bristol, Bristol, UK

10:30 – 10:45 COFFEE BREAK

Co-chairs: *Vladimir Fomin, Ratko Magjarević*

10⁴⁵ PL-2.4 Terahertz Spectroscopy as an Effective Tool of Experimental Nanophysics

Boris Gorshunov

Moscow Institute of Physics and Technology (National research university), Dolgoprudny, Russia

11¹⁵ PL-2.5 Spin-Dependent Phenomena in Semiconductor Micro- and Nanoparticles for Biomedical Applications

Vladimir Fomin^{1,2,3}

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11⁴⁵ PL-2.6 Improving Lifestyle of Elderly Through Wearable Devices and IoMT

Ratko Magjarević

University of Zagreb, Zagreb, Croatia

12:15 – 12:45 LUNCH

SECTION S1-2

Nanotechnologies and Nanomaterials

12:45 - 14:15

Co-chairs: *Ionel Sanduleac, Ashkhen Hovhannisyan*

S1-2.1 Comparative Analysis of Iron Oxide Nanoparticle's (Fe_3O_4) Cytotoxicity Synthesized by Chemical and Biogenic Methods (*Invited*)

L.M. Farsiyan, Sh.A. Kazaryan and A.A. Hovhannisyan

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S1-2.2 Nanomodification of the Activated Concrete Mixture in Magnetofluidized Layer

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S1-2.3 Characteristics of Surface-Barrier Structures on Zinc Diarsenide with Hole Conductivity

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S1-2.4 Direct Surface Patterning Using Carbazole-based Azopolymer

O. Paiuk¹, A. Meshalkin², A. Stronski¹, E. Achimova², K. Losmanschii², A. Korchovyi¹, Z. Denisova¹, V. Goroneskul¹ and P. Oleksenko¹

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S1-2.5 Magnetothermopower Features in Bismuth Nanowires at 80 K

E. Condrea¹, F. Muntyanu¹ and V. Chistol²

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S1-2.6 Implementation of Nanosensor Wireless Mesh Network

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S1-2.7 Superconductivity, Weak Magnetism, and Quantum Transport of $\text{Bi}_{1-x}\text{Sb}_x$ ($0.07 \leq x \leq 0.2$) Crystallite Structures with Nano-width Interfaces and at Increased Degree of imperfection.

F. M. Muntyanu¹, A. Gilewski², K. Nenkov³, A. J. Zaleski⁴, V. Chistol⁵

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14:15-14:30 COFFEE BREAK

SECTION S7-1 Biomaterials for Medical Applications 14:30-16:30

Co-chairs: *Tudor Braniste, Roman Chornopyschchuk*

S7-1.1 Mechanical Interactions in Interpenetrating Composites (Invited)

L. Siebert^{1,2}, T. Jeschek², B. Zeller-Plumhoff³, R. Roszak¹, R. Adelung² and M. Ziegenhorn¹

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S7-1.2 Imino-chitosan Hydrogels - Promising Biomaterials for *Candida* Infections' Treatment

D. Ailincăi¹, M. Mares², A. C. Bostanaru² and L. Marin¹

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S7-1.3 Aqueous Cations and Excess of Translational Vibrations as the Evidences of Charge Transport in Biomaterials

Z.V. Gagkaeva¹, K.V. Sidoruk², B.P. Gorshunov¹ and K.A. Motovilov¹

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S7-1.4 GaN Ultrathin Membrane for SERS Detection of Rhodamine B

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S7-1.5 Wettability of Highly Conductive ZnO:Ga:Cl CVT Ceramics with Various Ga Content

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S7-1.6 Coordination Compounds of Cu(II), Ni(II) Based on Ethyl 4-benzoate Thiosemicarbazons Derivatives of Salicyl Aldehyde. Antimicrobial and Antifungal Properties

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

S7-1.7 Antimicrobial Properties of a New Polymeric Material for Medical Purposes under Conditions of Low-intensity Current Without External Power Supplies

R. Chornopyschuk¹, V. Nagaichuk², O. Nazarchuk³, O. Kukolevska⁴, I. Gerashchenko⁵, A. Sidorenko⁶ and R. Lutkovskiy⁷

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⁵ Chuiko Institute of Surface Chemistry, NAS of Ukraine, Department of Biomedical Problems of Surface, Dr.habil, Prof., Kyiv, Ukraine

⁶ Ghitsu Institute of Electronic Engineering and Nanotechnologies, Cryogenics Laboratory, Dr.habil, Prof., Chisinau, Republic of Moldova

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S7-1.8 Investigation of the Effect of Adding Tantalum on the Microstructure and Mechanical Properties of Biomedical Ti-15Mo Alloy

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SECTION S2-2

Biomedical Instrumentation and Signal Processing

12:45-14:15

Co-chairs: Călin Corciovă, Vasile Postica

S2-2.1 A Brain-Computer Interface for Controlling a Mobile Assistive Device by Using the NeuroSky EEG Headset and Raspberry Pi (Invited)

O.A. Ruşanu

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

S2-2.2 A Less Traditional Approach to Biomedical Signal Processing for Sepsis Prediction

V. Iapăscurtă

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S2-2.3 Influence of Change in Cardiac State on Probable Properties of Rhythmograms

Y.I. Sokol, P.F. Shapov, M.A. Shyshkin and R.S. Tomashevskiy

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S2-2.4 4-Quadrant Interpretation of the Speed Spot Plot Asymmetry for Arrhythmia Detection

Y.I. Sokol¹, M.A. Shyshkin¹, O.A. Butova¹, O.B. Akhiezer² and O.I. Dunaievskaya²

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S2-2.5 Internet of Things (IoT) in Monitoring Physiological Parameters

R. Fuior^{1,2}, A. C. Băeșu² and C. Corciovă²

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² University of Medicine and Pharmacy "Grigore T. Popa", Iasi, Romania

S2-2.6 Developing of Algorithms for Improving Accuracy of Search for Biomarkers within Results of the Computed Tomography

O.S. Medvedev¹, A.A. Birillo¹, A.N. Dudzich², V.L. Krasilnikova² and V.S. Asipovich¹

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14:15-14:30 COFFEE BREAK

SECTION S9-1

Clinical Engineering, Health Technology Management and Assessment

14:30-16:30

Co-chairs: *Victor Vovc, Spilios Zisimopoulos*

S9-1.1 Deep Learning Methods for Tumor Segmentation and Detection in X-Ray Breast Imaging (Invited)

D. Chatzakis, A. Dermizakis and N. Pallikarakis

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Biomedical Technology Unit, Dept. Of Medical Physics, School of Medicine, University of Patras, Patras, Greece

S9-1.2 Biomedical Engineering and Occupational Therapy Approach in Technologies for Enhancement Human Labor and Defense Abilities

A.Ja. Baci¹, V.V. Fedas¹, I.E. Mereuta^{1,2}, M. Ceca³ and L.A. Listopadova⁴

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³ Institution of Emergency Medicine, Chisinau, Republic of Moldova

⁴ Moldova State University, Doctoral School of Biology and Geonomics, Chisinau, Republic of Moldova

S9-1.3 Implementation of a Medical Equipment Inventory at a Regional Healthcare System in Greece

S. Zisimopoulos¹, A. Dermizakis¹, C. Roilos² and N. Pallikarakis¹

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S9-1.4 Endowment with Medical Devices and Their Conformity Assessment as Key Elements for Improving Access to High Quality Medical Services

Gh. Gorceag

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S9-1.5 The Impact of Positive Blood Alcohol Content on Outcomes of Trauma Patients

E. Corețchi, O. Arnaut, V. Vovc, S. Șandru, S. Cobîletchi, C. Trofimov, V. Mogîldea, R. Baltaga and I. Grabovschi

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S9-1.6 Non-Invasive Monitoring of Pulse Rate and Desaturation Events with Oximeter in Copd Patients with Cardiovascular Comorbidities

A. Popa, N. Caproș, T. Dumitras, O. Corlateanu, M. Dogot, I. Smolenschi, I. Sirbu and M. Dumitras

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S9-1.7 Ozone Therapy Efficiency as Complementary Treatment for COVID-19 Intensive Care Unit Patients. Controlled Unicentric Clinical Study

N. Cernei¹, I. Grabovschi², O. Arnaut², S. Sandru³, I. Chesov³, V. Mogîldea¹, R. Baltaga³

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SECTION S4-1

Molecular, Cellular and Tissue Engineering

12:45-16:30

Co-chairs: *Viorel Nacu, Maria Butnaru*

S4-1.1 New Hydrogels Based on Methacrylated Collagen and Hyaluronic Acid for Soft Tissue Engineering (*Invited*)

A.Raicu¹, I.Cobzariu¹, A.L.Vasilache¹, C.A. Peptu², M. Butnaru¹ and L.Verestiuc¹

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² Cristofor Simionescu Faculty of Chemical Engineering and Environmental Protection, Gheorghe Asachi Technical University of Iasi, Romania

S4-1.2 The Isolation of Fibroblasts by Volumetric Regulation Cycles

M. Jian, V. Cobzac and V. Nacu

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S4-1.3 Mimicking *In Vivo* Tissue Microenvironment for *In Vitro* Testing – Hydrogels for Cell Encapsulation

A. Luca, T.R. Craescu, L. Verestiuc and M. Butnaru

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S4-1.4 The Cartilaginous Tissue Regeneration on Weight Bearing and Non-weight Bearing Surfaces of the Knee

V. Cobzac, M. Jian, T. Globa and V. Nacu

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S4-1.5 Composite Scaffolds with Inclusion of Magnetite Nanoparticles for Bone Tissue Engineering

F.D. Cojocaru¹, A.S. Mihai¹, V. Balan¹, C.A. Peptu², M. Butnaru¹ and L. Verestiuc¹

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S4-1.6 Evaluation of Ultrasound Application for the Decellularization of Small Caliber Vessels

T. Malcova^{1,2}, V. Nacu¹, Gh. Rojnoveanu², B. Andrée³ and A. Hilfiker³

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³ Leibniz Research Laboratories for Biotechnology and Artificial Organs (LEBAO), Department of Cardiothoracic, Transplantation and Vascular Surgery, Hannover Medical School, Hannover, Germany

14:15-14:30 COFFEE BREAK

Co-chairs: *Vitalie Cobzac, Liliana Verestiuc*

S4-1.7 Assessment of Gold Nanoparticles Uptake in Tissues of Female Mice and Their Offspring Using Neutron Activation Analysis (*Invited*)

A. Ivlieva¹, I. Zinicovscaia^{2,3,4}, E. Petrinskaya¹, N. Yushin², D. Rogatkin¹ and A. Peshkova²

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³ Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, Bucharest - Magurele, Romania

⁴ Institute of Chemistry, Chisinau, Republic of Moldova

S4-1.8 Zinc Oxide and Gallium Nitride Nanoparticles Application in Biomedicine: A Review

Șt. Cojocari¹, O. Ignatov¹, M. Jian¹, V. Cobzac¹, T. Braniște², E.V. Monaico², A. Taran³ and V. Nacu¹

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³ Department of Orthopedic and Traumatology, Nicolae Testemitanu State University of Medicine and Pharmacy, Chișinău, Republic of Moldova

S4-1.9 Cellular Lifesaving Flexible Device

S. Meulesteen¹, A. Semenov², O. Semenova², K. Koval^{2,3}, D. Datsiuk³ and H. Fomenko³

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³ Droid Technologies, Kyiv, Ukraine

S4-1.10 Modern Devices and Tools for the Cornea Collection and Processing. Synthesis of Literature

A. Cociug¹, O. Macagonova², V. Cusnir Jr.³, V. Cusnir³ and V. Nacu²

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S4-1.11 Techniques of Dental Pulp Decellularization

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S4-1.12 Assessing the Biological and Mechanical Quality of the Implant Bone Complex Using Medical Micro Technologies.

V. Palarie, V, Nacu

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S4-1.13 The Right to Life. Legal Status of the Human Embryo

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05 November 2021

SECTION 6-1 Biomedical Devices and Sensors 10:00-12:45

Co-chairs: *Anatolie Sidorenko, Konstantin Motovilov*

S6-1.1 PEG-ylated Phenothiazine Derivatives. Synthesis and Antitumor Activity (Invited)

S. Cibotaru¹, V. Nastasa², A.-I. Sandu¹, A.-C. Bostanaru², M. Mares² and L. Marin¹

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² "Ion Ionescu de la Brad" University of Life Sciences, Laboratory of Antimicrobial Chemotherapy, Iasi, Romania

S6-1.2 Analysis of Melanin Properties in Radio-frequency Range Based on Distribution of Relaxation Times

P.A. Abramov, S.S. Zhukov, Z.V. Bedran, B. P. Gorshunov and K.A. Motovilov

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Moscow Institute of Physics and Technology, Dolgoprudny, Russia

S6-1.3 Nanostructuring of Protein Systems by Electroactivation

E.G. Vrabie¹, M.K. Bologa¹, I.V. Paladii¹, V.G. Vrabie², A.A. Policarpov¹, V.P. Gonciaruc¹, C.Gh. Sprincean¹ and T.G. Stepurina¹

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² Institute of Physiology and Sanocreatology, Chisinau, Republic of Moldova

S6-1.4 Study the Effect of UVC Radiation on Specific Regions of the SARS-CoV-2 Coronavirus Genome Encoding the Synthesis of Structural Proteins

Iu. Nica, L. Pogorelischi, S. Zavrajny, V. Dimitriu, L. Peev and A. Sidorenko

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Institute of Electronic Engineering and Nanotechnologies „D. Ghiu”, Chişinău, Republic of Moldova

S6-1.5 Silver Nanoparticles as Stimulators in Biotechnology of *Porphyridium Cruentum*

L. Cepoi¹, L. Rudi¹, T. Chiriac¹, A. Valuta¹, I. Zinicovscaia^{2,3}, V. Mescu¹ and V. Rudic¹

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² Joint Institute of Nuclear Research, Dubna, Russia

³ Horia Hulubei National Institute for Physics and Nuclear Engineering (IFIN-HH), Bucharest - Magurele, Romania

11:15-11:30 COFFEE BREAK

Co-chairs: Dumitru Tsiulyanu, Ionel Sanduleac

S6-1.6 Biomedical Sensors based on Micro- and Nanotechnology (Invited)

B.I. Podlepetsky

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National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Micro- and nanoelectronics Department, Moscow, Russia

S6-1.7 Organic Crystals of p - type TTT_2I_3 and n - type $\text{TTT}(\text{TCNQ})_2$ as Prospective Thermoelectric Materials for Biomedical Sensors

I.I. Sanduleac, S.C. Andronic

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

S6-1.8 Use of Fractional-Quadratic Approximation Invariant of Nonlinear Characteristic of Magnetoelectric Sensor

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² Technical University of Moldova, Chisinau, Republic of Moldova

S6-1.9 Involvement of Contact and Surface Phenomena in Nanolayered Amorphous Te Films for Toxic gas Detection at Room Temperature

D.Tsiulyanu¹, O. Mocreac¹, and T. Braniste²

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S6-1.10 Protective Box for Aerosol Generation Procedures with High Risk of SARS-CoV-2 Infection

S. Railean¹, V. Şontea¹, N. Ababii¹, V. Gladis¹, V. Verjbitchii¹, M. Balan¹, V. Vişanu¹, V. Rata², M. Rotaru³, V. Bernic³, P Trapeznicov³

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SECTION S3-1
Excitations in Condensed Matter
10:00-12:45

Co-chairs: Sofia Klokishner, Victor Zalamai

S3-1.1 New Ground State of Dipolar Lattice of D_2O @Beryl (Invited)

M.A. Belyanchikov¹, M. Savinov², V. Thomas^{3,4}, M. Dressel⁵ and B. Gorshunov¹

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³ Institute of Geology and Mineralogy, RAS, Novosibirsk, Russia

⁴ Novosibirsk State University, Novosibirsk, Russia

⁵ Physikalisches Institut, Universität Stuttgart, Stuttgart, Germany

S3-1.2 Switching of Magnetic and Polarizability Characteristics of Dinuclear [CrCo] Complexes via Intramolecular Electron Transfer

S.I. Klokishner, O.S. Reu and M.A. Roman

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S3-1.3 Excitonic States in Brillouin Zone Center of GaSe Layered Crystals

V.V. Zalamai¹, A.V. Tiron¹, E. Cristea¹ and I.G. Stamov²

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

S3-1.4 Electron Transfer Phenomenon in the Dinuclear {Fe(μ -CN)Co} Complex: Interaction of Molecular Modes with Phonons

S.M. Ostrovsky and S.I. Klokishner

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S3-1.5 Spin Crossover in Trinuclear and Protonated Tetranuclear Iron(II) Complexes: DFT Modelling

S.I. Klokishner and O.S. Reu

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11:15-11:30 COFFEE BREAK

Co-chairs: Mihai Macovei, Vasile Tronciu

S3-1.6 Population Dynamics in a Modulated Optomechanical Setup

V. Ceban and M. A. Macovei

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S3-1.7 Dynamics of Atomic-molecular Conversion of Alkali Metal Isotopes at Ultralow Temperatures

A.P. Zingan and O.F. Vasilieva

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S3-1.8 Photoinduced Anisotropy in Azopolymer Studied by Spectroscopic and Polarimetric Parameters

C. Losmanschii, E. Achimova, V. Abashkin, V. Botnari and A. Meshalkin

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S3-1.9 Temperature Induced Spin Transition in Co(II) Complex

S.I. Klokishner and S.M. Ostrovsky

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SECTION S8-1

Health Informatics, E-health and Telemedicine

10:00-12:45

Co-chairs: *Ileana-Constanta Roșca, Oana Rușanu*

S8-1.1 Low-cost Telemedicine Platform for Monitoring Patients Suspected of Being Infected with SAR-COV-2 (Invited)

C.N. Druga, I.C. Rosca, I. Serban I. Tatulea

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

S8-1.2 Python Implementation for Brain-Computer Interface Research by Acquiring and Processing the NeuroSky EEG Data for Classifying Multiple Voluntary Eye-Blinks

O.A. Rușanu

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S8-1.3 Object Locating System by Phone Tracking

I.C. Roșca¹, C. Druga¹, I. Șerban¹ and R.D. Necula²

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

S8-1.4 Features of Telemedicine Technology for Monitoring of Patients with Atopic Dermatitis

K. Kolisnyk¹, R. Tomashevsky¹, O. Avrunin², V. Kolisnyk², A. Trubitsin² and V. Klymenko³

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³ *Kharkiv National Medical University, Kharkiv, Ukraine*

11:15-11:30 COFFEE BREAK

Co-chairs: *Aurelian Buzdugan, Kostyantyn Kolisnyk,*

S8-1.5 Providing Remote Monitoring of CVD in Specialized Medical and Diagnostic Complexes (Invited)

Y. Sokol¹, K. Kolisnyk¹, S. Koval² and M. Penkova²

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² *Government agency "National Institute of Therapy named after L.T. Maloyi", Kharkiv, Ukraine*

S8-1.6 Clinical-epidemiological Characteristics of Children Hospitalized with COVID - 19 in the Republic of Moldova

G. Buta^{1,2}, S. Cojocar¹, T. Costru¹, R. Puia¹, D. Abdusa- Ganea¹ and A. Ungureanu¹

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

S8-1.7 What do Family Doctors Think about Patient Safety Culture in the Republic of Moldova?

G. Buta¹, C. Tereanu², J. Roncali³, S.M.Ghelase⁴ and M.L.Cara⁵

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⁵ University of Medicine and Pharmacy, Department of Public Health and Healthcare Management, Craiova, Romania,

⁶ Technical State University, Department of Biomedical Engineering, Chisinau, Republic of Moldova

S8-1.8 Assessment of Cyber Security Maturity for Critical Domains in Republic of Moldova

Au. Buzdugan

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PLENARY SESSION PL-3

13:15 – 15:15

Co-chairs: Yuri Dekhtyar, Oleg Lupan

13¹⁵ PL-3.1 Silicon Quantum Dots - Physics and Emerging Applications

Jan Linnros

Royal Institute of Technology, Stockholm, Sweden

13⁴⁵ PL-3.2 Semiconductor and Plasmonic Nanoparticles for Biomedical Applications

Victor Timoshenko^{1,2}

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² Phys-Bio Institute of National Research Nuclear University “MEPhI”, Moscow, Russia

14¹⁵ PL-3.3 Near threshold Electron Emission Spectroscopy to Characterize Nanoobjects for Biomedical Applications

Yuri Dekhtyar

Riga Technical University, Riga, Latvia

14⁴⁵ PL-3.4 3D-Printed Sensors of Nanostructured Semiconducting Oxides

Oleg Lupan^{1, 2, 3}

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

³ University of Central Florida, Orlando, USA

15:15 CLOSING CEREMONY

Co-chairs: Ion Tiginyanu, Victor Sontea