

**The 18th National Conference of Biophysics, Iași,
September 5th-7th 2024
CONFERENCE PROGRAM**

Thursday, September 5th 2024	
15.00-15.30	Conference Registration
15.30-15.40	Conference Opening
15.40-16.20	Chairs - Juliánna Szakács, Monica Neagu Invited talk - „ <i>Nanomechanical challenges for tumor cells at the neurovascular unit</i> ” – research associate dr. Attila Gergely VÉGH , Institute of Biophysics HUN-REN Biological Research Centre Szeged, Hungary
16.20-17.00	Invited talk – “ <i>Quantitative characterization of peptide-lipid membrane interaction using coarse-grained MD simulations, AFM force spectroscopy and theoretical modelling</i> ” – assoc. professor dr. Ioan KOSZTIN , University of Missouri, USA - online
17.00-18.00	Poster session - all sections and topics
18.00-19.00	Welcome reception
Friday, September 6th 2024	
8.30- 9.00	Conference Registration
9.00- 9.40	Chair – Beatrice Mihaela Radu Invited talk - „ <i>The Ionic Liquid Route to Control Cell Membrane Elasticity and Mechanics – A Combined Atomic Force Microscopy, Neutron Scattering, Molecular Dynamics, And Cell Biology Study</i> ” – Professor Dr. Antonio BENEDETTO , University College Dublin, UK & University Roma Tre, Italy
9.40-10.40	Session 1 – chairs: Beatrice Mihaela Radu, Ana Cazacu -„ <i>Unrevealing mechanisms in molecular medicine using experimentally constrained modelling & simulation</i> ” – Andrei-Jose Petrescu , Institute of Biochemistry of The Romanian Academy, Bucharest -“ <i>Robosample: a robot mechanics molecular simulation software for versatile Hamiltonian design</i> ” – Laurentiu Spiridon , Institute of Biochemistry of The Romanian Academy, Bucharest -“ <i>Coarse-gain molecular dynamics simulations of pore-forming peptides</i> ” – Denisa-Sonia Andronic , University of Bucharest, Măgurele
10.40-11.10	Coffee break
11.10-11.50	Chair – Iuliana Motrescu Invited talk – “ <i>Quantitative Applications of Fluorescence Lifetime (FLIM) Measurements Across Biological Scales: From Single Molecules to Organisms</i> ” - senior specialist dr. Anca MĂRGINEANU , Max-Delbrück-Centrum für Molekulare Medizin in der Helmholtz-Gemeinschaft, Germany
11.50-12.30	Session 2 – chair: Ana-Nicoleta Bondar -“ <i>Two layer artificial neural network for biophysical educational applications, an electronic approach using electromagnetic waves</i> ” – Mihai Costache , Alexandru Ioan Cuza University, Iași -“ <i>Considerations regarding breast MRI in connection to the kinetic curves and bi-rads lexicon</i> ” – Mihai Răzvan Bălan , University of Medicine and Pharmacy of Craiova

12.30-13.30	Lunch break
13.30-14.10	Chair – Dan Florin Mihăilescu Invited talk – AI and modelling in drug and vaccine design- professor dr. Jeremy SMITH, Oak Ridge National Laboratory, USA
14.10-15.10	Session 3 – chairs: Dan Florin Mihăilescu, Monica Florescu - „Teaching biophysics. The wonderful world of biomolecular motors” – prof. Aurel Popescu , University of Bucharest, Magurele - “Cellular targeting with peptides” – Corina Ciobănașu , Alexandru Ioan Cuza University of Iasi - “Estimation of optical trapping force of eukaryotic cells using dielectrophoresis” – Dharm Singh Yadav , Carol Davila University of Medicine and Pharmacy, Bucharest
15.10-15.30	Coffee break
15.30-16.30	Session 4 – chairs: Stelian Arjoca, Andrei Vasile Năstuță - “Impact of gramicidin A on membrane fluidity by using laurdan” – Diana-Lavinia Stan , Horia Hulubei” National Institute for Physics and Nuclear Engineering, Măgurele - „Study on the cytotoxicity of some gold nanoparticles” – Eliza Olteanu , Alexandru Ioan Cuza University of Iasi - “Glioma grading based on digital holographic microscopy – a supervised machine-learning pipeline” – Violeta Călin , Carol Davila University of Medicine and Pharmacy, Bucharest
16.30-18.30	City tour
19.00-	Gala Dinner – Ramada Hotel, Iasi
Saturday, September 7th 2024	
9.00 - 10.20	Session 5 – chairs: Adrian Neagu, Eugen Osiac - “Improved detection of magnetic interactions in proteins based on long-lived coherences” – Andrei Ciumeică , University of Bucharest, Bucharest - “Selective enrichment of cancerous DNA using silver nanoparticles: a novel approach for early-stage cancer detection”- Ștefania Iancu , Babeș-Bolyai University, Cluj-Napoca - “Cellular response following the irradiation with low energy accelerated protons at high dose-rate (FLASH regimen)” – Mihai Radu , “Horia Hulubei” National Institute for Physics and Nuclear Engineering, Măgurele - “Assessing the impact of high-dose rate proton beam radiation on B16 melanoma cells” – Andreea Baican , University of Bucharest, Bucharest
10.20-10.40	Coffee break
10.40-11.40	Session 6 – chair: Nicolae Leopold - “3D printed personalized supports for radiation therapy” – Zoltan Balint , Babeș-Bolyai University, Cluj-Napoca - „Exploring the robust correlation between iNAG and serum creatinine biomarkers as predictors of graft rejection in renal transplant” – Marius Ciprian Văruț , Univ. of Med. and Pharm. of Craiova, Craiova - „Refining 3D bioprinting through hydrogel flow rate and extrusion speed measurements” – Stelian Arjoca , Victor Babes University of Medicine and Pharmacy, Timisoara
11.30-12.30	RSPAB Meeting
12.30-13.30	Lunch break

13.30-15.10	<p>Session 7 – chairs: Mihai Radu, Zoltan Balint</p> <p>- „<i>Biophysical mechanisms of photobiomodulation using NIR laser: effects on primary sensory neurons electrophysiology, voltage-dependent Na⁺ channels and ATP production</i>” – Bogdan Amuzescu, University of Bucharest, Bucharest</p> <p>- “<i>Evaluation of prediction formulas of human body fat content based on subcutaneous fat layer thickness measured by A-mode ultrasound</i>” - Adrian Neagu, Victor Babes University of Medicine and Pharmacy, Timisoara</p> <p>-“<i>Use of modern building materials for radiological protection shielding: a new challenge</i>”- Elisabeta Antonescu, Universitatea Lucian Blaga, Sibiu</p> <p>-“<i>Drug safety assessment for cenobamate by analyzing the action on blood-brain barrier and the pro-arrythmogenic effect</i>” – Beatrice Mihaela Radu, University of Bucharest, Bucharest</p> <p>-“<i>Dielectrophoretic changes of mesenchymal stem cells during their differentiation</i>” – Tudor Savopol, Carol Davila University of Medicine and Pharmacy, Bucharest</p>
15.10-15.30	<p>Coffee break</p>
15.30-16.30	<p>Session 8 – chair: Ilie Bodale</p> <p>- „<i>Quantifying absence: Indirect probing of ion effects on the stability of DNA-SSB protein complexes</i>” – Irina Şchiopu, Alexandru Ioan Cuza University of Iasi</p> <p>-“<i>He and Ar plasma exposure of polymers used for 3D printing: from plasma parameters to material properties</i>” – Andrei Vasile Năstuță, “Grigore T. Popa” University of Medicine and Pharmacy Iasi</p> <p>-“<i>Position and trajectory of the center of mass in different types of gaits: a physiological and pathological study</i>” – Marius Dobîndă, Alexandru Ioan Cuza University of Iasi</p>
16.30-17.00	<p>Closing ceremony</p>