

27 August

Session 6

Material Science and Nanobiophysics

Chairs: Zoran Arsov, Roberta Gualdani

- 14.30 – 15.00 Imaging protein-based nanostructured photosensitizers with subdiffraction resolution
Viappiani Cristiano (Plenary Speaker)
- 15.00 – 15.25 Novel label-free optical biosensors for cell dynamics on biomimetic coatings
Horváth Róbert (Invited Speaker)
- 15.25 – 15.50 Interaction of materials with model and cell membranes studied by Fluorescence Microscopy and Microspectroscopy
Štrancar Janez (Invited Speaker)
- 15.50 – 16.05 Bio-functional surfaces for microRNAs purification and analysis
Potrich Cristina
- 16.05 – 16.20 Adaptive resolution simulations of biomolecular systems
Zavadlav Julija
- 16.20 – 17.00 *Coffee Break*
- 17.00 – 17.15 Atomic Force Microscopy analysis of extracellular vesicles
Parisse Pietro
- 17.15 – 17.30 Development of novel FP-based probes for live-cell imaging of nitric oxide dynamics
Eroglu Emrah
- 17.30 – 18.00 A polysaccharide based approach to mimic the extracellular matrix in biomaterials
Ivan Donati (Invited Speaker)
- 18.00 – 20.00 *Poster Session*

28 August

Session 7

Emerging Methods in Biophysics: Live Imaging, Nanoscopy et al.

Chairs: Peter Zavodszky, Gregor Anderluh

- 09.00 – 09.30 Light microrobotics in biology
Ormos Pál (Plenary Speaker)
- 09.30 – 09.55 Mapping of hemoglobin residuals in erythrocyte ghosts using two photon excited fluorescence microscopy
Krmpot Aleksandar (Invited Speaker)
- 09.55 – 10.20 Polyelectrolyte composite: hyaluronic acid mixture with DNA
Vuletić Tomislav (Invited Speaker)
- 10.20 – 11.00 *Coffee Break*
- 11.00 – 11.15 Functional dynamics of an unusual photolyase revealed by transient absorption spectroscopy
Lukacs Andras
- 11.15 – 11.30 Bleach-rate imaging – fluorescence microspectroscopy at hand
Urbančič Iztok
- 11.30 – 11.45 Intercellular highways - membrane nanotube networks between B lymphocytes: fundamental growth determinants and transport functions
Szabo-Meleg Edina
- 11.45 – 12.00 Development of smart fluorescent probes to reveal internalization and accumulation in cells through aggregation-induced spectral shift
Arsov Zoran
- 12.00 – 12.15 Swimming Motility of Bacteria in Microfabricated Environments
Galajda Peter
- 12.15 – 12.45 Biophysics networks in Europe: the "Association of Resources for Biophysical Research in Europe (ARBRE)" and the COST Action "Between Atom and Cell: Integrating Molecular Biophysics Approaches for Biology and Healthcare (MOBIEU)"
Robert Gilbert (Invited Speaker)
- 12.45 – 14.30 *Closing remarks and Light Lunch*



Regional Biophysics Conference (RBC2016)

25-28 August 2016, Trieste (Italy)



CONFERENCE PROGRAM



25 August Registration and light lunch at the Congress Venue

14.00 – 14.30 Welcome addresses

Session 1 Molecular and Cell Biophysics**Chairs: László Mátyus, Renato Gennaro**

14.30 – 15.00 A new auditory neuro-electronic interface: spiral ganglion neurons cultured on advanced micro-electrode array

Kovačić Damir (Plenary Speaker)15.00 – 15.25 Shaker-IR K⁺ channel gating in heavy water: role of structural water molecules in inactivationPanyi György (Invited Speaker)

15.25 – 15.50 Calcium wave generation in cardiac myocytes

Zahradníková Alexandra (Invited Speaker)

15.50 – 16.05 On the role of external force of actin filaments in the formation of tubular protrusions of closed membrane shapes with anisotropic membrane components

Mesarec Luka16.05 – 16.40 *Coffee Break*

16.40 – 16.55 Computational Design of Histone Deacetylase Inhibitors as Antitumor Agents

Frečer Vladimir

16.55 – 17.10 The cellular effects induced by the pore-forming agent nystatin

Božić Bojan19.00 – 23.30 *Congress Dinner***26 August****Session 2 Supramolecular Assemblies and Aggregation****Chairs: Valeria Militello, Srđan Antić**

09.00 – 09.30 DNA-aptamers structure, physical properties and applications

Hianik Tibor (Plenary Speaker)

09.30 – 09.55 Amyloid formation and its inhibition by chaperones and chaperon-like molecules: the effect on different nucleation mechanisms

Librizzi Fabio (Invited Speaker)

09.55 – 10.20 Role of cardiolipin for stability of cytochrome c oxidase

Sedlák Erik (Invited Speaker)

10.20 – 10.35 Lone-pair-p interactions in nucleic acids and proteins: physical origin and significance

Kozelka Jiri

10.35 – 10.50 Manipulating liquid crystal flows in microfluidic environment

Tkalec Uroš

10.50 – 11.05 Role of Calcium in localization of a blood clot in an ex vivo injured blood vessel

Podlipec Rok11.05 – 11.30 *Coffee Break***Session 3A Synthetic Biology and Integrative Biophysics and Complex Systems.****Chairs: Aleksandar Krmpot, Vladimir Frečer**

11.30 – 12.00 Electrostatics goes viral

Podgornik Rudolf (Plenary Speaker)

12.00 – 12.15 Entropy production in enzyme reactions

Dobovišek Andrej

12.15 – 12.30 The effect of magnesium ions on the structure of thin DNA films: an infrared spectroscopy study

Dolanski Babić Sanja12.30 – 14.30 *Light Lunch***26 August****Session 3B Synthetic Biology and Integrative Biophysics and Complex Systems****Chairs: Aleksandar Krmpot, Vladimir Frečer**14.30 – 14.55 Systems pharmacology model for the assessment of bronchoconstriction rate due to non-steroidal anti-inflammatory drugs Fajmut Ales (Invited Speaker)

14.55 – 15.20 Understanding substrate recognition and function of human dipeptidyl peptidase III

Tomić Sanja (Invited Speaker)

15.20 – 15.35 Investigating cell functioning by theoretical analysis of cell-to-cell variability

Svetina Saša**Session 4 Nanoclustering of membranes and membrane proteins.****Chairs: Eva Sevcsik, Pavle Andjus**

15.35 – 16.00 Studying membrane bioactivity with advanced (super-resolution) optical microscopy

Eggeling Christian (Plenary Speaker)16.00 – 16.25 Combining protein micropatterning and single molecule microscopy to decipher plasma membrane organization Sevcsik Eva (Invited Speaker)16.25 – 16.50 ER nanojunctions and ER Ca²⁺ refilling in vascular endothelial cells: experiments and modelsFameli Nicola (Invited Speaker)16.50 – 17.20 *Coffee Break*17.20 – 17.45 Insights on the morphology and biological activity of gold nanoparticles protected by self-assembling mixtures of ligands Paola Posocco (Invited Speaker)17.45 – 18.00 Changes in the biophysical properties of the plasma membrane in Gaucher disease, a lysosomal storage disorder Nagy Peter

18.00 – 18.15 Direct imaging of nanoplateforms in the live cell plasma membrane

Brameshuber Mario18.15 – 18.30 Connecting the mechanism of action with lipid composition: Molecular dynamic study of the antimicrobial peptide maculatin 1.1 Zoranić Larisa18.30 – 20.00 *Poster Session***27 August****Session 5 Biophysical Medicine and Neuroscience****Chairs: Bozidar Casar, Sanja Tomić**09.00 – 09.30 Biophysical Properties of Dendrites of Cortical Pyramidal Neurons - Simultaneous Sodium and Calcium Imaging Antić Srđan (Plenary Speaker)

09.30 – 09.55 Fractal and lacunarity analysis in neuroscience: application in 2D image of the brain neurons

Milošević Nebojša (Invited Speaker)

09.55 – 10.20 Molecular mechanisms and pharmacological implications of a new family of TRP antagonists

Gualdani Roberta (Invited Speaker)

10.20 – 10.35 Rupture Forces among Human Blood Platelets at different Degrees of Activation

Thi-huong Nguyen10.35 – 10.50 In vivo EPR measurements of the pharmacokinetics of nitroxides: The role of modeling in the assessment of the redox status Pavičević Aleksandra10.50 – 11.30 *Coffee Break*11.30 – 11.45 Intracellular pathophysiological changes of astrocytes from a rat model of amyotrophic lateral sclerosis Andjus Pavle11.45 – 12.00 Alternative functions of stefin B: a role in cell's response to mis-folded proteins and oxidative stress Žerovnik Eva

12.00 – 12.30 Converging and correlative approaches towards optical nanoscopy

Alberto Diaspro (Invited Speaker)12.30 – 14.30 *Light Lunch and RBC advisory board meeting*