



## **FIRST MULTIDISCIPLINARY CONFERENCE OF THE ITALIAN RESEARCHERS IN CZECH REPUBLIC**

**18/6/2019** 17.00-20.00

**Opening ceremony with the participation of H.E. Francesco Saverio Nisio, Ambassador of Italy and Authorities**

Introduction to the Conference by Dr. Luca Vannucci, President of the Czech Immunological Society, scientific organizer

Concert of Johanna Hanikova, pianist (Scarlatti, Chopin, Liszt)

Welcome cocktail

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### **SCIENTIFIC PROGRAM**

**19/6/2019**

#### **Section 1: Bio-medicine, physiology and biotechnologies**

Chair: Luca Vannucci, Giancarlo Forte

Part 1 - 9.00-10.40

**Luca Vannucci.** *Morphology and immunity in transforming tissues: looking for the tumor niche.* Laboratory of immunotherapy, Institute of Microbiology CAS, v.v.i., Prague.

**Giancarlo Forte.** *International Clinical Research Center: a science excellence center and an incubator for international talents.* Center for Translational Medicine (CTM) International Clinical Research Center (ICRC), St. Anne's University Hospital.

**Guido Caluori.** *Basic to clinical cardiological research in FNUSA-ICRC electrophysiological center* Interventional Cardiac Electrophysiology, FNUSA-ICRC, Brno and Nanobiotechnology, CEITEC-MU, Brno.



**Alice Abbondanza.** *Understanding the role of nicotinic cholinergic receptors in striatal-based behaviour* Department of Neurochemistry, Institute of Physiology, Czech Academy of Sciences, Prague.

**Anna Malandra.** *Effect of Bordetella pertussis virulence factors increasing cAMP levels on mucin production in human airways.* Institute of Microbiology of the CAS, v.v.i., Prague.

Question time: 10.40-10.55

**Coffee break 10.55-11.10**

Part 2 - 11.10-11.50

**Vincenzo Tarallo.** *Evolved Methionine Sulfoxide Reductase A for Biotechnological Applications.* Department of Organic Chemistry, Faculty of Science, Charles University.

**Paolo Tenti.** *Lysyl Oxidases and formation of the early Tumoral Niche.* Laboratory of immunotherapy, Institute of Microbiology of the CAS, v.v.i., Czech Republic and Faculty of Science, Charles University, Prague.

Question time: 11.50 – 11.55

Part 3 – 11.55- 12.50

## **Section 2: Physics, chemistry and engineering**

Chair: Benjamin Irving

*Mini-session: Computational Materials Science*

**Benjamin Irving, Antonio Cammarata, Paolo Nicolini (55 min)**

Advanced Materials Group, Department of Control Engineering, Faculty of Electronic Engineering, Czech Technical University in Prague, Prague.

*a) Overview of the mini-session (B. Irving)*

*b) Nanoscale friction properties of ordered and disordered molybdenum disulfide (P. Nicolini)*

*c) Tailoring friction and energy dissipation at nanoscale (A. Cammarata)*



*d) Nanoscale properties of TMDs: an in-silico study (B. Irving)*

**Lunch 12.50 – 14.00**

Part 4 - 14.00-15.20

Chair: Alessandra Picchiotti, Gabriele Maria Grittani

**Francesco Piana.** *Polymers and composite materials for flexible electronics.* Ústav makromolekulární chemie AV ČR, v. v. i. - Oddělení polymerů pro elektroniku a fotoniku Prague.

**Lorenzo Giuffrida.** *Brilliant and energetic alpha-particle source based on proton-boron nuclear fusion.* Institute of Physics ASCR, v.v.i (FZU), ELI-Beamlines project, Prague.

**Daniele Margarone.** *Laser-driven Ion Acceleration and Societal Applications at the Extreme Light Infrastructure (ELI).* Institute of Physics ASCR, v.v.i (FZU), ELI-Beamlines project.

**Gabriele Maria Grittani.** *Radiotherapy with high energy electrons generated by high power lasers: a potential new technology to treat cancer.* Institute of Physics ASCR, v.v.i (FZU), ELI-Beamlines project.

Question time: 15.20-15.30

**Coffee break 15.30-15.40**

Part 5 - 15.40-16.40

## **POSTER SESSION**

**1) Role of APP axonal transport in Alzheimer's disease and Chronic Traumatic Encephalopathy.** *Valentina Lacovich, PhD, FNUSA-ICRC, Victorio Martin Pozo Devoto, PhD, FNUSA-ICRC, Maria Novaková, PhD, FNUSA-ICRC, Kateřina Texlová, Bc, FNUSA-ICRC, Monica Feole, MS, FNUSA-ICRC, Gorazd Bernard Stokin, MD, PhD, FNUSA-ICRC*

**2) In vitro model of cardiac fibrotic process to unveil the mechanisms of cardiac cells crosstalk.** *Pamela Mozetic, Ana Rubina Perestrelo, Jorge Oliver-De La Cruz and Giancarlo Forte.* International Clinical Research Center (FNUSA-ICRC), St. Anne's University Hospital, Brno; Competence Center for Mechanobiology in Regenerative Medicine, Brno.

**3) hnRNPc: a linker between ECM mechanics and mRNA homeostasis in cardiac diseases.** *Fabiana Martino, Ana Rubina Perestrelí, Stefania Pagliari, Jan Vrbský, Vladimír Vínarský, Jorge Oliver De La Cruz, Francesca Cavalieri, Giancarlo Forte;* Center for Translational Medicine (CTM), International Clinical Research Center (ICRC), St. Anne's University Hospital; Faculty of Medicine, Masaryk University; Competence Center for Mechanobiology in Regenerative Medicine, Brno; University of Melbourne; Institute of Dentistry, University of Turku.

**4) Identifying regulators of axonal transport.** *Monica Feole; Victorio M. Pozo Devoto; Mária Čarná; Valentina Lacovich; and Gorazd B. Stokin.* Translational Neuroscience and Aging program (TAP), Center for Translational Medicine (CTM), International Clinical Research Center (ICRC), St. Anne's University Hospital.

**5) The role of PV+ GABAergic interneurons in the medial prefrontal cortex on a rat model of psychosis-related cognitive inflexibility as revealed by optogenetic stimulations.** *E. Patrono, K. Hruzová, J. Svoboda, A. Stuchlík.* Institute of Physiology - Academy of Sciences Czech Republic, Neurophysiology of Memory.

**6) Molecular principles of Cajal body formation.** *Davide Alessandro Basello<sup>1,2</sup>, Michaela Efenberková, Radek Macháň, Nicola Maghelli, David Stanek.* Institute of Molecular Genetics, Czech Academy of Sciences, Prague, Charles University in Prague, Faculty of Science, Prague; Max Planck Institute of Molecular Cell Biology and Genetics, Dresden.

**7) NFAT as a novel pathway in mesenchymal stem cell response to inflammation.** *Tidu F., Jose S. S., De Zuani, M., Bendíčková K., Pompeiano A., Bělašková S., Frič J.* St. Anne's University Hospital Brno International Clinical Research Center, Department of Biology, Faculty of Medicine, Masaryk University.

**8) Understanding nanoparticles-cells' interactions through mechanobiology.** *Marco Cassani, Jorge Oliver-De La Cruz, Soraia Fernandes, Giancarlo Forte.* Center for Translational Medicine (CTM) International Clinical Research Center (FNUSA-ICRC) St. Anne's University Hospital.

**9) Femtosecond Stimulated Raman Spectroscopy.** *Alessandra Picchiotti,* ELI-beamlines/ELIBIO - Institute of Physics ASCR, v.v.i (FZU), ELI-Beamlines project, Prague.

**10) Pulse Radiolysis.** *Martin Precek,* ELI-beamlines/ELIBIO - Institute of Physics ASCR, v.v.i (FZU), ELI-Beamlines project.

**11) Ultrafast dynamics of plasmon and magnetic resonances in nanoparticles.** *Carlo Maria Lazzarini, Tadzio Levato, Jamie M. Fitzgerald, José A. Sánchez-Gil, Vincenzo Giannini.* Institute of Physics of the ASCR, ELI Beamlines Project.

**12) In vitro and in vivo evaluation of ferric-based and gadolinium-based nanoparticles in theranostic perspective.** *Lenka Rajsiglova.* Laboratory of immunotherapy, Institute of Microbiology of the CAS, v.v.i., Faculty of Science, Charles University.

**13) Immunity and remodelling of human colon mucosa in colorectal cancer.** *Pavol Lukac.* Laboratory of immunotherapy, Institute of Microbiology of the CAS, v.v.i. ; Faculty of Science, Charles University.

**14) Mechanism underlying axonal swelling formation.** *Victorio M Pozo Devoto, Valentina Lacovich, Maria Carna, Monica Feole, Katerina Texlova & Gorazd B Stokin.* Translational Neuroscience and Aging Program (TAP), Center for Translational Medicine (CTM), International Clinical Research Center (ICRC), St. Anne's University Hospital.

**15) Mechanical thrombectomy results variability per occluded artery in ischaemic stroke** *Luca Mengozzi.* 3<sup>rd</sup> Medical Faculty, Charles University.

**16) Test of genetic code evolution hypotheses: Reverse evolution of specific target proteins by mRNA-display technique.** *Valerio Guido Giacobelli, Kosuke Fujishima, Vyacheslav Tretyachenko, Klara Hlouchova;* Department of Cell Biology, Faculty of Science, Charles University, Earth-Life Science Institute, Tokyo Institute of Technology.

**17) Glutamate receptors as therapeutic targets for glioblastoma multiforme (GBN).** *Daniela Arduini.* Delegazione Nazionale Biotecnologi ONB, Rome.

**18) mGlu3 metabotropic glutamate receptors as candidate targets for neuroprotective drugs in the MTPT mouse model of Parkinsonism.** *Marika Alborghetti.* Delegazione Nazionale Biotecnologi ONB, Rome.

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**20/6/2019**

Part 1 - 9.00-10.10

**Section 2: Physics, chemistry and engineering (continuation)**

Chair: Daniele Margarone, Antonio Cammarata

**Roberto Versaci.** *Radiation transport Monte Carlo simulations at ELI Beamlines.* Institute of Physics ASCR, v.v.i (FZU), ELI-Beamlines project, Prague.

**Alessandra Picchiotti, Jakob Andreasson.** *Bio and material applications at ELI-beamlines.* Institute of Physics ASCR, v.v.i (FZU), ELI-Beamlines project, Prague.

**Federico Brivio.** *Computational approach to materials modelling.* Charles University.

Question time: 10.00-10.10

**Coffee break 10.10-10.20**

**Section 3: Humanities, economics, social sciences, archaeology**

Chair: Luca Vannucci

10.20-11.15

**Dino Numerato.** *Corruption and Public Secrecy: An ethnography of football match-fixing.* Faculty of Social Sciences, Charles University.

**Massimiliano Nuzzolo.** *Archaeological works in Egypt: the latest results of the Italian-Czech expedition at the solar temples.* Czech Institute of Egyptology, Charles University.

Question time: 11.00-11.15

**11.15-11.30 Conclusions and farewell ceremony with Authorities**

