Oral Presentations

May 15th

Registration from 9.00

I SESSION, Molecules I Chair: Andrea Notargiacomo, Lorenzo Stella

9.30 Institutional Opening Prof. Massimo Inguscio, CNR President
9.45-10.15 Cristiano Viappiani (Parma University, SIBPA President)
Old proteins, new roles. The hydrogen atom of biology turns into a biotechnological tool
10.15-10.30 Sebastiano Filetti (Sapienza University of Rome Dept of Internal Medicine)
Innovating medicine at the Sapienza: the experience of Sapienza Technology InnovaTion Centre for Health (STITCH)
10.30-10.45 Francesco Stellato (University of Rome Tor Vergata, Dept of Physics)
A Coherent Imaging XUV-FEL Users End-Station for the EuPRAXIA@SPARC_LAB Free Electron Laser
10.45-11.00 Letizia Tavagnacco (CNR-ISC Sapienza University)
Molecular Origin of the Protein-Like Dynamical Transition in Microgels
10.45-11.15 Coffee Break sponsored by Thermo Scientific & Poster Session 1

II SESSION, Cells I Chair: Valentina Mussi, Mario Ledda

11.30-11:45 Luigi Ciani (Thermo Scientific)
Multivariate Analysis of Raman Spectra of Erythrocytes to Study the Biochemical Signature of Ageing
11.45-12:00 Francesco Cardarelli (Scuola Normale Superiore, Pisa)
Capturing Metabolism-Dependent Solvent Dynamics in a Trafficking Lysosome
12:00-12:15 Giada Bianchetti (Università Cattolica del Sacro Cuore, Institute of Physics)
Spectrally Resolved Lifetime Imaging of Intracellular Polarity for a Quantitative Biological Assessment of Lipid Metabolism in PC12 Neuronal Cells
12:15-12:30 Federica Caselli (University of Rome Tor Vergata)
Looking at cells with electric eyes
12:30-12:45 Paola Piedimonte (Sapienza University of Rome, Basic and Applied Sciences for Engineering Dept)
Biocompatibile Silicon Nanowires for CMOS-IC Based Sensors
12:45-13:00 Flash presentations:
  - Alice Battistella (CNR-IOM) AFM Investigation of the Mechanical Properties of Mouse Oocytes
  - Giorgio Gosti (IIT, Center for Life Nanoscience) Phase Transitions in the Self-Organization of Neural Rosettes
• Marco Lazzarino (CNR-IOM) Microfabricated cantilevers for parallelized cell-cell adhesion measurements

13:00-14.15 Lunch & Poster Session 2

III SESSION: Molecules II Chair: Velia Minicozzi, Domenico Cannatà

14.15-14.45 Giorgio Colombo (Pavia University)
The dynamics of molecular design
14.45-15.00 Daniele Di Marino (Università Politecnica delle Marche, Department of Life and Environmental Sciences)
Ligand Binding, Unbinding and Allosteric Effects: Deciphering Small-Molecule Modulation of HSP90
15.00-15.15 Lorenzo Camoni (University of Rome Tor Vergata, Department of Biology)
From Plant Physiology to Pharmacology: Fusicoccin Leaves the Leaves.
15.15-15.30 Alessandra Del Giudice (Sapienza University of Rome, Department of Chemistry)
The Effect of Fatty Acid Binding in the Acid Isomerizations of Albumin Investigated with a Continuous Acidification Method
15.30-15.45 Marco Barbieri (Università degli Studi Roma Tre, Dipartimento di Scienze)
Tracking Enzyme Activity with Quantum Light

15.45-16.00 Flash presentations
• Michael Di Gioacchino (Università degli Studi Roma Tre) Protection of Threalose Against Dehydration for Model Peptide
• Emiliano De Santis (University of Rome Tor Vergata, Department of Physics)
Styrene-Dopamine receptor affinity: a Molecular Dynamics study
• Aishwarya Dhar (University of Rome Tor Vergata, Department of Physics) Aβ Peptides and β-sheet Breakers. A Coarse Grained Molecular Dynamics Approach Using GO-Martini

16.00-16.45 Coffee Break sponsored by Optoprim & Poster Session 3

IV SESSION: Cells II Chair: Luca Maiolo, Marco Girasole

16.45-17.00 Gabriella Bretti (CNR-IAC)
Mathematical modeling and simulation of the behavior of cells in biological networks
17.00-17.15 Patrizia Guida (Università di Genova, Dept of Physics)
Micro/nano devices based on biological models for biomedical applications
17.15-17.30 Giacomo Frangipane (Sapienza Università di Roma, Dipartimento di Fisica)
Dynamic density shaping of photokinetic E. coli
17.30-17.45 Laura Andolfi (CNR-IOM)
Investigation of Adhesion and Mechanical Properties of Human Glioma Cells by Atomic Force Microscopy
17.45-18.00 Claudia Testi (IIT, Center for Life Nanoscience)
Brillouin Microscopy in Life Sciences
May 16th

V SESSION:  Tissues  Chair: Francesca Romana Bertani, Marialilia Pea

9.15-9.45  Enrico Gratton (University of California Irvine)
Applications of FLIM to tissue microscopy

9.45 -10.00 Michael Di Gioacchino (Università degli Studi Roma Tre)
Nanoscale myelin ultrastructural dynamics from out-of-equilibrium functional state to degraded state

10.00-10.15 Silvia Tommasin (Sapienza University Dept Human Neuroscience)  Evaluation of 5-year disease progression in multiple sclerosis via magnetic-resonance-based deep learning techniques

10.15-10.30 Laura Maugeri (Fondazione Santa Lucia IRCCS)
Neuronal and tissue damages in a mouse spinal cord models of injury imaged by means of High-Resolution X-Ray Phase Contrast Micro-Tomography

10.30-10.45 Francesca Di Stadio (CNR-ISC)
Gaussian and non-Gaussian diffusion NMR imaging for endometrial carcinoma diagnosis & Alessandra Maiuro (CNR-ISC)
In vivo placenta diagnosis by water diffusion Magnetic Resonance Imaging

10.45-11.15 Coffee Break sponsored by PI

VI SESSION: Organisms&Systems  Chair: Luca Businaro, Annamaria Gerardino

11.15-11.45 Francesco Loreto (CNR Bio-Agrifood Sciences Department)
On the multiple and overlooked functions of volatile isoprenoids in plant communication, defence, and interaction with the environment

11.45-12.00 Guido Caldarelli (IMT Alti Studi Lucca)
Network of Plants

12.00-12.15 Carlo Massimo Casciola (Sapienza Università di Roma Dipartimento Ingegneria Meccanica e Aerospaziale)
A blood-vessel-on-a-chip for cavitation enhanced endothelial permeability

12.15-12.30 Edoardo Milanetti (Sapienza University Dept of Physics)
Estimation of effective brain connectivity using a recurrent neural network model on magnetoencephalography data

12.30-12.45 Fabrizio Bardelli (CNR-Nanotec)
Asbestos bodies in human lung tissue studied with synchrotron radiation induced fluorescence and phase contrast tomography

12:45-14.00 Lunch & Poster Session 4

14.00 -14.30 Odeta Limaj (ERC)
European Research Council: a quick guide for applicants

14.30-14.45 Giovanna Zimatore (eCampus University and CNR-INM)
A Nonlinear Analysis of respiration rate and heart rate during continuous incremental exercise test

14:45-15.00 Manuela Ciocca (University of Rome Tor Vergata)
Bio-hybrid Optoelectronic interface for stimulation and characterization of biological tissues and cells
VII SESSION: Molecules III  
Chair: Andrea Notargiacomo, Fabio Di Pietrantonio

15.00 - 15.15 Tianji Ma (Institut Européen des Membranes, CNRS, Montpellier, France)  
Conical Track-etched Nanopore for a Free-Label Detection of OSCS Contaminants in Heparin

15.15 - 15.30 Giovanni Di Muccio (University of Rome Tor Vergata, Department of Industrial Engineering)  
Insights into Protein Sequencing with an α-Hemolysin Nanopore by Atomistic Simulations

15.45 - 16.00 Flash presentations
- Sébastien Balme (Institut Européen des Membranes, CNRS, Montpellier, France) Single Nanopore to Follow Tau Protein Aggregation Induced by Heparin.
- Mauro Chinappi (University of Rome Tor Vergata, Department of Industrial Engineering) Protein Sequencing via Nanopore Based Devices: a Theoretical/ Numerical Perspective.
- Laura Fazi (University of Rome Tor Vergata, NAST Center) Carbon nanotube-based stretchable composite materials for electronic devices and applications

16.00 - 16.45 Coffee Break & Poster Session 5

VII SESSION: Molecules IIIb  
Chair: Giovanni Longo, Massimiliano Benetti

16.45 - 17.00 Denise Pezzuoli (University of Genova, Department of Physics)  
Development of nanofluidic devices for DNA detection and nanoparticles sizing.

17.00 - 17.15 Alejandro Soto-Ospina (University of Antioquia, Molecular Genetic Group, Medellín, Colombia)  
Structural and Functional Analysis of Mutations in Presenilin-1 Protein and its Relation with Early-Familiar Alzheimer’s Disease through Bioinformatics and Hybrids methods Quantum Mechanics and Molecular Mechanics (QM/MM).

17.15 - 17.30 Franco Tardani (CNR-ISC Sapienza University)  
Halloysite Nanoclays as Potential Nucleic Acids Nanovectors: Insights into Spontaneous Interactions

17.30 - 17.45 Sara Gabrielli (University of Rome Tor Vergata, Department of Chemical Science and Technologies)  
Probing Structure and Mobility of Proteins in the Amorphous State at Low Hydration

17.45 - 18.00 Poster award sponsored by SIBPA, Image award offered by Tech4Bio group and Closing Remarks