

XXIII CONGRESSO NAZIONALE SIBPA 2016

18–21 Settembre 2016

Cortona (AR)

Il Palazzone di Cortona

PROGRAMMA

- Domenica 18 Settembre 2016 -

- 16:30 Registrazione
- 17:30 Saluti della SIBPA - Apertura del Congresso
Carlo Musio (Trento)
- 18:00-19:00 *Chair: Ranieri Bizzarri (Pisa)*
Keynote speaker: **Tullio Pozzan**
Department of Biomedical Sciences, University of Padova, CNR Department of Biomedical Sciences, Roma, Venetian Institute of Molecular Medicine, Padova
Temporal and spatial heterogeneity of second messengers in live cells
- 19:00 Cocktail di benvenuto

- Lunedì 19 Settembre 2016 -

*Sessione di **Biofisica Molecolare***

Chairs: Fabio Librizzi (Palermo), Valeria Militello (Palermo)

- 9:00-9.30 Invited speaker: **Fabrizio Chiti**
Department of Biomedical, Experimental and Clinical Sciences, University of Florence
The determinants of the toxicity of protein misfolded oligomers responsible for neurodegeneration
- 9:30-11:00 Comunicazioni orali
- 9:30-9:45 **Denise Galante (Genova)**
Unraveling the amyloid beta attraction for the prion protein
- 9:45-10:00 **Reinier Oropesa Nunez (Genova)**
Single cell force spectroscopy revealed new insights on the interaction between HypF-N amyloid oligomers and cell membrane.

- 10:00-10:15 **Valeria Vetri (Palermo)**
Insights on alpha-synuclein aggregation at the lipid membrane
- 10:15-10:30 **Emiliano De Santis (Roma)**
Cu(II)-Zn(II) Cross-Modulation in Amyloid-Beta Peptide Binding. An X-ray Absorption Spectroscopy Study
- 10:30-10:45 **Maria Grazia Santangelo (Palermo)**
Electrostatics Controls the Conversion of Concanavalin A Amyloid-like Fibrils into Non-Native Oligomers
- 10:45-11:00 **Samuele Raccosta (Palermo)**
Serpine conformational diseases: From molecular studies to therapeutic intervention
- 11:00-11:30 Coffee break
- 11:30-13:15 Comunicazioni orali
- 11:30-11:45 **Lorenzo Stella (Roma)**
Activity and selectivity of host defense peptides: a complex interplay of multiple equilibria
- 11:45-12:00 **Loredana Randazzo (Palermo)**
Diffusion, stability and activity of neuroserpin in crowded media Proteine e crowding
- 12:00-12:15 **Gianpiero Garau (Pisa)**
NAPE-PLD: a point where lipid amide signals and bile acid physiology converge
- 12:15-12:30 **Laura Tosatto (Trento)**
Structural analysis of protein disorder in the N-terminal domain of androgen receptor: implication for the pathogenesis of spinal and bulbar muscular atrophy
- 12:30-12:45 **Francesco Tadini Buoninsegni (Firenze)**
Effects of phospholamban and sarcolipin on Ca²⁺ translocation by sarcoplasmic reticulum Ca²⁺-ATPase investigated on solid supported membranes
- 12:45-13:00 **Sara Mattana (Perugia)**
High-Contrast Brillouin and Raman Microscopy for Mechanical and Chemical Investigation of Microbial Biofilms
- 13:00-15:00 Pranzo (Palazzone)
- 15:00-15:15 **Andrea Saponaro (Milano)**
An atomic view of memory: the "complex" structure of HCN channels and TRIP8b
- 15:15-15:30 **Francesco Spinozzi (Ancona)**
Spontaneous Pore Formation at the Gel – Fluid Transition of the Anionic Phospholipid DMPG

*Sessione di **Biofisica Cellulare***

Chairs: Roberta Gualdani (Firenze), Anna Moroni (Milano)

- 15:30-16:00 Invited speaker: **Alessio Accardi**
Department of Anesthesiology, Physiology and Biophysics and Biochemistry, Weill Cornell Medicine, New York
Mechanisms of ion and lipid transport by TMEM16 scramblases

- 16:00-17:00 Comunicazioni orali
- 16:00-16:15 **Sara Bertelli (Genova)**
Ex vivo study of a mutation associated with Familial Hemiplegic Migraine Type 3
- 16:15-16:30 **Paola Brocca (Milano)**
Minimal potassium channel Kcv interaction with cholesterol in model membranes,
- 16:30-16:45 **Armando Carpaneto (Genova)**
Direct recordings of electron currents generated by a soybean member of the cytochrome b561 family
- 16:45-17:00 **Alice Bartolozzi (Firenze)**
Real-time identification of cell mechanical properties
- 17:00-17:15 **Silvia Caponi (Perugia)**
Monitoring dynamic supramolecular changes in living cells by vibrational spectroscopy
- 17:15-17:45 Coffee break
- 17:45-18:15 *Chair: Cristiano Viappiani (Parma)*
Keynote speaker: **Ilaria Testa**
KTH Royal Institute of Technology, Dept. of Applied Physics, Stockholm
RESOLFT Super resolution microscopy: application for the life sciences
- 18:15-19:30 Poster session
- 19:30 Cena (Palazzone)
- 21:00 Assemblea dei Soci

- Martedì 20 Settembre 2016 -

Sessione di Biofisica Applicata

Chairs: Maria Grazia Ortore (Ancona), Cristiano Viappiani (Parma)

- 9:30-10:00 Invited speaker: **Paola Taroni**
Politecnico di Milano – Dipartimento di Fisica, Milano
Breast cancer and *in vivo* optical estimate of collagen
- 10:00-11:00 Comunicazioni orali
- 10:00-10:15 **Stefania Abbruzzetti (Parma)**
Targeting tumor cells with the photosensitizing protein Zn-myoglobin
- 10:15-10:30 **Valeria Rondelli (Milano)**
Approaching complex membranes: a mime for surface interactions
- 10:30-10:45 **Carlotta Marasini (Copenhagen)**
Sucrose as a crowding agent: influence on insulin fibril structure and kinetics
- 10:45-11:00 **Antonella Battisti (Pisa)**
Frequency-domain approach to fluorescence lifetime imaging: biophysical and technological applications to real-life demands

- 11:00-11:30 Coffee break
- 11:30-12:30 Comunicazioni orali
- 11:30-11:45 **Bruno Tiribilli (Firenze)**
Microscopia termica a scansione per lo studio di nanostrutture per applicazioni biomediche
- 11:45-12:00 **Luigi Sirleto (Palermo)**
Stimulated Raman Scattering Microscopy in single cell
- 12:00-12:15 **Lefsih Khalef (Palermo)**
Characterization of pectic fractions from the cladodes of *Opuntia ficus indica*
- 12:15-12:30 **Michele Oneto (Genova)**
A study of mammalian photoreceptors by means of 3D multicolor nanoscopy
- 12:30 Pranzo (Palazzone)

Sessione di Biofisica Teorico-Computazionale

Chairs: Velia Minicozzi (Roma), Massimo Vassalli (Genova)

- 14:30-15:00 Invited speaker: **Leonardo Guidoni**
Università degli Studi de L'Aquila, Dipartimento di Scienze Fisiche e Chimiche
The molecular mechanisms of photosynthesis by ab initio molecular dynamics
- 15:00-16:30 Comunicazioni orali
- 15:00-15:15 **Letizia Chiodo (Roma)**
A full atomistic computational study of the open and closed-locked states of the human $\alpha 7$ nicotinic receptor
- 15:15-15:30 **Angelo Di Garbo (Pisa)**
Nonlinear Analysis of Neural Signals
- 15:30-15:45 **Enzo Marinari (Roma)**
Constrained Allocation Flux Balance Analysis
- 15:45-16:00 **Francesco Stellato (Roma)**
A first-principle calculation of X-ray absorption spectra: the case of Cu^{2+} in water
- 16:00-16:15 **Giulia Vecchi (Cambridge)**
Mass spectrometry-based proteomics for the characterisation of the interactome of misfolded oligomers
- 16:15-16:30 **Piero Faccioli (Trento)**
Mutations and misfolding propensity of large proteins from all-atom computer simulations
- 16:30-16:45 **Sponsor Technical Communication**
Michele Rossi (Elements SRL, Cesena)
Real-time statistics on ion channel recordings using a portable BLM kit with embedded amplifier
- 16:45 Coffee break
- 20:00 Cena Sociale

-Mercoledì 21 Settembre 2016-

Sessione di *Biofisica alla Nanoscala*

Chairs: Ranieri Bizzarri (Pisa), Alberto Diaspro (Genova)

- 9:00-9:30 Invited speaker: **Alberto Luini**
CNR Istituto di Biochimica delle Proteine, Napoli
Correlative Long range Immuno-FRET (CLIF) microscopy for detection of large multi-protein complexes in single cells
- 9:30-11:00 Comunicazioni orali
- 9:30-9:45 **Paolo Bianchini (Genova)**
Near-infrared super-resolution microscopy
- 9:45-10:00 **Giuseppe Brancato (Pisa)**
Ferritin as a Model Nanoscale Cage: a Combined Functional and Computational Study
- 10:00-10:15 **Loredana Casalis (Trieste)**
Her2 dimerization and shedding in Her2+ cancer cell membranes: an integrative approach to assess the role of Her2 as tumour biomarker
- 10:15-10:30 **Fabio Mavelli (Bari)**
Giant lipid vesicles as light into chemical energy trasducers
- 10:30-10:45 **Giuseppe Chirico (Milano)**
Inkjet Printed Gold Nanostar Patterns for Photothermal applications in life science.
- 10:45-11:10 Coffee break
- 11:10-11:50 *Chair: Francesco Lenci (Pisa)*
Keynote lecture: **Antonino Cattaneo**
Scuola Normale Superiore, Pisa

Cerimonia Premi

Introduzione: Carlo Musio (Trento), Settimo Termini (Palermo)

- 11:50-12:30 *Chair: Pietro Greco (Napoli)*
Premio "Marina Diana Mercurio"
- 11:50-12.10 **Enrico Di Cera (St. Louis University)**
Biophysics and Molecular Medicine
- 12:10-12:30 **Leone Montagnini (Biblioteche di Roma)**
Wiener, a Mathematician-Philosopher in our time
- 12:30-13:00 *Chairs: Silvia Morante (Roma), Carlo Musio (Trento)*
Premio "Antonio Borsellino"
Barbara Storti (Pisa)

Interlaced biophysical methods to unveil membrane receptor organization

Premio “Gianfranco Menestrina”

Andrea Basciu (Cagliari)

A protocol to improve the predictive power of molecular docking

13:00

Chiusura del Congresso