

SIBPA

Società Italiana di Biofisica Pura e Applicata
fondata nel 1973



XXIV CONGRESSO NAZIONALE SIBPA
10-13 settembre 2018

Università Politecnica delle Marche

PROGRAMMA

- lunedì 10 settembre 2018 -

Scienze Edificio 3 - Aula Azzurra - Via Brecce Bianche 12

- 17:00 Registrazione
- 17:30 Saluti della SIBPA - Apertura del Congresso
- 18:00 - 18:50 *Chair: Cristiano Viappiani (Parma)*
Keynote lecture: Giancarlo Ruocco (Roma)
From super-resolution to high-throughput Brillouin microscopy at
CLNS (Center for Life NanoScience)
- 19:00 Cocktail di benvenuto

- martedì 11 settembre 2018 -

Facoltà di Economia - Aula A2 - Piazzale Raffaele Martelli 8

- 8:15 Apertura segreteria
- 8:45 Saluti del Rettore dell'Università Politecnica delle Marche
Sauro Longhi (Ancona)
- 9:00 - 9:50 *Chair: Carlo Musio (Trento)*
Keynote lecture: Ivo Rendina (Roma)
Applications of nanophotonics and nanotechnologies to life sciences

Sessione di Biofisica applicata

Chairs: Silvia Caponi (Perugia), Francesco Spinozzi (Ancona)

- 10:00 - 10:30 **Invited speaker: Riccardo Cicchi (Firenze)**
Multimodal non-linear optical microscopy for tissue characterization
and diagnostics
- 10:30 Coffee break

- 11:00 - 12:45 **Comunicazioni orali**
- 11:00 - 11:15 **Giuseppe Chirico (Milano)**
Micro-Mapps: a phasor approach to the analysis of collagen microstructure in vitro and in vivo by means of second harmonic generation microscopy.
- 11:15 - 11:30 **Sara Mattana (Perugia)**
Correlative Brillouin and Raman micro-spectroscopy for the study of the viscoelasticity and biochemical composition of amyloid plaques
- 11:30 - 11:45 **Alice Bartolozzi (Firenze)**
A robust approach from nano indentation experiments
- 11:45 - 12:00 **Elena Ambrosetti (Stoccolma)**
Characterization of nanoscale protein clusters at the cell membrane with DNA nanotechnology
- 12:00 - 12:15 **Pietro Parisse (Trieste)**
Extracellular vesicles: new insights from multi-technique analyses
- 12:15 - 12:30 **Maddalena Collini (Milano)**
NIR excited photothermally active nanoparticles for smart devices fabrication
- 12:30 - 12:45 **Lorena Anna Ditta (Palermo)**
Nose-to-brain delivery of insulin enhanced by radiation-engineered nanogels
- 13:00 Pranzo
- 14:30 - 15:45 **Comunicazioni orali**
- 14:30 - 14:45 **Stefania Abbruzzetti (Parma)**
Hypericin-apomyoglobin an enhanced photosensitizer complex for the treatment of tumour cells
- 14:45 - 15:00 **Paola Morici (Pisa)**
Antibacterial effect of photodynamic therapy on Helicobacter pylori by using a novel LED-based device
- 15:00 - 15:15 **Luca Pesce (Genova)**
Quantification of the chemical process involved in Expansion Microscopy technique, studying the nuclear pore complex structure
- 15:15 - 15:30 **Marco Cozzolino (Genova)**
Microscopical and spectroscopical characterization of a phthalocyanine-protein complex for theranostic applications
- 15:30 - 15:45 **Giulia Borile (Padova)**
Nanostructured Lab-on-Chip for Surface Plasmon Resonance biosensing in pediatric leukemia

Sessione di Biofisica molecolare

Chairs: Valeria Militello (Palermo), Valeria Maria Rondelli (Milano)

- 15:50 - 16:20 **Invited speaker: Alberto Boffi (Roma)**
Engineered ferritins in cell targeted delivery

16:20 - 16:50	Comunicazioni orali
16:20 - 16:35	Paolo Calligari (Roma) Peptide inhibitors for oncogenic protein tyrosine phosphatase SHP2
16:35 - 16:50	Giulia Di Prima (Palermo) Casein-loaded proteoliposomes: drug delivery systems and potential inhibitors in A β 1-40 fibrillogenesis
16:50	Coffee break
17:20 - 18:50	Comunicazioni orali
17:20 - 17:35	Beatrice Gironi (Perugia) The dimethyl sulfoxide (DMSO) effect on thermotropic properties of lipid mixture
17:35 - 17:50	Alessandra Del Giudice (Roma) The structural response of Human Serum Albumin to oxidation: a biological buffer to local formation of hypochlorite
17:50 - 18:05	Ludovica Leo (Parma) Irreversible structural transition induced in collagen by dehydration studied by Molecular Dynamics simulations and FTIR spectroscopy
18:05 - 18:20	Fabio Perissinotto (Trieste) Biophysical characterization of iron-mediated Alpha synuclein oligomers in interaction with lipid raft artificial lipid bilayers
18:20 - 18:35	Mauro Manno (Palermo) Amyloid jams: protein interaction and dynamics of an amyloid fibrillar network
18:35 - 18:50	Francesco Tadini-Buoninsegni (Firenze) Interaction of anticancer drugs with P-type ATPases investigated by solid supported membrane technology
19:00	Cena
20:00	Assemblea dei soci

- mercoledì 12 settembre 2018 -

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Sessione di Biofisica molecolare

Chairs: Valeria Militello (Palermo), Valeria Maria Rondelli (Milano)

9:00 - 9:45	Comunicazioni orali
9:00 - 9:15	Vincenzo Martorana (Palermo) On the molecular structure of C1-inhibitor

- 9:15 - 9:30 **Laura Tosatto (Trento)**
Role of phosphorylation in regulating protein disorder in Androgen Receptor
- 9:30 - 9:45 **Benedetta Come (Ancona)**
Rhamnolipids, toxicity tests for a future use in bioremediation processes

Sessione di Biofisica computazionale

Chair: Velia Minicozzi (Roma)

- 9:55 - 10:25 **Invited speaker: Matteo Ceccarelli (Cagliari)**
Simulating transport phenomena at the molecular scale
- 10:25 - 10:40 **Comunicazioni orali**
- 10:25 - 10:40 **Emiliano De Santis (Roma)**
Designing effective anticancer-radiopeptide carriers: a Molecular Dynamics study of their interaction with tumor and healthy cell membranes
- 10:40 Coffee break
- 11:10 - 11:40 **Comunicazioni orali**
- 11:10 - 11:25 **Paolo Moretti (Ancona)**
Order in disorder: a SAXS IDPs study
- 11:25 - 11:40 **Alessandro Loppini (Roma)**
Emergent activity of electrically-coupled β -cells: a mathematical modelling approach
- 11:50 - 12:40 *Chair: Paolo Mariani (Ancona)*
Keynote lecture: Maria Antonietta Ricci (Roma)
Trehalose and its friends: from drought protection to sweetness
- 13:00 Pranzo

Sessione di Biofisica cellulare

Chairs: Paolo Bianchini (Genova), Armando Carpaneto (Genova)

- 14:30 - 15:00 **Invited speaker: Giorgio Rispoli (Ferrara)**
Ca-modulation of zebrafish cone photoresponse recorded with pressure-polished patch pipettes, yielding efficient intracellular dialysis
- 15:00 - 15:10 **Sponsor Technical Communication: Francesca Sbrana (Schaefer, Genova)**
4D HoloTomographic Correlative Microscopy opens new era for label-free live cell imaging

- 15:10 - 15:55 **Comunicazioni orali**
- 15:10 - 15:25 **Margaux Bouzin (Milano)**
Spatio-Temporal Image Correlation as a powerful tool to study complex diffusion regimes in cellular environments
- 15:25 - 15:40 **Chiara Nardin (Roma)**
Dynamics of subcellular Ca²⁺ signals triggered by cancer photodynamic therapy in vitro and in vivo
- 15:40 - 15:55 **Giulia Tomagra (Torino)**
Spontaneous firing and secretory activity of dopaminergic neurons detected by diamond-based micro electrode arrays
- 16:00 Coffee break
- 16:30 - 18:00 **Poster session**
- 18:30 Partenza autobus per Portonovo
- 20:00 Cena sociale al Ristorante da Giacchetti
- 23:00 Partenza autobus per Ancona

- giovedì 13 settembre 2018 -
Facoltà di Economia - Aula A2 - Piazzale Raffaele Martelli 8

Sessione di Biofisica alla nanoscala

Chairs: Ranieri Bizzarri (Pisa), Maria Grazia Ortore (Ancona)

- 9:00 - 9:30 **Invited speaker: Sergio Moya (Donostia-San Sebastián)**
Biological fate of engineered nanomaterials: tracing aggregation/degradation and nanomaterial dose in vitro and in vivo
- 9:30 - 10:30 **Comunicazioni orali**
- 9:30 - 9:45 **Marco Capitanio (Firenze)**
Sliding of a single lac repressor along DNA is tuned by DNA sequence and molecular switching
- 9:45 - 10:00 **Ornella Cavalleri (Genova)**
Coupling spectroscopic ellipsometry and AFM nanolithography to investigate surface confined-molecular recognition processes
- 10:00 - 10:15 **Claudio Canale (Genova)**
Influence of fluorescent probes on the formation of misfolded protein aggregates.
- 10:15 - 10:30 **Angelo Sarra (Roma)**
Study of membrane phase transition in bacterial vesicles

10:45	Coffee break
11:15 - 12:00	Comunicazioni orali
11:15 - 11:30	Ranieri Bizzarri (Pisa) Super-resolution imaging of BMI1 in polycomb bodies by single molecule localization methods
11:30 - 11:45	Lucia Gardini (Firenze) Force and calcium regulation of a single myosin-5B motor
11:45 - 12:00	Giulia Zanini (Genova) Exploring non-linear optical processes for label-free microscopy.
	<i>Chairs: Enrico Di Cera (St. Louis), Settimo Termini (Palermo)</i>
12:00 - 12:25	Premio “Marina Diana Mercurio”: Francesco Lenci (Pisa)
	<i>Chairs: Carlo Musio (Trento), Cristiano Viappiani (Parma)</i>
12:25 - 12:40	Premio “Gianfranco Menestrina”: Denise Pezzuoli (Parma) Nanostructures based on serum albumins and hypericin for applications in photodynamic therapy and microscopy
12:40 - 12:55	Premio “Antonio Borsellino”: Giuseppe Sancataldo (Genova) Fast and deep imaging of 3D biological systems
13:00	Chiusura del Congresso