



50th Annual Meeting of the Argentine Society of Biophysics (SAB2022)

November 16-18, 2022, Rosario, Argentina

<https://biofisica.org.ar/congreso-2022-en/>

SCIENTIFIC PROGRAMME

Wednesday, November 16, 2022

8:00 - 9:15 - Accreditation

9:15 - 9:45 - **Opening ceremony with Historical Review of the Argentine Society of Biophysics.**

Speakers: Dr. Jose Maria Delfino (President of the Argentine Society of Biophysics); Dr. Oscar Roveri; Dr. Silvia Alonso

9:45 - 10:30 - **ICGEB Lecture: Dr. Emanuele Buratti** *"What has biophysics told us about the role of TDP-43 in neurodegenerative diseases?"*

10:30 - 11:00 - Coffee break

11:00 - 12:45 - **Symposium I: Biomolecular Interactions - ICGEB sponsored**

Chair: Dr. Emanuele Buratti

María Eugenia Francia *"Honing in protozoan pathogenesis through higher resolution insights into microtubule organizing centers"*

Juan J. Alvear-Arias *"Water movement in CiHv1 channel and its role in proton permeation"*
(Oral communication - ICGEB Fellow)

Pabo Armas *"Guanine quadruplexes in DNA and RNA as structural elements involved in gene expression regulation"*

Mehrnoosh Arrar *"Conformational dynamics of the dengue virus NS3 helicase bound to ssRNA"*
(Oral Communication)

Federico Ariel *"Sequence-unrelated long noncoding RNAs converged to modulate the activity of conserved epigenetic machineries across kingdoms"*

12:45 - 14:15 - Lunch

14:15 – 16:00 - **Symposium II: Intrinsic protein disorder and protein aggregation.**

Chair: Dr. Rosana Chehin

Lucia Chemes *"A compensatory mechanism explains the conservation of functions in intrinsically disordered protein regions"*

M. Alejandra Tricerri *"Interactions of human apolipoprotein A-I variants with glycosaminoglycans as studied by liquid chromatography"* (Oral communication)

Lisandro Falomir Lockhart *"Can stress-related post-translational modifications activate α -synuclein's toxicity towards Parkinson's disease?"*

Nahuel Naum Foressi *"Effect of ATP and electrostatic shielding on the liquid-liquid phase separation of Tau and alpha-synuclein"*

Diego Ploper "Parkinson's disease: A transgenic cell model for studying α -synuclein aggregation and seeding"

16:00 - 16:30 - Coffee break

16:30 - 17:15 - **Plenary Lecture: Dr. Gonzalo Prat Gay** "Biomolecular condensation at the center of viral factories"

17:15 - 19:00 - **Poster session I**

Thursday, November 17, 2022

9:00 - 9:45 - **IUCr Lecture: Dr. Juan Hermoso** "Regulation of Lytic Machineries in the bacterial divisome. A structural approach"

9:45 - 10:30 - **Plenary Lecture: Dr. Natalia Wilke** "Membrane-peptide interaction: Focusing on membrane properties"

10:30 - 11:00 - Coffee break

11:00 - 12:45 - **Symposium V: Biomembranes - In memory of Dr. Luis Bagatolli**

Chair: Dr. Natalia Wilke

Axel Hollmann "Interaction of AMPs with model and cellular membranes: Role in its activity and selectivity"

Antonio Sebastián Rosa "Water Behavior at the Phase Transition of Phospholipid Matrixes Assessed by FTIR Spectroscopy" (2019 Ponce Hornos Awardee)

Maria Belen Sierra "A biomembrane as a contaminant bioindicator"

Alexis Aspee "Fluorescent molecular rotors and fluorescent/nitroxide labeled peptides for evaluation membrane and antimicrobial peptide interactions"

12:45 - 14:15 - Lunch

14:15 - 16:00 - **Symposium III: Protein Evolution and Design**

Chair: Dr. Alejandro Vila

Cesar Ramirez-Sarmiento "(Re)folding and (co)evolution of the metamorphic protein RfaH"

Juliana Delmonti "Long-range quenching of C-terminus flexibility stabilizes carbapenemase NDM *in vivo*" (Oral communication)

Luciana Silva dos Santos "The intermediate state structure of the UreA transporter from a blend of Artificial and Biological intelligence. Shaken, not stirred" (ICGEB Fellow)

Maria Victoria Slaboch "Studying the H-transfer mechanism of the formic acid/CO₂ conversion catalyzed by formate dehydrogenases" (Oral communication)

Christopher Bahl "Miniproteins have big potential for therapeutic development"

16:00 - 16:30 - Coffee break

16:30 - 17:15 - **Plenary Lecture: Dr. Ariel Kaplan** "Chromatin dynamics and gene expression regulation: insights from single molecule studies"

17:15 - 19:00 - **Poster session II**

19:00 - 21:00 - **SAB Assembly Meeting**

Friday, November 18, 2022

9:00 - 9:45 - **SAB Award Lecture: SAB Award Lecture: Dr. Luciano Abriata** "Towards Chemistry and Structural Biology in the Metaverse"

9:45 - 10:30 - **Plenary Lecture: Dr. Shahriar Mobashery** "Cell-Wall Recycling in *Pseudomonas aeruginosa* and the Nexus to Antibiotic Resistance"

10:30 - 11:00 - Coffee break

11:00 - 12:45 - **Symposium IV: Images**

Chair: Dr. Lia Pietrasanta

Diego Serra "Microbial warfare in biofilms: microscopic and molecular insights into how *B. subtilis* targets the amyloid matrix of *E. coli* biofilms"

Santiago Sosa *"Determining the Orientation of Single Molecules in a Protein Cage by Fluorescence Nanoscopy"*

Fernando Stefani *"RASTMIN: an alternative to MINFLUX that enables nanometre resolution in a laser-scanning (confocal) microscope"*

María Sofía Castaño Ledesma *"Preliminary investigation of the application of Raman microspectroscopy to predict oxidative status in bovine meat ageing meat using a 785 nm laser"*

Carlos Bustamante *"Actin driven protrusions generate rapid long-range membrane tension propagation in cells"*

12:45 - 14:15 - Lunch

14:15 - 15:00 - **YIB Symposium:**

Chair: Ubeiden Cifuentes Samboni

Giuliano Tomás Antelo *"Role of conformational entropy in the molecular evolution of bacterial transcriptional repressors"*

Janet Micaela Sosa *"Computational study of voltage sensitive dyes in polarized membranes"*

Nicolás Colmano *"Obtention and characterization of E8C12-resistant and soluble membranes enriched with GABAA-R" (Ponce Hornos 2021 Awardee)*

15:00 - 15:45 - **IUPAB Lecture: Dr. Eva Nogales**

15:45 - 16:15 - Coffee break

16:15 - 17:00 - **Gregorio Weber Conference: Dr. Valeria Levi** *"Illuminating the cell: how fluorescence achieved the task of observing transcription factors at work"*

17:00 - 17:30 - **Closing Ceremony:** Awards to best poster presentations - Ponce Hornos Awards; IUPAB Award; FEBS OpenBio award

18:00 – 18:45 – **Opening Conference of the Women in Science Symposium by Dr. Capitolina Díaz Martínez**

Open to the general public; free; prior registration is required.

19:00 - 21:00 - **Women in Science Symposium**

Moderator: Dr. Erica Hynes; Dr. Capitolina Díaz Martínez, Dr. Eva Nogales, Dr. Maria Eugenia Francia, Dr. Soledad Celej, Dr. Lia Pietrasanta, Dr. Valeria Levi, others to be confirmed) - Open to the general public; free; prior registration is required.