

# Spanish Biophysical Society Congress - Sevilla 2017

Tuesday, 2017/6/6

Auditorium

11:00 - 13:30 Satellite Meeting - Workshop on New and Notable Biophysics

Special Sessions

11:00 - 11:30 **Experimental measurement of binding energy, selectivity and allostery using fluctuation theorems**

Aleman, Anna

11:30 - 12:00 **Cargo selection by the retromer coat complex: A mechanism for recycling transmembrane proteins from endosomes**

Hierro, Aitor

12:00 - 12:30 **Live-cell structural biology: towards the mechanics of exocytosis**

Gallego, Oriol

12:30 - 13:00 **Functional connectivity between neuronal partners according to cortical brain states**

García-Junco Clemente, Pablo

16:00 - 16:30 Welcome Session

Special Sessions

16:30 - 18:00 Opening Session

Plenary Lecture

16:30 - 17:15 **Acute Oxygen Sensing: Molecular Mechanisms and Medical Impact**

Lopez-Barneo, Jose

17:15 - 18:00 **Tumour Suppressor p53: structure, aggregation and rescue**

Fersht, Alan

18:00 - 19:00 S1 - Protein Structure, Dynamics and Function

Symposia

18:00 - 18:25 **Nitrogen Signaling: New Structure-Centered Discoveries**

Rubio, Vicente

18:25 - 18:50 **Expanding the Mitochondrial Links to the DNA Damage Response**

De la Rosa, Miguel A.

18:50 - 19:00 **Rational development of bicyclic peptides targeting the Grb7 cancer target**

Wilce, Jackie

19:30 - 20:30 S1 - Protein Structure, Dynamics and Function

Symposia

19:30 - 19:55 **Mitochondrial alterations in apoptosis at the single molecule level**

Garcia Saez, Ana

19:55 - 20:05 **Molecular basis of the interaction of the human Apoptosis Inducing Factor with its nuclear partners**

Ferreira, Patricia

20:05 - 20:15 **Post-Translational Tyrosine Phosphorylation Bursts Cytochrome c Dynamics.**

Díaz-Quintana, Antonio

20:15 - 20:25 **Structural basis for broad neutralization of HIV-1 through the molecular recognition of 10E 8 helical epitope at the membrane interface**

Rujas, Edurne

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## Lecture Room

18:00 - 19:00 S2 - Membrane Structure and Function

Symposia

18:00 - 18:25 **Membrane Fusion/Fission Yin-Yang in the Pulmonary Surfactant Complexes**

Perez-Gil, Jesús

18:25 - 18:50 **Pores and membrane remodelling by amphipathic peptides in single vesicles**

Salgado, Jesús

18:50 - 19:00 **The proppin atg18 shows oligomerization upon membrane binding**

Pérez Lara, Ángel

19:00 - 19:30 Wyatt Tech

Seminar

19:00 - 19:30 **The light scattering toolkit for characterization of proteins and other bio-macromolecules**

Rouzic, Lionel

19:30 - 20:30 S2- Membrane Structure and Function

Symposia

19:30 - 19:55 **Phospholipid-Membrane Protein Selectivity: AFM-FS and Fret Studies**

Borrell-Hernández, Jordi

19:55 - 20:05 **Systematic lipidomics to uncover new membrane lipid functions**

Jiménez Rojo, Noemi

20:05 - 20:15 **Photoacoustic effect applied on cell membranes: Direct observation by multi-photon laser confocal microscopy**

Galisteo González, Francisco

20:15 - 20:25 **High-resolution studies of protein-lipid interactions using fluorinated lipids and biomolecular  $^{19}\text{F}$  NMR**

Diercks, Tammo

## 1st Floor Hall

19:00 - 19:30 Exhibitors & Drinks

Networking

20:30 - 22:00 Welcome Reception

Networking

## Italian Pavilion

13:30 - 15:00 Lunch Break

Networking

Wednesday, 2017/6/7

Auditorium

09:00 - 10:30 S3 - Protein Folding, Misfolding and Stability

Symposia

- 09:00 - 09:25 **Rational thermostabilization of a three-state protein and testing of the role of a native basin intermediate**  
Sancho, Javier
- 09:25 - 09:50 **Molecular Mechanisms for Cellular Protein Quality Control**  
Isaacson, Rivka
- 09:50 - 10:00 **Reliable structural and energetic model of the "unfolded state" of proteins**  
Galano-Frutos, Juan José
- 10:00 - 10:10 **Putative Role of Hypercooperative Hydrogen Bonds in Stabilizing an Amyloid-Like Pathological Conformation of TDP-43, a Protein Linked to Amyotrophic Lateral Sclerosis**  
Laurents, Douglas
- 10:10 - 10:20 **Remodeling of RepE conformation by the molecular chaperones DnaK and DnaJ**  
Moro, Fernando

11:00 - 12:30 S3 - Protein Folding, Misfolding and Stability

Symposia

- 11:00 - 11:25 **Pharmacological chaperones as a novel therapeutic intervention line for congenital erythropoietic porphyria**  
Millet, Oscar
- 11:25 - 11:50 **Increased vulnerability of human NQO1 towards cancer-associated inactivation through divergent evolution**  
Pey, Angel L.
- 11:50 - 12:00 **PolyQ Tracts as Efficient C-capping Elements for Coiled-coils**  
Escobedo, Albert
- 12:00 - 12:10 **The role of hydrophobic matching on transmembrane helix packing in biological membranes**  
Grau, Brayan
- 12:10 - 12:20 **New NMR experimental techniques: Protein structural compactness and transient conformational exchange dynamics**  
Gil-Caballero, Sergio

12:30 - 13:15 ISMAR Lecture

Plenary Lecture

- 12:30 - 13:15 **Multiple Spectroscopies Reveal Dynamic Oligomerization of Functionally Active GPCRs**  
Watts, Anthony

13:15 - 14:00 LAFéBS Lecture

Plenary Lecture

- 13:15 - 14:00 **Aquaporins: exploring gating and function in the plant kingdom**  
AMODEO, Gabriela

15:30 - 17:00 S5 - Supramolecular Complexes

Symposia

- 15:30 - 15:55 **Structural Insights on Regulation of Lytic Machineries in the Pneumococcal Divisome**  
Hermoso Dominguez, Juan Antonio

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- 15:55 - 16:20 **Architecture of heteromeric AMPA-type glutamate receptors**  
Herguedas Frances, Beatriz
- 16:20 - 16:30 **Homologous Histone Chaperones Human SET/TAF-I $\beta$  and Plant NRP1: Similarly Inhibited by Cytochrome c in Cell Nucleus**  
González-Arzola, Katuska
- 16:30 - 16:40 **Mechano-chemical characterization of dynamin-mediated membrane fission**  
Bocanegra, Rebeca
- 16:40 - 16:50 **Structure-function studies with  $\Delta$ 1-pyrrolin-5-carboxylate synthetase (P5CS), a key bifunctional player in amino acid biosynthesis, inborn disease and stress resistance.**  
Marco Marín, Clara

17:30 - 19:00 S5 - Supramolecular Complexes

Symposia

- 17:30 - 17:55 **Herpesvirus DNA packaging machinery**  
Coll Capella, Miquel
- 17:55 - 18:20 **Uncovering the Flexible Architecture of a Complex Macromolecular Machine in DNA Repair at 4-5 Å Using Cryo-EM**  
Llorca, Oscar
- 18:20 - 18:30 **Structural studies of the CCT-gelsolin complex**  
Bueno, María Teresa
- 18:30 - 18:40 **Architecture of the yeast Elongator complex**  
Dauden, Maria I.
- 18:40 - 18:50 **Structural basis of RNA polymerase I activation**  
Fernandez-Tornero, Carlos

20:00 - 20:30 SBE Assembly

Special Sessions

Lecture Room

09:00 - 10:30 S4 - Receptors, Channels and Transporters

Symposia

- 09:00 - 09:25 **New insights into molecular function of large- conductance voltage- and calcium- activated potassium channels (BK) and calcium nanodomains**  
Cerrada, Alejandro
- 09:25 - 09:50 **Organization of receptors, ion channels and transporters along the neuronal surface**  
Lujan, Rafael
- 09:50 - 10:00 **Differential modulation of Kv1.3/Kv1.5 complexes by Kcne4**  
Serrano Albarrás, Antonio
- 10:00 - 10:10 **Characterization of the dual-membrane specificity of rabphilin 3A**  
Pérez-Sánchez, María Dolores
- 10:10 - 10:20 **Transmembrane interactions of Bcl-2 proteins**  
Orzaez, Mar

10:30 - 11:00 NanoTemper Tech

Seminar

- 10:30 - 11:00 **Easy and Rapid Analysis of Protein Interactions and Stability in Solution**  
Justies, Aileen

# Spanish Biophysical Society Congress - Sevilla 2017

11:00 - 12:30 S4 - Receptors, Channels and Transporters

Symposia

- 11:00 - 11:25 **Computational approaches to the study of the TRPV1 channel activation and modulation**  
Domene, Carmen
- 11:25 - 11:50 **A modular model of presynaptic function**  
Wesseling, John
- 11:50 - 12:00 **Analysing TRP channels using state-of-the-art artificial bilayer methodology**  
Weichbrodt, Conrad
- 12:00 - 12:10 **Structure of the homodimeric androgen receptor ligand-binding domain**  
Estébanez-Perpiñá, Eva
- 12:10 - 12:20 **Calcium Signal Transduction in the Calmodulin/Kv7.1 Channel Complex**  
Nuñez, Eider

15:30 - 17:00 S6 - Cellular Biophysics

Symposia

- 15:30 - 15:55 **Reciprocal coupling between cell cycle and primary cilia through Kv10.1 potassium channels**  
Pardo, Luis
- 15:55 - 16:20 **Lipid Domains in Biological Membranes**  
Silva, Liana C.
- 16:20 - 16:30 **Characterization of the Rabphilin3A and SNAP25 interaction in PC12 cells.**  
Coronado-Parra, Teresa
- 16:30 - 16:40 **PROSAS-CNA: A proton accelerator for cancer therapy and research**  
Gomez Camacho, Joaquin
- 16:40 - 16:50 **Lactate sensing by carotid body glomus cells**  
Torres-Torreslo, Hortensia

17:00 - 17:30 PEAQ DSC Malvern

Seminar

- 17:00 - 17:20 **Introducing the new Malvern Microcal PEAQ DSC and Viscosizer TD**  
Pacheco-Gómez, Raúl

17:30 - 19:00 S6 - Cellular Biophysics

Symposia

- 17:30 - 17:55 **High fibrinogen levels promote erythrocyte-erythrocyte adhesion: a cardiovascular risk factor in heart failure and arterial hypertension patients**  
Santos, Nuno
- 17:55 - 18:20 **Synaptic and extra-synaptic functions of a vesicle associated co-chaperone**  
Fernandez-Chacon, Rafael
- 18:20 - 18:30 **Effective reconstitution of HIV-1 gp41 transmembrane-domain derived peptides displaying the neutralizing MPER epitope on the surface of lipid bilayers**  
Torrallba, Johana
- 18:30 - 18:40 **Measuring lipid membrane properties using a mechanosensitive fluorescence probe**  
Colom Diego, Adai
- 18:40 - 18:50 **Real time measurements of Exo and Endocytosis in SMA mouse model expressing SypHy**  
Cano, Raquel

# Spanish Biophysical Society Congress - Sevilla 2017

## 1st Floor Hall

10:30 - 11:00 Posters/Exhib/Drink

Networking

17:00 - 17:30 Posters/Exhib/Drink

Networking

19:00 - 20:00 Poster Party

Special Sessions

## Italian Pavilion

14:00 - 15:30 Lunch Break

Networking

## Thursday, 2017/6/8

### Auditorium

09:00 - 10:30 S7 - Biophysics of Carbohydrates and Nucleic Acids

Symposia

- 09:00 - 09:25 **A new consensus GC-DNA motif for the ancient Smad4 family**  
Macias, Maria
- 09:25 - 09:50 **Combined Magnetic Tweezers and TIRF microscopy to visualize DNA-protein interactions**  
Moreno-Herrero, Fernando
- 09:50 - 10:00 **The intervening domain from MeCP2 enhances the DNA affinity of the methyl binding domain and provides an independent DNA interaction site.**  
Clavería-Gimeno, Rafael
- 10:00 - 10:10 **Atomic force microscopy shows that TubR bends the DNA forming a loop at tubC**  
Martin-Gonzalez, Alejandro
- 10:10 - 10:20 **DNA synthesis determines the binding mode of the human mitochondrial single-stranded DNA-binding protein**  
Ibarra, Borja

11:00 - 12:30 S7 - Biophysics of Carbohydrates and Nucleic Acids

Symposia

- 11:00 - 11:25 **Bacterial Surface Glycans. Novel Bacteria-Based Microarray and QCM Approaches for In-Situ Assessment of Glycan-Lectin Interactions**  
Solís, Dolores
- 11:25 - 11:50 **Design of novel glycopeptide-based cancer vaccines**  
Corzana, Francisco
- 11:50 - 12:00 **Deciphering the conformational code behind the indirect readout of DNA sequences**  
Dans, Pablo D.
- 12:00 - 12:10 **TIA-1 RRM23 binding and recognition of target oligonucleotides**  
García-Mauriño, Sofia M.

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12:10 - 12:20 **Deciphering the long distance-glycosylation preferences of GalNAc-Ts**  
de las Rivas, Matilde

12:30 - 13:15 RSEF-SBE Lecture

Plenary Lecture

12:30 - 13:15 **Dynamics and Physics of Cancer: Tumor and Immune Cell Interactions**  
Seoane, Jesus

15:00 - 15:45 Manuel Rico - Bruker Prize

Plenary Lecture

15:00 - 15:05 **Introduction**

15:05 - 15:25 **The long and winding road towards autophagy**  
Alonso, Alicia

15:25 - 15:45 **Spatiotemporal organization of biological membranes using nanophotonic tools**  
García-Parajo, María

15:45 - 16:30 Enrique Pérez-Paya Prize

Plenary Lecture

15:45 - 15:50 **Introduction**

15:50 - 16:10 **Elucidating structures of Sugars by High Resolution Spectroscopies**  
Cocinero, Emilio

16:10 - 16:30 **Benefits of diversity: from molecular organization to cell signaling**  
Manzo, Carlo

16:30 - 17:15 SBE-33 Prize

Plenary Lecture

16:30 - 16:35 **Introduction**

16:35 - 16:55 **Optogenetic activation of receptor tyrosine kinases**  
Inglés Prieto, Álvaro

16:55 - 17:15 **Biophysical approaches to assess transport properties of  $\beta$ -barrel channels**  
Queralt-Martin, Maria

17:45 - 18:30 Closing Lecture

Plenary Lecture

17:45 - 18:30 **Single particle cryo-EM of membrane proteins in lipid nanodisc**  
Cheng, Yifan

18:30 - 19:00 Prizes & Closing

Special Sessions

Lecture Room

09:00 - 10:30 S8 - Biointerfaces, Biofilms and Nanobiophysics

Symposia

09:00 - 09:25 **Engineered proteins as scaffolds for functional nanostructures and materials**  
Cortajarena, Aitziber

09:25 - 09:50 **Seeking fresh air in biofilms through an oxygen-sensitive toxin-antitoxin system**  
Pons, Miquel

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- 09:50 - 10:00 **DNA Amplification in Double Emulsion Templated Vesicles**  
Tinao, Berta
- 10:00 - 10:10 **Label-free, multiplexed, single-molecule analysis of protein-DNA complexes with nanopores**  
Celaya, Garbiñe
- 10:10 - 10:20 **Lipid nanotubes from freestanding lipid membranes**  
Dols-Perez, Aurora

10:30 - 11:00 PALL-Paralab

Seminar

- 10:30 - 11:00 **Characterization of biomolecules: structure, conformation, thermodynamics and kinetics**  
García, Alberto

11:00 - 12:30 S8 - Biointerfaces, Biofilms and Nanobiophysics

Symposia

- 11:00 - 11:25 **Liquid Microjets in XFELs: Last Train to Molecular Heaven**  
Gañán-Calvo, Alfonso
- 11:25 - 11:50 **Orb2/CPEB amyloid: similarities and differences with pathological amyloids**  
Carrión-Vázquez, Mariano
- 11:50 - 12:00 **Analysis of the Different Structures of Pulmonary Surfactant Collectin SP-D by Atomic Force Microscopy**  
Arroyo, Raquel
- 12:00 - 12:10 **Virtual High Throughput Screening (VHTS) of small mechanoactive molecules for controlling the mechanical stability of HIV-1 receptor**  
Rodríguez, Bárbara
- 12:10 - 12:20 **Unfolding pathway of the cancer-associated NQO1 enzyme studied at the single molecule level.**  
Perales-Calvo, Judit

1st Floor Hall

10:30 - 11:00 Posters/Exhib/Drink

Networking

14:30 - 15:00 Posters & Exhibs

Networking

17:15 - 17:45 Posters/Exhib/Drink

Networking

Italian Pavilion

13:15 - 14:30 Lunch Break

Networking

Los Seises

21:00 - 22:30 Congress Dinner

Networking



