



ESAB 2024
EUROPEAN
SOUTH ATLANTIC
BIOPHYSICS
CONGRESS

Young Scientist Seminar (ESAB- YSS)" Program

The **ESAB Congress – Young Scientist Seminar (ESAB-YSS) satellite workshop**, is designed for graduate students, postdoctoral researchers, and other early-career scientists who are attending the **ESAB Congress**.

This event will take place at **Donostia International Physics Center**, in San Sebastian.

4th June 2024

- 13:30 h **Arrival and Registration**
- 13:50h **Introductory comments**
- 14:00h **Keynote Lecture**
 - *"Protein phase transitions in neurodegenerative diseases"* **Dr. Nunilo Cremades**, Universidad de Zaragoza, Spain
- 14:45h **Lectures by Attendees**
 - Oral Contribution (15´):** *Arming monoclonal antibodies with cytotoxic peptides for cancer treatment*, **Izaskun Morillo**, Instituto Biofísica, CSIC, UPV, Abstract#62
 - Oral Contribution (15´):** *Adsorption-driven deformation and footprints of the RBD proteins in SARS-CoV-2 variants on biological and inanimate surface*, **Antonio Bosh**, Universidad Autónoma de Madrid, Abstract#41
 - Oral Contribution (15´):** *An Artificial Intelligence Approach to Engineer Super-Stable Nanobodies*, **Laura Gálvez-Larrosa**, CIC bioGUNE Abstract#152
 - Oral Contribution (15´):** *Towards Volumetric Imaging of Mechanically Stress Propagation in*

developing C. elegans Embryos, **Costanza Agazzi**, ICFO, Abstract#163

Oral Contribution (15´): *Engineering Protein Folding for Real-Time, Continuous Biosensing*, **Alba Pejenaute**, CIC bioGUNE, Abstract#161

Flash talk (5´): *Optimizing the membrane protein system size for realistic MD simulations*, **Marta Batista**, IBioISI, UNiversidade de Lisboa, Abstract#47

Flash Talk (5´): *Tuning the Optical Properties of Au Nanoclusters by Designed Proteins*, **Elena Lopez-Martinez**, CIC biomaGUNE, Abstract#117

Flash talk (5´): *Structural characterization of pure peptide electrospun fibers*, **Konstantina Mitropoulou**, CIC nanoGUNE, Abstract#108

Flash talk (5´): *Engineering artificial fluorescent proteins for biological light-emitting diodes*, **Liher García**, CIC biomaGUNE, Abstract#91

Flash talk (5´): *Exploring labetalol permeation across lipidic membranes: Insights from the pH variation assay*, **Margarida M. Cordeiro**, Coimbra Chemistry Centre CQC-IMS, University of Coimbra, Abstract#211

Flash talk (5´): *Droplet microfluidics as a screening and selection tool for epitope libraries*, **Liliana Teixeira**, CIC biomaGUNE, Abstract#114

- 16:30h **Coffee Break**
- 17:00h **Bioelectronics focus mini symposium**
(eProt EU Project)

Introduction: Aitziber L. Cortajarena 5´

Oral Contribution (15´): *One- and Two- Electron Reductions in MiniSOG and their Implication in Catalysis,* **Oksana Azpitarte,** UPV/DIPC. Abstract#13

Oral Contribution (10´): *Studying photosystem conformation landscape by protein loop engineering,* **Claudia Florez,** IMDEA, Abstract#39

Oral Contribution (10´): *Rational design of all-protein-based conductive system,* **Paolo Blesio,** CIC biomaGUNE, Abstract#90

Oral Contribution (10´): *Electrical Characterization of Tryptophan-Substituted Peptides Assemblies,* **Juan David Cortés,** University Alicante, Abstract#139

Oral Contribution (10´): *Engineered Proteins in Electrochemical Double Layer Capacitor,* **Marcial Fernández,** CIC energiGUNE, Abstract#121

- 18:00h **Roundtable discussion: Career Path Discussion**
 - **Moderator: Dr. Edurne Rujas.**
 - Journal Editor – Dr. Richard Murray (Advanced Functional Materials)

- SMEs: tbd
- Outreach and Communication – Dr. Amaia Arregi (DIPC)
- Academic- PI. Dr. Nunilo Cremades, (U. Zaragoza)
- Project management- Dr. Nerea Argarate (CIC biomaGUNE).
- Platform Manager: Dr. Iranzu Larena (CIC biomaGUNE).
- 20:30h **Social Dinner**
 - Txirrita Sagardotegia (San Bartolome Kalea, 32)
 - Webpage: <https://txirritasagardotegia.com>
 - Map link:
<https://maps.app.goo.gl/XAVJKaHC4xRG5M7u9>

5th June 2024

➤ **9:30h Keynote Lecture**

- *"One Ring to Rule Them All? Structure, Functional Adaptations and Diversity of the Nuclear Pore Complex"*, **Dr. Javier Fernández Martínez**, Institute of Biofísica, Spain

➤ **10:15h Coffee Break**

➤ **10:45h Lectures by Attendees**

Oral Contribution (15´): *Tau selectively aggregates on membranes and induces membrane damage*, **Vicky Ury-Thiery**, University of Bordeaux, Abstract#155

Oral Contribution (15´): *An emerging nanozyme class for à la carte enzymatic-like activities based on protein-metal nanocluster hybrids*, **Rocío López-Domene**, Polymat and CIC biomaGUNE, Abstract#52

Oral Contribution (15´): *Membrane remodelling by active rotary ATP synthases*, **Marcin Makowski**, Universidade de Lisboa, Abstract#225

Oral Contribution (15´): *Recruitment of specific lipid interactions driven by bulky aromatics after epitope binding potentiates neutralizing HIV-1 MPER antibody*, **Ander Ramos-Caballero**,

Instituto Biofísica (CSIC-UPV/EHU),
Abstract#105

Oral Contribution (15´): *Overcoming the flavin-dehydrogenase inactivation in a chemoenzymatic catalyst through enzymatic immobilization*, **Sergio Fernando Castillo Pacheco**, CIC biomaGUNE, Abstract#160

Flash talk (5´): *Characterization of antipsychotic interactions with the lipid membrane*, **Ana Gorse**, Univ. Bordeaux, Abstract#26

Flash talk (5´): *The conserved MPER-TMD region of SARS-CoV-2 S protein as a potential nucleic-acid vaccine*, **Madalen Arribas-Gallarreta**, Faculty of Pharmacy, UPV/EHU and Bioaraba, Abstract#140

Flash talk (5´): *Structural and functional insights into allosteric communication in the modulation of KirBac1.1 by pH*, **Carlos Coll**, IDiBE, Universidad Miguel Hernández (UMH), Abstract#182

Flash talk (5´): *Disaggregation dynamics of red-blood cells: Depletion vs Bridging*, **Nicolas Moreno**, Basque Center for Applied Mathematics, Abstract#232

Flash talk (5´): *A pioneering approach for enhanced therapeutic antibody development*, **Arkaitz Cano**, Faculty of Pharmacy, UPV/EHU, Abstract#138

- 12:30h **Departure to ESAB Congress (Kursaal Auditorium Center)**

Type of Contributions:

- ✓ **Keynote Speakers:** 45 minutes of contributions
- ✓ **Oral Contributions (15´):** 10 minutes of contributions + 5 minutes questions
- ✓ **Oral Contributions (10´):** 8 minutes of contributions + 2 minutes questions
- ✓ **Flash Talks:** 4 minutes of contributions and 1 minute of questions

More Information:

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