

PROGRAM.

FRONTIERS IN BIOSCIENCE 4 – SEPTEMBER 13 to 15, 2023

Wednesday, September 13

12:20 - 13:20 **Registration**

13:25 - Welcome: Eduardo Arzt

SESSION 1 - Microbiology and Ecology

Chair: Patricia Fernandez (CIHIDECAR, UBA-CONICET, Buenos Aires)

13:30 - **Nicole Dubilier** (Max Planck Institute for Marine Microbiology, Bremen)

How to eat without a mouth or gut: Nutritional symbioses between marine invertebrates and bacteria

13:55 - **Amy Austin** (IFEVA, UBA-CONICET, Buenos Aires)

Human impact on the carbon cycle in terrestrial ecosystems: insights from the drier sides of the world

14:20 - **Esteban Vöhringer-Martinez** (Facultad de Química, Universidad de Concepción, Concepción)

Learning how to fix CO₂ from the fastest enzyme

14:45 - **Lucas Garibaldi** (IRNAD, CONICET-UNRN, San Carlos de Bariloche)

How to design multifunctional landscapes?

15:10 - 15:35 Coffee break (ground & 1st floor)

SESSION 2 - Tissue Dynamics and Plasticity

Chair: Valeria Sigot (IBB, CONICET-UNER, Entre Ríos)

15:35 - **Sara Wickström** (Max Planck Institute for Molecular Biomedicine, Münster)

Mechanical regulation of cell states

16:00 - **Jochen Rink** (Max Planck Institute for Multidisciplinary Sciences, Göttingen)

Why size matters in planarians

16:25 - **Gabriela Pagnussat** (IIB, CONICET-UNMdP, Mar del Plata)

Ferroptosis in plants: triggers, proposed mechanisms and thermotolerance

16:50 - 17:50 Poster session: odd numbers (rooms 1 & 2 and entrance hall)

NOBEL LECTURE

Chair: Francisco Barrantes (BIOMED, CONICET-UCA, Buenos Aires)

17:50 - 18:35 **Erwin Neher** (Max Planck Institute for Multidisciplinary Sciences, Göttingen)

Short-term synaptic plasticity: Electrophysiology and molecular mechanisms

Thursday, September 14

SESSION 3 - Neurobiology I

Chair: Noel Federman (IBioBA, CONICET-MPSP, Buenos Aires)

9:00 - **Wolf Singer** (Max Planck Institute for Brain Research, Frankfurt)

The cerebral cortex, a recurrent oscillator network

9:25 - **Antonia Marin-Burgin** (IBioBA, CONICET-MPSP, Buenos Aires)

Experience-dependent changes of sensory processing in the olfactory cortex

9:50 - **David Fitzpatrick** (Max Planck Florida Institute for Neuroscience, Jupiter)

Functional organization and development of cortical representations: Rethinking what we thought we knew

10:15 - 10:40 Coffee break (ground & 1st floor)

SESSION 4 - Neurobiology II

Chair: Fernanda Ledda (IIBBA, CONICET-FIL, Buenos Aires)

10:40 - **Nils Brose** (Max Planck Institute for Multidisciplinary Sciences, Göttingen)

Presynaptic Plasticity - From Molecular Mechanisms to Neurodevelopmental Disorders

11:05 - **Rüdiger Klein** (Max Planck Institute for Biological Intelligence, Munich)

How tasty is the food? Your amygdala is in control

11:30 - **Damián Refojo** (IBioBA, CONICET-MPSP, Buenos Aires)

Needing Neddylation: a novel post-translational modification with key roles in the CNS

11:55 - **Manfred Gahr** (Max Planck Institute for Biological Intelligence, Munich)

Neural mechanisms of seasonal behavioral plasticity

12:20 - 13:35 Free time for Lunch

SESSION 5 - Neurobiology III

Chair: Elena Avale (INGEBI-CONICET, Buenos Aires)

13:35 - **Andrés Garelli** (INIBIBB, CONICET-UNS, Bahía Blanca)

Ready, steady, go! Coordination of motor and morphogenetic programs during fly development by dilp8, an insulin-like peptide

14:00 - **Jens Brüning** (Max Planck Institute for Metabolism Research, Cologne)

CNS-dependant control of metabolism

14:25 - **Noelia Weisstaub** (INCYT, CONICET- Fundación INECO-Universidad Favaloro, Buenos Aires)

Cortical serotonergic control of memory interference

14:50 - **Elisabeth Binder** (Max Planck Institute of Psychiatry, Munich)

Using cerebral organoids to map the impact of prenatal stress on brain development: consequences for psychiatry

15:15 - 15:40 Coffee break (ground & 1st floor)

SESSION 6 - Cell and Molecular Biology

Chair: Alejandro Colman Lerner (IFIBYNE, UBA-CONICET, Buenos Aires)

- 15:40 - **Vanesa Gottifredi** (IIBBA, CONICET-FIL, Buenos Aires)
Is chromosomal instability the unavoidable side effect of anti-cancer chemotherapies?
- 16:05 - **Alejandra Ventura** (IFIBYNE, UBA-CONICET, Buenos Aires)
Discriminating between negative cooperativity and ligand binding to independent sites using pre-equilibrium properties of binding curves
- 16:30 - **Asifa Akhtar** (Max Planck Vice-President / Max Planck Institute of Immunobiology and Epigenetics, Freiburg)
Multiple facets of epigenetic regulation by the MSL complex: From X chromosome to neurodevelopmental syndrome

16:55 - 17:55 Poster session: even numbers (rooms 1 & 2 and entrance hall)

- 17:55 - 18:15 **OPENING CEREMONY** by the Scientific Organizers (Eduardo Arzt and Herbert Jäckle), the Chargé d'affaires from the German Embassy (Peter Neven) and the Minister of Science of Argentina (Daniel Filmus)

PUBLIC LECTURE

Chair: Diego Golombek (CONICET, Escuela de Educación-Universidad de San Andrés, Buenos Aires)

- 18:15 - 19:00 **Moritz Helmstaedter** (Max Planck Institute for Brain Research, Frankfurt)
Connectomics: the networks of the brain

Friday, September 15

SESSION 7 - Signaling and Microbiology

Chair: Paula Barrionuevo (IMEX, CONICET-ANM, Buenos Aires)

- 8:30 - **Alejandro Vila** (IBR, CONICET-UNR, Rosario)
Cracking the code of in-cell protein stability: another brick in the resistance wall
- 8:55 - **Benjamin Kaupp** (Max Planck Institute for Multidisciplinary Sciences, Göttingen)
How to detect a single molecule?
- 9:20 - **Luciana Balboa** (IMEX, CONICET-ANM, Buenos Aires)
Modulation of immune cell metabolism: a new approach to fight Tuberculosis

9:45 - 9:55 Short Break

SESSION 8 - Structural Biology

Chair: Alejandro Leroux (IBioBA, CONICET – MPSP, Buenos Aires)

- 9:55 - **Christian Griesinger** (Max Planck Institute for Multidisciplinary Sciences, Göttingen)

Small molecules triggering transmembrane signaling and interfering with aggregation important in neurodegeneration

10:20 - **Holger Stark** (Max Planck Institute for Multidisciplinary Sciences, Göttingen)

Breaking the ice: Cryo-EM's quest for better resolution and quality

10:45 - **Stefan Raunser** (Max Planck Institute of Molecular Physiology, Dortmund)

Cryo-ET reveals muscle structures at molecular resolution

11:10 – 11:35 Coffee break (ground & 1st floor)

SESSION 9 - Plant Biology and Microbiology

Chair: Gabriela Soto (IGEAF-IABIMO, CONICET-INTA)

11:35 - **Marcelo Yanovsky** (IIBBA, CONICET-FIL, Buenos Aires)

Transcriptional and post-transcriptional regulatory networks that modulate the adaptation of plants to daily changes in light and temperature

12:00 - **Jorge Casal** (IFEVA, UBA-CONICET, Buenos Aires)

Biomolecular condensates in plant sensory perception of the environment

12:25 - **Regine Kahmann** (Max Planck Institute for Terrestrial Microbiology, Marburg)

How pathogenic fungi deliver effectors to their plant hosts

12:50 - 13:00 Short Break

PUBLIC LECTURE

Chair: Valeria Levi (IQUIBICEN, UBA-CONICET, Buenos Aires)

13:00 - 13:45 **Stefan Kaufmann** (Max Planck Institute for Infection Biology, Berlin)

Vaccination against tuberculosis: Lessons from the past, thoughts for the future

13:45 - 13:55 **Final Remarks**