

“Frontiers in BioScience”

Joint Symposium of the
Max Planck Society and the Ministry of Science, Technology and Productive
Innovation

Polo Científico Tecnológico - Buenos Aires - Argentina
April 22-25, 2012

Program

Sunday, April 22, 2012

General Biology Chair: **Herbert Jäckle** (MPI for Biophysical Chemistry, Göttingen)

14.30 – 14.55 **Philippe Bastiaens** (MPI for Molecular Physiology, Dortmund)
Modulating the spatial organisation of an oncogene product as a new approach to affect cancer cell phenotype

14.55 – 15.20 **Bill Hansson** (MPI for Chemical Ecology, Jena)
Representation of odor valence in the Drosophila antennal lobe

15.20 – 15.45 **Rolf Kemler** (MPI for Immunobiology and Epigenetics, Freiburg)
The Wnt/ β -catenin pathway and pluripotency

15.45 – 16.10 **Ralf J. Sommer** (MPI for Developmental Biology, Tübingen)
From development to evolution and beyond – an integrative approach to biology in Nematodes

16.10 – 16.35 **Linda Partridge** (MPI for the Biology of Ageing, Köln)
Nutrient-sensing pathways and ageing

16.35 – 17.00 **Thomas Jenuwein** (MPI for Immunobiology and Epigenetics, Freiburg)
Epigenetic control by histone methylation

17.00 – 18.00 *Coffee Break*

Official Opening

18.00 – 18.30 Welcome
Lino Barañao (Minister of Science, Technology and Productive Innovation, Argentina)
Günter Kniess (Ambassador of the Federal Republic of Germany)
Eduardo Arzt (Director of IBioBA-MPSP)

18.30 – 19.10 **Herbert Jäckle** (Vice president of the Max-Planck Society)
The Max Planck Society
Florian Holsboer: (MPI for Psychiatry, München)
The history of a relationship

19:15 Evening Lecture: Robert Huber (MPI for Biochemistry, Martinsried), Nobel Laureate
Intracellular proteolysis, basic science and drug development
Chair: Marisa Colombo (IHEM CONICET-Mendoza)

Monday, April 23, 2012

Neurobiology

Chair: **Daniel Tomsic** (IFIBYNE – CONICET – UBA, Buenos Aires)

- 09:00 - 09:25 **Peter Mombaerts** (MPI for Brain Research, Frankfurt)
Coding Olfaction
- 09:25 - 09:50 **Tobias Bonhoeffer** (MPI for Neurobiology, Martinsried)
How activity changes synapses in the mammalian brain
- 09:50 - 10:15 **Luis Barbeito** (Pasteur Institute Montevideo)
A pathogenic role of astrocytes in neurodegenerative diseases
- 10:15 - 10:40 **David Fitzpatrick** (Max Planck Florida Institute)
Building Cortical Representations with Experience: Insights from Visual Cortex
- 10:40 - 11:05 **Nils Brose** (MPI for Experimental Medicine, Göttingen)
Synaptic Cell Adhesion Proteins: From Synapse Formation to Autism Spectrum Disorders
- 11:05 - 11:35 *Coffee Break*
- 11:35 - 12:00 **Damián Refojo** (MPI for Psychiatry, München, and IBioBA-MPSP)
Neddylation: a new signaling pathway in the brain with critical functions in neuronal development
- 12:00 - 12:25 **Alfredo Cáceres** (Institute MM Ferreira Cordoba)
Microtubule dynamics, Rho GTPase signaling and axon formation
- 12:25 - 12:50 **Axel Borst** (MPI for Neurobiology)
In Search of the Holy Grail of Fly Motion Vision
- 12:50 - 13:15 **Michael Morgan** (MPI for Neurological Research, Köln)
Visual Perception

Plant Biology

Chair: **Jorge Muschietti** (INGEBI-CONICET, Buenos Aires)

- 15:00 - 15:25 **Mark Stitt** (MPI for Molecular Plant Physiology, Golm)
Balancing Metabolism and Growth in Diurnal Cycles: How plants do things better than our bankers and politicians
- 15:25 - 15:50 **Lothar Willmitzer** (MPI for Molecular Plant Physiology, Golm)
Plant-environment interaction – a systems analysis
- 15:50 - 16:15 **Fernando Carrari** (Instituto Nacional de Tecnología Agropecuaria)
Tackling the metabolism of important nutritional compounds in crop plant species
- 16:15 - 16:40 **Detlef Weigel** (MPI for Developmental Biology, Tübingen)
Dissecting genetic and epigenetic contributions to plant evolution
- 16:40 - 17:05 **José Estévez** (LFBM-IFIBYNE, CONICET-UBA)
Sweet growth of plant cells. New players in the O-glycosylation pathway
- 17:05 - 17:30 *Coffee Break*

- 17:30 - 17:55 **Regine Kahmann** (MPI for Terrestrial Microbiology, Marburg)
How fungi colonize plants: strategies and surprises
- 17:55 - 18:20 **Marcelo Yanovsky** (Leloir Institute Buenos Aires)
How plants tell time: molecular mechanisms underlying biological clocks and Calendars
- 18:30 Evening Lecture: Bert Sakmann** (Max Planck Florida Institute), Nobel Laureate
Cortical Column: if you don't understand the function, do the structure
Chair: **Juana Pasquini** (IQUIFIB/CONICET Buenos Aires)

Tuesday, April 24, 2012

In memoriam Elizabeth Jares-Erijman

Molecules and Structure Chair: **Francisco Barrantes** (UCA-CONICET)

- 08:50 **Tom Jovin**: *Commemoration of Eli Jares-Erijman* († 2011)
- 09:00 - 09:25 **Reinhard Lührmann** (MPI for Biophysical Chemistry, Göttingen)
Structure and function of the spliceosome
- 09:25 - 09:50 **Luis S. Mayorga** (IHEM Mendoza)
Dynamics of membrane remodelling during acrosomal exocytosis
- 09:50 - 10:15 **Pedro Aramendía** (INQUIMAE CONICET-UBA)
The use of metal nanoparticles with fluorescent molecules to enhance the sensing Performance
- 10:15 - 10:40 **Tom Jovin** (MPI for Biophysical Chemistry, Göttingen)
Molecular organizing principles in neurodegenerative disease: "acunus" membranes, and mitochondria
- 10:40 - 11:05 **Christian Griesinger** (MPI for Biophysical Chemistry, Göttingen)
Neurodegeneration and -protection: an NMR spectroscopic view
- 11:05 - 11:35 *Coffee Break*
- 11:35- 12:00 **Claudio O. Fernández** (IBR-CONICET, Rosario)
Structural Biology of Neurodegenerative Diseases: Drug Design and Therapy
- 12:00 - 12:25 **Darío Estrin** (DQIAF-INQUIMAE, FCEN-UBA, CONICET)
Computer simulation of heme proteins
- 12:25 - 12:50 **Helmut Grubmüller** (MPI for Biophysical Chemistry, Göttingen)
Mechanoenzymatics of biomolecular nano-machines: May the force be with you
- 12:50 - 13:15 **Benjamin Kaupp** (caesar Center, Bonn)
Sensitivity at the physical limit. How cells detect single molecules

Wednesday, April 25, 2012

Discoveries and Applications Chair: Claudia Pérez Leirós (FCEN-UBA)

- 09:00 - 09:25 **Manfred Gahr** (MPI for Ornithology, Seewiesen)
From sexual brains to sexy songs
- 09:25 - 09:50 **Claudio Cavasotto** (IBioBA-MPSP)
In silico characterization of molecular interactions in biological systems
- 09:50 - 10:15 **Walter Stühmer** (MPI for Experimental Medicine, Göttingen)
A new second-use drug to mitigate Parkinsons disease?
- 10:15- 10:40 **Fernando Goldbaum** (Leloir Institute BA)
Protein engineering for vaccine design: the BLS platform
- 10:40- 11:05 **Arturo Zychlinsky** (MPI for Infection Biology, Berlin)
NETs: neutrophil extracellular traps in health and disease
- 11:05 - 11:35 *Coffee Break*
- 11:35 - 12:05 **Florian Holsboer** (MPI for Psychiatry, München)
How can we realize the promise of personalized antidepressant treatment: CRFR1 a case in point
- 12:05 - 12:45 **Herbert Waldmann** (MPI for Molecular Physiology, Dortmund)
Chemical-biological analysis of dynamic biological processes
- 12:45 **“What we want to know” about the MPS and Polo Científico Tecnológico: Questions and answers**
Chair: Eduardo Arzt and Herbert Jäckle

This symposium is one of the starting points for the postgraduate and outreach academic activities of the
IBioBA - CONICET - MPSP

Event Organizing Committee:

- National Directorate of International Relations, Ministry of Science, Technology and Productive Innovation, Argentina
- Biomedicine Research Institute of Buenos Aires - CONICET - Partner Institute of the Max Planck Society (IBioBA-CONICET-MPSP)
- Embassy of the Federal Republic of Germany in Argentina

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