



MPG-IBiS-UGR International Workshop on *Synaptic Transmission: Mechanisms and Perspectives.*

Instituto de Biomedicina de Sevilla (IBiS)

Campus Hospital Universitario Virgen del Rocío
Avda. Manuel Siurot s/n | 41013 Seville, Spain

Organized by

Dr. Ángel Pérez-Lara (University of Granada)

Dr. Rafael Fernández-Chacón (IBiS)

 **May 5-6, 2026**

May 5, 2026

09:15-09:30 Welcome and opening remarks by the organizers

- Dr. Rafael Fernández-Chacón
- Dr. Angel Perez-Lara

Session 1

Chair: Dr. Ángel Pérez-Lara

09:30-10:10 Keynote Lecture - Dr. Reinhard Jahn (Max Planck Institute for
Multidisciplinary Sciences, Göttingen, Germany)

Molecular mechanisms of neuronal exocytosis

10:10-10:35 Dr. Agata Witkowska (Leibniz FMP & NeuroCure Cluster of Excellence,
Berlin, Germany)

Biophysical mechanisms of neuronal membrane shape regulation

10:35-11:00 Dr. Francisco J López-Murcia (Max Planck Institute & University of
Barcelona, Spain)

*The presynaptic dimension of brain pathologies: Munc13-1 and Complexin and their
control over synaptic (dys)function*

11:00-11:30

Break



Session 2

Chair: Dr. Rafael Fernandez-Chacon

11:30-12:10 Keynote Lecture - Dr. Nils Brose (Max Planck Institute for Multidisciplinary Sciences, Göttingen, Germany)

A Functional Link Between Presynaptic Vesicle Priming, Synaptic Short-Term Plasticity, and Working Memory

12:10-12:35 Dr. Benjamin H. Cooper (Max Planck Institute for Multidisciplinary Sciences Göttingen, Germany)

Ultrastructural approaches to investigate synaptic heterogeneity and activity dependent vesicle pool remodelling

12:35-13:00 Dr. Beatriz Herguedas (BIFI Institute, Zaragoza, Spain)

Structural Dynamics of AMPA Receptor Complexes: Molecular Determinants of Desensitization

13:00-13:25 Dr. Pablo García-Junco Clemente (Institute of Biomedicine of Seville (IBiS), Spain)

Cholinergic control of chandelier cells: nicotinic receptors as gatekeepers of cortical state

13:25-15:00

Break

**15:00-16:00 Round Table: Building a Scientific Career
(Moderated discussion with speakers)**

Session 3

Chair: Dr. Juan Jose Toledo

16:00-16:40 Keynote Lecture - Dr. Jose Lopez-Barneo (Institute of Biomedicine of Seville (IBiS), Spain)

Endogenous neurotrophic protection of the nigro-striatal pathway

16:40-17:05 Dr. Weiping Han (A*STAR Institute of Molecular and Cell Biology, Singapore)

Metabolic states maintain neuronal health and synaptic function

17:05-17:15

Short break

17:15-17:40 Dr. Patricia González-Rodríguez (Institute of Biomedicine of Seville (IBiS), Spain)

Decoding How Energy Metabolism Drives Parkinson's Disease Pathogenesis

17:40-18:05 Dr. Aida Platero Luengo (Institute of Biomedicine of Seville (IBiS), Spain)

Partial Reprogramming for Cognitive and Motor Function: An Epigenetic Tune-Up for the Aging Brain



May 6, 2026

Session 4

Chair: Dr. Agata Witkowska

10:00-10:25 Duanqing Pei (West Lake University, Hangzhou, China)

A phosphor-switch for cell fate control in vitro and in vivo

10:25-10:50 Dr. Nozha Borjini (Institute of Biomedicine of Seville (IBiS), Spain)

A mouse model of autosomal dominant adult-onset neuronal ceroid lipofuscinosis, a rare neurodegenerative disease

10:50-11:15 Dr. Alberto Pascual (Institute of Biomedicine of Seville (IBiS), Spain)

Microglia as brain tenants

11:15-11:30 Meeting Conclusions