

CONNECTING THE GROWING BRAIN

UNDERSTANDING NEUROPAEDIATRIC DISEASES THROUGH SYNAPTIC COMMUNICATION

Thursday, November, 26th, 2015

PROGRAM

9:00 **Welcome**

9:10 **SESSION 1: SYNAPTIC DETERMINANTS OF NEUROPAEDIATRIC DISORDERS I: A GLOBAL OVERVIEW**

Coordinator: **Àlex Bayès**, Biomedical Research Institute Sant Pau, Barcelona, Spain

9:10 **Synaptic Function and Brain Networks in Childhood**

Sakkubai Naidu, Kennedy Krieger Institute, Baltimore, USA

9:45 **Mechanisms of Synaptic Dysfunction in Neuropaediatric Disorders**

Àlex Bayès, Biomedical Research Institute Sant Pau, Barcelona, Spain

10:20 **Open Debate**

11:00 **Coffee Break**

11:30 **SESSION 2: SYNAPTIC DETERMINANTS OF NEUROPAEDIATRIC DISORDERS II: FOCUSED ON GROUPS OF DISEASES**

Coordinator: **Rafael Artuch**, Hospital Sant Joan de Déu, Barcelona, Spain

11:30 **Synaptic Determinants of Epilepsy in Children**

José Maria Serratosa, Fundación Jiménez Díaz, Madrid, Spain

12:00 **Neuroligins at Inhibitory Synapses - from Synaptogenesis to Autism Spectrum Disorders**

Nils Brose, Max Plank Institute, Gottingen, Germany

12:30 **Synaptic Determinants of Movement Disorders in Children**

Manju Kurian, Great Ormond Street Hospital, London, UK

13:00 **Open Debate**

13:30 **Lunch**

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- 15:00 SESSION 3: SYNAPTIC DETERMINANTS OF NEUROPAEDIATRIC DISORDERS III: FOCUSED ON MAIN GROUP OF MOLECULES INVOLVED IN SYNAPTIC COMMUNICATION**
Coordinators: **Àngels García Cazorla**, Hospital Sant Joan de Déu, Barcelona, Spain
Rafael Artuch, Hospital Sant Joan de Déu, Barcelona, Spain
- 15:00 Neurotransmitter Systems I. Disorders of Monoamines (Dopamine and Serotonin)**
Roser Pons, University of Athens, Athens, Greece
- 15:30 Neurotransmitter Systems II. Disorders of GABA and Glutamate**
Elisenda Cortès, Hospital Sant Joan de Déu, Barcelona, Spain
Xavier Altafaj, Bellvitge Biomedical Research Institute, L'Hospitalet de Llobregat, Spain
- 16:00 Short Break**
- 16:15 Other Molecules involved in Synaptic Transmission and Disorders in Children**
Sofia Duarte, Instituto de Medicina Molecular, Lisboa, Portugal
- 16:45 Synaptic Metabolism: a New Approach to Study Neuropaediatric Disorders**
Àngels García Cazorla, Hospital Sant Joan de Déu, Barcelona, Spain
- 17:15 Secondary Neurotransmitter Deficiencies in Genetic Disorders**
Gabriella Horvarth, BC Children's Hospital, Vancouver, Canada
- 17:45 The iNTD Registry: A New Clinical Database of Patients with Inborn Neurotransmitter, Pterin and Folate Disorders**
Thomas Opladen, Heidelberg University Hospital, Heidelberg, Germany
- 18:15 Open Debate**
- 19:00 Cocktail at CosmoCaixa Museum**

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9:00 SESSION 4: BIOMARKERS, GENETICS, PROTEOMICS AND METABOLOMICS IN SYNAPTIC DISEASES

Coordinators: **Judith Armstrong**, Hospital Sant Joan de Déu, Barcelona, Spain
Xavier Altafaj, Bellvitge Biomedical Research Institute, Spain

9:00 Quantitative Metabolomics and Proteomics of the CSF

Benoit Colsch, CEA Atomic Energy and Alternative Energies Commission, Paris, France
Eduard Sabidó, Centre for Genomic Regulation, Barcelona, Spain

9:30 System Biology in Synaptic Disorders (Focused in Rett Syndrome)

Sakkubai Naidu, Kennedy Krieger Institute, Baltimore, USA

10:00 Genetic Tools Focused on Diagnosis

Judith Armstrong, Hospital Sant Joan de Déu, Barcelona, Spain
Lluís Armengol, qGenomics, Barcelona, Spain

10:30 Open Debate

11:00 Coffee Break

11:30 SESSION 5: BRAIN NETWORKS AND CIRCUITRIES

Coordinators: **Vesna Prchkovska**, Mint Labs, Barcelona, Spain
Josep Antoni Ramos-Quiroga, Vall d'Hebron Research Institute, Barcelona, Spain

11:30 Connectomics in Neuropaediatric Disorders

Paulo Rodrigues, Mint Labs, Barcelona, Spain

12:00 Brain Development in Neuropsychiatric Disorders: ADHD

Josep Antoni Ramos-Quiroga, Vall d'Hebron Research Institute, Barcelona, Spain

12:30 Brain Networks in Neuropsychiatric Disorders in Children

Xavier Castellanos, University of New York, New York, USA

13:00 Open Debate

13:30 Lunch

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- 15:00 SESSION 6: MODELS AND NEW THERAPEUTIC APPROACHES FOR SYNAPTIC DISEASES**
Coordinators: **Soledad Alcántara**, Universitat de Barcelona, Barcelona, Spain
Pau Gorostiza, ICREA – Institute for Bioengineering of Catalonia, Barcelona, Spain
- 15:00 Current Cellular Models of Synaptic Diseases**
Héctor Díez, Fundació Sant Joan de Déu, Barcelona, Spain
- 15:20 Animal Models of Synaptic Diseases**
Soledad Alcántara, Universitat de Barcelona, Barcelona, Spain
- 15:40 Pharmacological Approaches for Synaptic Disorders**
Mara Dierssen, Centre for Genomic Regulation (CRG) and Institut Municipal d'Investigacions Mèdiques (IMIM), Barcelona, Spain
- 16:00 Short Break**
- 16:15 Chaperone Therapy for Synaptic Disorders**
Aurora Martínez, University of Bergen, Bergen, Norway
- 16:35 Gene Therapy in Synaptic Disorders**
Cristina Fillat, August Pi I Sunyer Biomedical Research Center (IDIBAPS), Barcelona, Spain
- 16:55 Optogenetics and Optopharmacology to Control Neurobiology with Light**
Pau Gorostiza, ICREA – Institute for Bioengineering of Catalonia, Barcelona, Spain
- 17:15 Open Debate**
- 17:45 Closing Remarks and Future: Development of the International Network “Connecting the Growing Brain”.**
By Manju Kurian, Thomas Opladen and Àngels García Cazorla

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