



1st Severo Ochoa Conference

Astrocyte-neuron metabolic coupling in organismal (patho)physiology

Main Lecture Theatre, Faculty of Pharmacy,
University of Salamanca (Spain)

Thursday 29th & Friday 30th June 2023

Organizers: Juan P. Bolaños and M. Angeles Serrano



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Scientific Program

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Scientific Program

Thursday 29th June 2023

12:30 – 13:30 Arrival, registration and posters installation

13:30 – 14:15 Lunch (standing)

14:15 – 14:30 Welcome **Juan P. Bolaños, M. Ángeles Serrano, Isabel Varela-Nieto**

Session 1 - Chair: Agnès Nadjar (Bordeaux)

14:30 – 15:00 Juan P. Bolaños (Salamanca)

Metabolic shapes of brain cells and functional consequences

15:00 – 15:30 Stefanie Schirmeier (Dresden)

Metabolic flexibility of the nervous system

15:30 – 16:00 Gilles Bonvento (Paris)

The other ANLS: astrocyte-to-neuron L-serine shuttle

16:00 – 16:30 Coffee break at the poster area

Session 2 - Chair: Carlos Matute (Bilbao)

16:30 – 17:00 Giovanni Marsicano (Bordeaux)

Cannabinoid receptors in the brain: a link between metabolism and signaling?

17:00 – 17:30 Bruno Weber (Zürich)

Towards quantitative in vivo imaging of cellular cerebral metabolism

17:30 – 18:00 Alberto Pascual (Sevilla)

Microglia central metabolism in health and disease

18:00 – 18:45 Oral Communications-1 (OC1) – Chair: Jordi Duran (Barcelona)

OC1-01 Miguel Lopez (Santiago de Compostela)

Role of astrocytes in the regulation of energy homeostasis through AMPK.

OC1-02 Maite Solas (Pamplona)

Astrocytic GLUT1 ablation improves systemic glucose metabolism and memory resilience through enhanced insulin-stimulated ATP release.

OC1-03 Rodrigo Lerchundi (Paris)

Brain lactate cellular compartmentalization in anaesthetized APP/PS1dE9 mice.

OC1-04 Ana Ledo (Coimbra)

Astrocytic Aerobic Glycolysis Provides Lactate to Support Neuronal Oxidative Metabolism in the Hippocampus.

OC1-05 Alba Fernandez (Madrid)

Linking serine metabolism to synaptic plasticity via astrocytic PI3K isoforms.

OC1-06 Celia Lopez-Menendez (Madrid)

PKD1 regulates astrocyte maturation and mitochondrial homeostasis.

OC1-07 Vanja Tepavcevic (Bilbao)

A novel role of monocarboxylate transporter (MCT) 2 in the central nervous system (re)myelination.

18:45 – 19:00 Miriam Contreras (Agilent) *Role of metabolism in illuminating neurobiology and neurodegenerative disease– Exploring Seahorse XF Technology in Neurological Research – Chair M. Angeles Serrano (Salamanca)*

19:00 – 20:00 Posters discussion

21:15 Dinner (Colegio Arzobispo Fonseca, C/ Fonseca, 4, 37002 Salamanca)

Friday 30th June 2023

09:00 – 09:15 Arrival of Oral Communication-2 presenters

09:15 – 10:00 Oral Communications-2 (OC2) – Chair: Silvia Ginés (Barcelona)

OC2-01 Lucía del Prado (Madrid)

Deciphering compensatory mechanisms underlying differential sensitivity to mitochondrial dysfunction in brain.

OC2-02 Ester Sanchez-Martin (Bilbao)

Oligodendrocyte energy metabolism: modulation by CB₁ receptors and implications during autoimmune demyelination.

OC2-03 Eneritz Lopez-Muguruza (Bilbao)

Impact of myelin fatty acids on oligodendrocyte energy metabolism.

OC2-04 Laura Lopez-Molina (Barcelona)

Mitochondria released from astrocytes contribute to the striatal neuronal vulnerability in Huntington's disease

OC2-05 Teresa Colomer-Mollá (Bilbao)

Astrocyte metabolic reprogramming and neuroinflammation: pathogenic implications in multiple sclerosis.

OC2-06 Cintia Folgueira (Madrid)

Exploring the role of p38 stress kinases in muscle-brain communication: a novel therapeutic approach for metabolic disorders.

OC2-07 Suelen Baggio (Warsaw)

TCF7L2 deficiency in the thalamus leads to alterations in behavioral profile and brain energy metabolism.

OC2-08 María Repollés (Tarragona)

Succinate/SUCNR1 axis in microglial cells exerts a neuroinflammatory role in obesity.

Session 3 - Chair: José A. Esteban (Madrid)

10:00 – 10:30 Gertrudis Perea (Madrid)

Dysfunctional astrocyte-neuron signaling in Major Depressive Disorder

10:30 – 11:00 Guillermrina Lopez-Bendito (Alicante)

Patterns of Spontaneous Activity in the Development & Plasticity of Sensory Circuits

11:00 – 11:30 Coffee break at the poster area

Session 4

Chair: Angeles Almeida (Salamanca)

11:30 – 12:00 Cristina Garcia-Caceres (Munich)

Hypothalamic astrocytes undergo a metabolic switch to control hunger neurons

12:00 – 12:30 Marc Claret (Barcelona)

Glycogen metabolism drives sensory activation of POMC neurons

12:30 – 13:00 Ruben Nogueiras (Santiago de Compostela, Spain)

Tanycytes: key players in the regulation of energy balance

13:00 – 13:15 Closing remarks – Juan P. Bolaños

13:15 – 14:30 Lunch (standing) + departure