SJD Sant Joan de Déu Education

Metabolic pathways of intelectual disability and autism

SUMMER SCHOOL

Meeting
03.07.26

Hybrid
8 teaching hours

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Exploring how metabolic pathways shape brain development, cognition, and neurodevelopmental disorders.

This exciting course will provide an integrated overview of the metabolic mechanisms underlying intellectual disability and autism. Bringing together leading experts, the course will explore how cellular metabolism, energy dynamics, and molecular pathways influence brain development, synaptic function, and neurodevelopmental disorders, combining basic science insights with clinical perspectives.

Join us for an engaging and educational experience at the forefront of metabolic pathways in neurodevelopmental disorders!

Course director

Angeles García Cazorla. Professor of Pediatric Neurology and Neurometabolism Universitat de Barcelona and SJD Barcelona Children's Hospital Barcelona.

Registration: https://bit.ly/metabolic-pathways-2026

Fee Type	Until 15/06/2026	From 15/06/2026
In-person	250 €	280 €
Online	170 €	200 €
Online for countries with special rates (LMIC and Latam)*	130 €	150 €

(*) LMIC (low & middle income countries) according to the https://data.worldbank.org/income-level/low-and-middle-income, and Latam.

Contact
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Training Objectives

- To understand the role of metabolic pathways in brain development and neurodevelopmental disorders.
- To explore the relationship between energy metabolism and cognitive function.
- To identify key molecular and cellular mechanisms involved in intellectual disability and autism.
- To bridge basic research and clinical practice through case-based and translational approaches.

This course is especially aimed at:

- Neurologists (adult and pediatric)
- General pediatricians
- Neuropsychologists
- Psychiatrists
- Clinical geneticists
- Researchers in neuroscience and metabolism
- Biologists and basic scientists
- Residents and fellows

and other professionals involved in the study, diagnosis, and management of autism spectrum disorders and intellectual disability, including both clinical and non-clinical profiles.

Endorsed by:

"With the Scientific Endorsement of the Spanish Society of Pediatric Neurology (SENEP)"

SJD Sant Joan de Déu Barcelona · Hospital Universitat de Barcelona

Thursday, 03 July 2026

08:30 - 08:40 h	Welcome. **Angeles Garcia-Cazorla, Spain.**
	Session 1: Introductory Lectures.
08:40 - 08:45 h	Introduction (music)
08:45 - 09:05 h	How can we contribute to bridging the gap between basic research, clinicians, and families? **Syngap1, Spain.**
09:05 - 09:15 h	Discussion
09:15 - 09:35 h	Metabolism of the Neurodevelopmental Brain. **Angeles Garcia-Cazorla, Spain.**
09:35 - 09:45 h	Discussion
09:45 - 10:05 h	"RNA Regulation as a Biological Pathway in Autism". **Raúl Méndez, Spain.**
10:05 - 10:15 h	Discussion
10:15 - 10:45 h	Coffee-break
	Session 2: Energy Metabolism of Cognition and Neurodevelopment
10:45 - 10:50 h	Introduction (music)
10:50 - 11:10 h	Tracing Brain Energy – Studing astrocyte-neuron metabolism in Neurodevelopmental Disorders. **Stephanie Doovers, The Netherlands.**

11:10 - 11:20 h	Discussion
11:20 - 11:40 h	The Energetic Cost of Cognition **Juan Bolaños, Spain.**
11:40 - 11:50 h	Discussion
11:50 - 12:10 h	Mitochondrial function in Autism. **Michael Mailbach, the Netherlands.**
12:10 - 12:20 h	Discussion
	Session 3: Convergent Metabolic Pathways in Neurodevelopmental Disorders
	Part 1 – Amino Acid Signaling and Synaptic Homeostasis
12:20 - 12:25 h	Introduction (music)
12:25 - 12:45 h	Amino Acid Metabolism in ID/Autism. **Gaia Novarino, Austria.**
12:45 - 12:55 h	Discussion
12:55 - 13:15 h	Inborn Errors of Amino Acid Metabolism with Prominent ID/Autism – clinical cases. **C. W. Fung and Sheila Wong, Hong Kong.**
13:15 - 13:25 h	Discussion
13:25 - 14:50 h	Lunch

	Part 2 – Lipid Dynamics and Membrane Remodeling
14:50 - 14:55 h	Introduction (music)
14:55 - 15:15 h	Lipid Metabolism in the Neurodevelopmental Brain. **Fiona Francis, France.**
15:15 - 15:25 h	Discussion
15:25 - 15:45 h	Metabolic Regulation of Microglial Function. **Charlotte Madore, EE.UU.**
15:45 - 15:55 h	Discussion
	Part 3 - Lysosomal Function and Cellular Recycling
15:55 - 16:00 h	Introduction (music)
16:00 - 16:20 h	Intellectual Disability and Autism in Lysosomal Disorders and Treatable Leukodystrophies **Hernán Amartino, Argentina.**
16:20 - 16:30 h	Discussion
16:30 - 17:00 h	Coffee-break

	Session 4: Synaptic Signaling at the Interface of Metabolism and Circuit Function.
17:00 - 17:05 h	Introduction (music)
17:05 - 17:25 h	Role of mitochondria at the synapse.
17:25 - 17:35 h	Discussion
17:35 - 17:55 h	Neurotransmitter disorders presenting as Intellectual Disability and Autism — clinical cases. **Gabriella Horvath, Canada.**
17:55 - 18:05 h	Discussion
	Session 5: Conclusions.
18:05 - 18:10 h	Introduction (music)
18:10 - 18:20 h	Final Integrative Discussion & Closing Remarks. **Angeles Garcia-Cazorla, Spain.**