

# 1<sup>st</sup> SYMPOSIUM CONNECTION BETWEEN PHYSICS & METABOLISM IN BRAIN FUNCTION



July 5, 2024



9:00 AM - 17:00 PM



SJD Barcelona  
Children's Hospital

SJD Barcelona Children's Hospital

Carrer de Santa Rosa, 39  
08950 Esplugues de Llobregat,  
Barcelona  
Phone: 93 253 21 30  
[hospitalbarcelona.aula@sjd.es](mailto:hospitalbarcelona.aula@sjd.es)

**JULY 5, 2024  
BARCELONA**

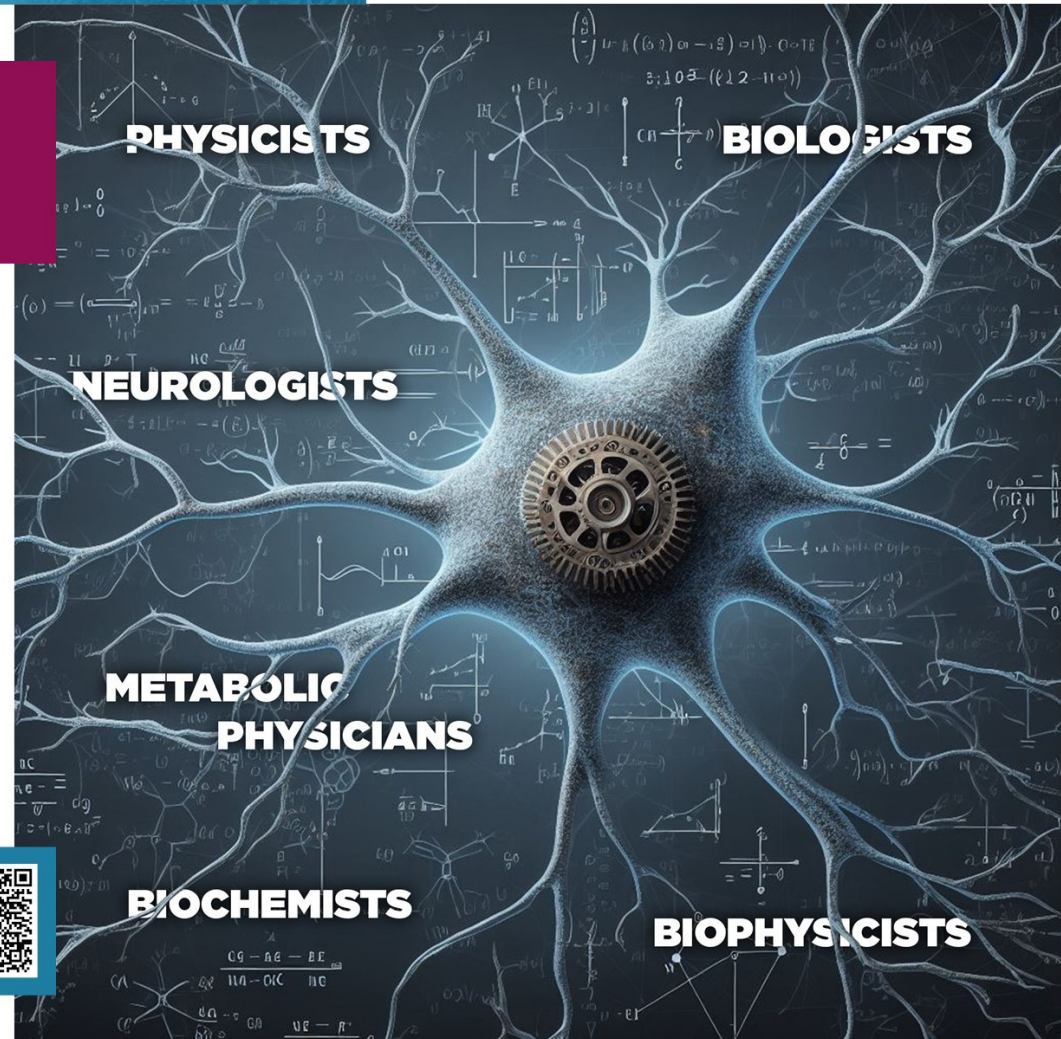
📺 This conference will also be broadcast live.

The laws of physics govern essential metabolic processes such as cell mechanics, membrane dynamics, neuronal signaling, and cell bioenergetics. This international symposium will bring together for the first time world experts in physics and neurobiology to better understand the mechanisms underlying these metabolic processes in the brain, with the aim of fostering new interdisciplinary collaborations. Join us and interact with prestigious speakers who will discuss the physics of life, the physics of metabolism and the physics of the brain!


## REGISTRATION FEES

**20€** (online) - **30€** (in-person)  
for the one-day symposium

[Link to the registration](#)



# FIRST SYMPOSIUM ON THE CONNECTION BETWEEN PHYSIC and METABOLISM in BRAIN FUNCTION

 July 5, 2024 - Barcelona

**Preliminary program\***


## INTRODUCTION

9:00 -9:30 h. Presentation, why this meeting, main objectives.

Fanny Mochel, Angeles Garcia-Cazorla

9:30 -10:30 h. Opening lecture “Quantum Physics and Consciousness”

Stuart Hameroff, Arizona, US

10:30 - 11:00 h. Break 

## GENERAL CONCEPTS

11:00-11:30 h. The physics of life: “the Assembly Theory”

Lee Cronin, UK

11:30-12:00 h. The physics of metabolism-Computational Metabolism.

Marta Sales-Pardo, Spain

12:00-12:30 h. The physics of the brain.

Eva K. Pillai, UK

12:30-13:00 h. General Discussion.

13:00 -14:00 h. Lunch. 

## METABOLIC PATHWAYS and DYNAMICS

14:00 -14:30h. Neurotransmission.

Nils Brose (Göttingen) and Fran López (Barcelona)

14:30-15:00 h. Cell trafficking and microtubules.

Anne Straube, UK

15:00-15:30 h. Membrane Biology.

Patricia Bassereau, France

15:30 - 16:00 h. Break. 

16:00 –16:30 h. A contribution from physics to revealing nanoscale dynamic processes in the brain

Laurent Cognet, France

16:30 - 17:00 h. Closing conference. “Mechanomodulation of brain ageing”

Kevin Chalut, United Kingdom

**17:00 h. Summary and closing remarks.**