

THE BARCELONA BLOOD-BRAIN-BARRIER (B4) SYMPOSIUM

1-3 October 2025

Instituto Químico de Sarrià (IQS)

Organized by:

IBEC
Institute for Bioengineering of Catalonia

CALL FOR PAPERS – B4 2025

The blood-brain barrier (BBB) separates the blood circulation from the brain tissue. However, despite its name, the BBB is far from a static, impenetrable barrier. Instead, this highly dynamic and complex structure regulates, and responds to, the highly complex requirements and functions of neuronal activity. To advance our knowledge of BBB function and regulation, the 2nd edition of the **Barcelona Blood-Brain Barrier symposium** will bring together scientists from a wide-range of disciplines from across the world to discuss emerging topics in BBB physiology and translational topics. In the name of the Institute for Bioengineering of Catalonia (IBEC), we look forward to welcoming you to the great city of Barcelona to take part in these lively discussions, make lasting connections, and push the boundaries of the field forward.

Topics of interest include, but are not limited to:

- Neurovascular coupling
- Pericyte-control of BBB function
- Tight-junction biology across health and disease
- Membrane trafficking dynamics of brain endothelial cells
- Controlling transcytosis across brain endothelial cells
- The glycocalyx as a modulator of BBB function
- Mechanobiology of the BBB
- (Patho)physiological angiogenic control at the brain vasculature
- Immune-BBB crosstalk: Neuroinflammation and infection
- BBB dysfunction in aging, cognitive decline, and neurodegeneration
- The BBB in brain cancers: from invasion gate-keeper to migration high-way
- Circadian control of BBB function
- The BBB in stroke: novel pathophysiological concepts and treatment strategies
- Nanoparticles for therapeutic brain delivery
- Novel brain-targeting strategies
- Advances in imaging techniques to study BBB dynamics
- Advanced bioengineering models of the BBB/NVU
- Omics and Computational modelling of the BBB

Important Dates:

- Submission deadline: April 25, 2025
- Regular registration deadline: August 1, 2025
- Conference: October 1–3, 2025

Venue:

B4 conference 2025 will be held in Barcelona (Spain), at Institut Químic de Sarrià IQS.

Guidance for authors:

The submission must be done online (<https://premc.org/blood-brain-barrier-conference/submission/>) where you will have to create your own account. This abstract management system will enable you to manage your submission as you wish.

www.premc.org/conferences
b4@premc.org