

# **Synaptic Mechanogenetics: From Mechanical Forces to Network Connectivity**

## *A SynMech Satellite Event*

**Date:** 11 July 2026

**Venue:** HCC Montblanc

### **Preliminary program (subject to change)**

**09:00-09:30** Registration

**09:30-10:00** **Synaptic Mechanogenetics: Concepts and State of the Art**

*Fanny Jaudon (University of Trieste, Italy)*

**10:00-10:30** **Neuronal Mechanosensors: Molecular Diversity and Function**

*Maria Passafaro (CNR, Italy)*

**10:30-11:00** **Magnetic Nanoparticles for Mechanogenetic Applications**

*Roberto Fiammengo (University of Verona, Italy)*

**11:00-11:15** Coffee Break

**11:15-11:45** **Magneto-Mechanical Stimulation Setups: Principles and Applications**

*Hans-Joachim Krause (Forschungszentrum Jülich, Germany)*

**11:45-12:15** **Transcranial Magnetic Stimulation: Mechanisms and Current Applications**

*Bas Neggers (Brain Science Tools, The Netherlands)*

**12:15-12:45** **Industry Spotlight: Translating Magneto-Mechanical Technologies**

*Cynexo (Italy)*

**12:45-14:00** Lunch Break

**14:00-14:30** **Rodent Models of Epilepsy: Targeting Inhibitory Circuits with Mechanogenetic Approaches**

*Alexander Dityatev (DZNE, Germany)*

**14:30-15:15** **Invited Lecture I: Network Dysfunction in Epilepsy - From Mechanisms to Therapy**

*Matthew Walker (University College London, UK; TBC)*

**15:15-15:30** Coffee Break

**15:30-16:00 Mechanogenetic Approaches in Preclinical Stroke Models**

*Rick Dijkhuizen (UMC Utrecht, The Netherlands)*

**16:00-16:45 Invited Lecture II: Clinical Applications of TMS - Opportunities and Challenges**

*Jord Vink (UMC Utrecht, The Netherlands)*

**16:45-17:15 Human iPSC Models for Mechanogenetics: Opportunities and Limitations**

*(BIOTalentum, Hungary)*

**17:15-17:30** Coffee Break

**17:30-18:30 Roundtable Discussion:**

**Challenges, Acceptance, and Future Directions of Mechanogenetics**

*Moderator: Lorenzo A. Cingolani (University of Trieste, Italy)*

**18:30-19:00** Closing remarks