

Computational Neuroscience Seminars (CNS)

with the support of Labex Cortex and CRNL

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Bridging empirical findings and computational models: from neurons to circuits, networks and cognition

!!!! WARNING: Conference location changes almost every day, read the program carefully !!!!

Monday December 1, 2025 – Topic introduction & student's presentations (M2 students only)

Amphitheater "Neurocampus" (CRNL, CH Le Vinatier, Bron)

- 10.00 – 10.30 Matteo di Volo (SBRI, Lyon) & J. Mattout (CRNL, Lyon)
Welcome and General Introduction
- 10.30 – 11.30 **Oral presentation by students' groups**
- 11.45 – 12.15 **Oral presentation by students' groups**
- 14.00 – 15.00 **Oral presentation by students' groups**
- 15.15 – 16.15 Matteo di Volo (SBRI, Lyon) & J. Mattout (CRNL, Lyon)
The language of computational models: from physiology to cognition

Tuesday December 2, 2025

Morning: Room F28 "Neurocampus" (CRNL, CH Le Vinatier, Bron)
Afternoon: Amphitheater "Neurocampus" (CRNL, CH Le Vinatier, Bron)

- 09.45 – 13.00 Duo (Experiment & Model) - Laurent Venance (CIRB, Collège de France, Paris) & Hugues Berry (INRIA, Lyon)
Spike timing dependent potentiation: from experiments to computational models
- 14.15 – 16.30 Duo: Christiane Schweis (CRNL, Lyon) & Kristen Barc (ICM, Paris & CRNL, Lyon)
Motivational determinants of cognitive control: high-throughput experiments and computational modeling in mice
- 16.30 – 17.00 **Round table**

Wednesday December 3, 2025

Amphitheater "Neurocampus" (CRNL, CH Le Vinatier, Bron)

- 9.30 – 11.00 Elif Köksal-Ersöz (CRNL, Lyon)
Multiple timescales in Neuroscience: a mathematical perspective
- 11.15 – 12.45 Olesia Dogonashcheva (ENS, Paris)
Rhythm-based hierarchical predictive computations support acoustic-semantic transformation in speech processing

14.00 – 15.30 Nils Kolling (SBRI, Lyon)

TBA

16.00 – 16.30 ***Guidelines for NeuroDay and round table***

Thursday December 4, 2025

Palais Hirsch, Lyon 2 university, 18 Quai Claude Bernadr

Lectures will be part of the NeuroDay, program here: <https://neuroday-lyon25.sciencesconf.org/>

For students: guidelines and preparation to this event will be given in class Wednesday afternoon

Friday December 5, 2025

Amphitheater “Neurocampus” (CRNL, CH Le Vinatier, Bron)

09.30 – 12.45 Duo (Experiment & Model) - Emmanuel Procyk (SBRI, Lyon) & Bruno Delord (Paris Sorbonne Univ.)
Inhibitory control of frontal metastability sets the temporal signature of primate cognition

14.15 – 15.45 Matteo Di Volo (SBRI, Lyon)
The role of interneurons’ diversity for the emergent dynamics of spiking neural networks

16.00 – 16.30 ***Round table and Concluding remarks***