CNS*2021 Online

TYPE - WORKSHOP • JULY 6 • TUESDAY

W Workshop

JULY 6 • TUESDAY

| 9:00am – 9:05am | W | **W2 S01: Introduction** | Zoom |
| | | *Speakers: Organizers* | |

| 9:00am – 9:05am | W | **W6 S01: Opening** | Zoom |
| | | *Speakers: Organizers* | |

| 9:00am – 9:10am | W | **W9 S01: Introduction** | Zoom |
| | | *Speakers: Organizers* | |

| 9:05am – 9:45am | W | **W6 S02: A mesoscale connectome defines spatiotemporal dynamics of neural activity across the mouse cortex** | Zoom |
| | | *Speakers: Tatiana Engel* | |

| 9:05am – 9:50am | W | **W2 S02: TBA** | Zoom |
| | | *Speakers: Tatyana Sharpee* | |

| 9:10am – 9:35am | W | **W9 S02: Complexity across experimental brain states: measures and mechanisms** | Zoom |
| | | *Speakers: Mavi Sanchez-Vives* | |

| 9:35am – 10:00am | W | **W9 S03: Brain states govern the spatio-temporal dynamics of resting-state functional connectivity** | Zoom |
| | | *Speakers: Albrecht Stroh* | |

| 9:45am – 10:25am | W | **W6 S03: Local brain states and their specialization captured by autocorrelation timescales.** | Zoom |
| | | *Speakers: Anna Levina* | |

| 9:50am – 10:35am | W | **W2 S03: Estimating information transfer in vitro: results from barrel cortex** | Zoom |
| | | *Speakers: Fleur Zeldenrust* | |

| 10:00am – 10:05am | W | **W5 S01: Introduction** | Zoom |
| | | *Speakers: Organizers* | |

| 10:00am – 10:10am | W | **W10 S01: Welcome from International Brain Initiative** | Zoom |
| | | *Speakers: Kenji Doya* | |

| 10:00am – 10:40am | W | **W9 S04: Rapid Dynamics Explain Neuronal and Behavioral Variability** | Zoom |
| | | *Speakers: David McCormick* | |

| 10:05am – 10:35am | W | **W5 S02: Topological Characterization for Multi-Variate Pattern Analysis** | Zoom |
| | | *Speakers: Alice Patania* | |

| 10:10am – 10:20am | W | **W10 S02: Introduction to the workshop goals** | Zoom |
| | | *Speakers: Sharon Crook* | |

| 10:20am – 10:40am | W | **W10 S03: INCF TrainingSuite: Neuroeducation without borders** | Zoom |
| | | *Speakers: Matthew Abrams* | |

| 10:30am – 11:10am | W | **W6 S04: Perturbational in silico approaches to understand states of consciousness.** | Zoom |
| | | *Speakers: Enzo Tagliazucchi* | |

10:35am – 11:05am	W	**W5 S03: Simplicial and Topological Descriptions of Human Brain Dynamics** *Speakers: Giovanni Petri*	Zoom
10:40am – 11:00am	W	**W10 S04: EBRAINS/Human Brain Project tools and workflows for data-driven modeling** *Speakers: Andrew Davison*	Zoom
10:50am – 11:15am	W	**W9 S05: State-dependent changes in cortical differentiation are due to neuronal OFF-periods** *Speakers: Marcello Massimini*	Zoom
11:00am – 11:20am	W	**W10 S05: Open data, analysis/modeling tools, and workflows from the Allen Institute** *Speakers: Shinya Ito, Kaitlyn Casimo*	Zoom
11:00am – 11:30am	W	**W2 S04: Efficient neuronal coding of static stimuli with different noise types and different objective functions** *Speakers: Shuai Shao*	Zoom
11:05am – 11:35am	W	**W5 S04: Exploring causality in neuroimaging time series** *Speakers: Raphael Liegeois*	Zoom
11:10am – 11:50am	W	**W6 S05: Synchrony in visual cortical populations during wakefulness: the good and the bad.** *Speakers: Valentin Dragoi*	Zoom
11:15am – 11:40am	W	**W9 S06: The metastability of the cortical Down states and its role in the dynamics of the unconscious brain** *Speakers: Alessandra Camassa*	Zoom
11:30am – 12:00pm	W	**W2 S05: Sources of Prediction Information in Dynamical Neural Networks** *Speakers: Madhavun Candadai*	Zoom
11:30am – 12:15pm	W	**W10 S06: Breakout session one** *Speakers: Organizers*	Zoom
11:40am – 12:05pm	W	**W9 S07: Rare long-range cortical exceptions enhance information processing in turbulent brain dynamics** *Speakers: Morten Kringelbach*	Zoom
11:45am – 12:15pm	W	**W5 S05: Topological Data Analysis of Functional Brain Connectivity in Time and Space Domains** *Speakers: Bei Wang*	Zoom
11:50am – 12:15pm	W	**W6 S06: General discussion** *Speakers: Organizers*	Zoom
12:00pm – 12:05pm	W	**W1 S01: Introduction** *Speakers: Organizers*	Zoom
12:00pm – 12:10pm	W	**W8 S01: Welcome & Introduction** *Speakers: Organizers*	Zoom
12:00pm – 12:30pm	W	**W2 S06: Neural Information Dynamic and Topological Correlates of Complex Behaviors in Macaques** *Speakers: Thomas Varley*	Zoom
12:05pm – 12:30pm	W	**W1 S02: Astrocyte NMDA receptors regulate the range of basal synaptic strengths of hippocampal neurons** *Speakers: Yukiko Goda*	Zoom
12:05pm – 12:30pm	W	**W9 S08: Symmetry breaking shapes invariance of brain state dynamics at rest** *Speakers: Viktor Jirsa*	Zoom

12:10pm – 12:45pm	W	**W8 S02: Organization and Control of Hippocampal Circuits** *Speakers: Ivan Soltesz*	Zoom
12:15pm – 12:30pm	W	**W10 S07: Reporting and discussion of session one** *Speakers: Organizers*	Zoom
12:15pm – 12:45pm	W	**W5 S06: Comparing coding of topological features across neural populations** *Speakers: Chad Giusti*	Zoom
12:30pm – 1:00pm	W	**W1 S03: Modeling astrocytes: from synaptic cleft to large networks** *Speakers: Alla Borisyuk*	Zoom
12:30pm – 1:15pm	W	**W10 S08: Breakout sessions two** *Speakers: Organizers*	Zoom
12:45pm – 1:15pm	W	**W5 S07: Revealing the dynamical landscape using evoked and intrinsic brain activity patterns** *Speakers: Manish Saggar*	Zoom
12:45pm – 1:20pm	W	**W8 S03: talk title TBA** *Speakers: Maria Geffen*	Zoom
1:15pm – 1:30pm	W	**W10 S09: Reporting and discussion session two** *Speakers: Organizers*	Zoom
1:15pm – 1:30pm	W	**W5 S08: Brief panel on the future of topological neuroscience** *Speakers: Organizers*	Zoom
1:15pm – 1:40pm	W	**W1 S04: TBA** *Speakers: Jennifer Shih*	Zoom
1:20pm – 1:55pm	W	**W8 S04: talk title TBA** *Speakers: Claudio R. Mirasso*	Zoom
1:40pm – 2:15pm	W	**W1 S05: Astrocyte-neuron interactions change the rules of synaptic plasticity** *Speakers: Annalisa Scimemi*	Zoom
2:10pm – 2:45pm	W	**W8 S06: Inhibitory engrams in systems consolidation** *Speakers: Claudia Clopath*	Zoom
2:30pm – 2:55pm	W	**W1 S06: AQuA: A Machine-Learning and Event Based Approach to Quantify Astrocyte Activity** *Speakers: Guoqiang Yu*	Zoom
2:45pm – 3:20pm	W	**W8 S07: Distinguishing normal from pathological High Frequency Oscillations based on signal characteristics of interneurons and pyramidal cells** *Speakers: William Stacey*	Zoom
2:55pm – 3:30pm	W	**W1 S07: Spontaneous emergence of Ca2+ fluctuations in realistic astrocyte processes** *Speakers: Laszlo Heja*	Zoom
3:20pm – 3:30pm	W	**W8 S08: Closing remarks** *Speakers: Organizers*	Zoom

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JULY 7 • WEDNESDAY

3:30am – 3:45am	W	**W4 S01: Introduction** *Speakers: Organizers*	Zoom
3:30am – 4:00am	W	**W7 S01: Mean-field models as a bridge between data and realistic large-scale spiking simulations** *Speakers: Cristiano Capone*	Zoom
3:30am – 4:15am	W	**W2 S07: Information deletion in the visual system** *Speakers: Aaron Gutknecht*	Zoom
3:45am – 4:15am	W	**W4 S02: Update on the use of animal research** *Speakers: Kirk Leech*	Zoom
4:00am – 4:30am	W	**W7 S02: Mean field approximation of network of coupled neurons driven by conductance based ion exchange dynamics** *Speakers: Spase Petkoski*	Zoom
4:15am – 4:45am	W	**W4 S03: Bridging spatial scales in biophysical models for translational clinical applications** *Speakers: Matthieu Gilson*	Zoom
4:15am – 5:00am	W	**W2 S08: Embedding optimization reveals long-lasting history dependence in neural spiking activity** *Speakers: Lucas Rudelt*	Zoom
4:30am – 5:00am	W	**W7 S03: Developing a reduced bursting neuron model to preserve population level behaviors** *Speakers: Hugh Osborne*	Zoom
4:45am – 5:15am	W	**W4 S04: Panel discussion** *Speakers: Organizers*	Zoom
5:20am – 5:50am	W	**W7 S04: TBA** *Speakers: Alain Destexhe*	Zoom
5:30am – 6:00am	W	**W2 S09: Information-theoretic bounded rationality models for perception-action systems** *Speakers: Daniel Braun*	Zoom
5:30am – 6:00am	W	**W4 S05: Towards time-adaptive treatments in epilepsy using data-driven subject-specific models** *Speakers: Yujiang Wang*	Zoom
5:50am – 6:20am	W	**W7 S05: Conditions for wave trains in spiking neural networks** *Speakers: Moritz Helias*	Zoom
6:00am – 6:30am	W	**W2 S10: A Nearest-Neighbours Estimator for Conditional Mutual Information** *Speakers: Jake Witter*	Zoom
6:00am – 6:30am	W	**W4 S06: Multiscale co-simulation of deep brain stimulation** *Speakers: Jil Meier*	Zoom
6:20am – 6:50am	W	**W7 S06: Next generation mean-field models for neural activity** *Speakers: Aine Byrne*	Zoom
6:30am – 7:00am	W	**W2 S11: Information Theory vs. Stationarity - a Devil's Advocate View** *Speakers: Claudius Gros*	Zoom

6:30am – 7:00am	W	**W4 S07: Panel discussion** *Speakers: Organizers*	Zoom
8:00am – 8:25am	W	**W9 S09: Cortical responsiveness and complexity in rats across brain states** *Speakers: Alessandro Arena*	Zoom
8:00am – 8:30am	W	**W4 S08: Resilience in neural systems: from an understanding based on dynamical principles towards clinical diagnostics** *Speakers: Christian Meisel*	Zoom
8:00am – 8:30am	W	**W7 S07: Exact neural mass model for synaptic based working memory** *Speakers: Halgurd Taher*	Zoom
8:00am – 8:45am	W	**W2 S12: Psychedelics and functional brain networks: employing concepts from information theory to study altered states of consciousness** *Speakers: Aline Viol*	Zoom
8:25am – 8:50am	W	**W9 S10: Probing the edge of synchronization: Slow-waves onset in premotor cortex of behaving monkeys** *Speakers: Maurizio Mattia*	Zoom
8:30am – 9:00am	W	**W4 S09: Data-driven approach to neuroimaging analysis to identify dementia subtypes** *Speakers: Vesna Vuksanovic*	Zoom
8:30am – 9:00am	W	**W7 S08: Low-dimensional dynamics of spiking neural networks with short-term plasticity** *Speakers: Richard Gast*	Zoom
8:45am – 9:30am	W	**W2 S13: Bits and Pieces: Understanding Information Decomposition from Part-Whole Relationships** *Speakers: Li Zhaoping*	Zoom
8:50am – 9:30am	W	**W9 S11: The arrow of time in brain dynamics: non-equilibrium in different brain states** *Speakers: GUSTAVO DECO*	Zoom
9:00am – 9:05am	W	**W3 S01: Introduction** *Speakers: Organizers*	Zoom
9:00am – 9:30am	W	**W4 S10: On the Importance of Incorporating Time and Context in Computational Psychiatry Models** *Speakers: Peter Hitchcock*	Zoom
9:00am – 9:30am	W	**W7 S09: Cross frequency coupling in next generation inhibitory neural mass models** *Speakers: David Angulo*	Zoom
9:05am – 9:30am	W	**W3 S02: Robustness of connectome harmonics to local gray matter and long-range white matter connectivity changes** *Speakers: Sebastian Naze*	Zoom
9:30am – 9:55am	W	**W3 S03: Harmonic modes and the structure-function relationship in fast network dynamics** *Speakers: Katharina Glomb*	Zoom
9:30am – 10:00am	W	**W4 S11: Panel discussion** *Speakers: Organizers*	Zoom
9:40am – 10:05am	W	**W9 S12: Simulations Approaching Data: Cortical Slow Waves in Inferred Models of the Whole Hemisphere of Mouse** *Speakers: Cristiano Capone*	Zoom
9:50am – 10:20am	W	**W7 S10: Macroscopic phase-resetting curves characterise directed functional oscillatory connectivity** *Speakers: Boris Gutkin*	Zoom

9:55am – 10:20am	W	**W3 S04: Probing structure-function coupling of brain organization with graph signal processing** *Speakers: Dimitri Van De Ville*	Zoom
10:00am – 10:30am	W	**W2 S14: High-Order Interdependencies in the Aging Brain** *Speakers: Rodrigo Corfe Torres*	Zoom
10:05am – 10:30am	W	**W9 S13: Building mean-field models from microscopic scales to account for mesoscopic and macroscopic-scale phenomena** *Speakers: Alain Destexhe*	Zoom
10:20am – 10:45am	W	**W3 S05: Time-varying Dynamic Network Model For Dynamic Resting State Functional Connectivity in fMRI and MEG imaging** *Speakers: Fei Jiang*	Zoom
10:20am – 10:50am	W	**W7 S11: Exact mean-field theory explains the dual role of electrical synapses in collective synchronization** *Speakers: Ernest Montbrio*	Zoom
10:30am – 10:55am	W	**W9 S14: Novel methods illustrate the emergence of global brain states from microscopic mechanisms to identify new interpretations of neural information** *Speakers: Jennifer Goldman*	Zoom
10:30am – 11:15am	W	**W2 S15: Towards an informational architecture of the human brain** *Speakers: Fernando Rosas*	Zoom
10:30am – 11:30am	W	**W4 S12: Final discussion** *Speakers: Organizers*	Zoom
10:45am – 11:10am	W	**W3 S06: TBD** *Speakers: Haleh Falakshahi*	Zoom
10:50am – 11:20am	W	**W7 S12: Rate models for gamma oscillations** *Speakers: John Rinzel*	Zoom
10:55am – 11:30am	W	**W9 S15: Round table** *Speakers: Organizers*	Zoom
11:10am – 11:35am	W	**W3 S07: TBD** *Speakers: Srikantan Nagarajan*	Zoom
11:15am – 11:45am	W	**W2 S16: TBA** *Speakers: Sarah Marzen*	Zoom
11:35am – 12:00pm	W	**W3 S08: TBD** *Speakers: Pratik Mukherjee*	Zoom
11:45am – 12:00pm	W	**W2 S17: Final discussion and ECR Best Presentation award** *Speakers: Organizers*	Zoom
12:00pm – 12:05pm	W	**W1 S08: Introduction** *Speakers: Organizers*	Zoom
12:00pm – 12:15pm	W	**W3 S09: Panel discussion** *Speakers: Organizers*	Zoom
12:05pm – 12:30pm	W	**W1 S09: A glimpse of Alzheimer's disease mechanisms from a computational model of astrocytic microdomain** *Speakers: Anup Pillai*	Zoom
12:30pm – 1:00pm	W	**W1 S10: Modelling and analysing neuron-astrocyte metabolic interactions** *Speakers: Renaud Jolivet*	Zoom

1:15pm – 1:40pm	W	**W1 S11: Analyzing network-level astrocyte calcium: Compressing data but keeping information** *Speakers: Max Collard*	Zoom
1:40pm – 2:15pm	W	**W1 S12: Disentangling astrocytic calcium activity: insights from spatially-extended models** *Speakers: Audrey Denizot*	Zoom
2:00pm – 2:05pm	W	**W3 S10: Introduction** *Speakers: Organizers*	Zoom
2:05pm – 2:30pm	W	**W3 S11: TBD** *Speakers: Bill Lytton*	Zoom
2:30pm – 2:55pm	W	**W1 S13: Features of hippocampal astrocytic domains and their spatial relation to excitatory and inhibitory neurons** *Speakers: Ron Refaeli*	Zoom
2:30pm – 2:55pm	W	**W3 S12: Parcels and particles: Markov blankets in the brain** *Speakers: Adeel Razi*	Zoom
2:55pm – 3:20pm	W	**W3 S13: TBD** *Speakers: Giovanni Rabuffo*	Zoom
2:55pm – 3:30pm	W	**W1 S14: Computational models of interactions between neuronal and astrocytic networks** *Speakers: Kerstin Lenk*	Zoom
3:20pm – 3:45pm	W	**W3 S14: TBD** *Speakers: Prejaas Tewarie*	Zoom
3:45pm – 4:10pm	W	**W3 S15: Dynamic Functional Connectivity, Neuromodulatory switches and the Network Organization of Human connectome** *Speakers: Patricio Orio*	Zoom
4:10pm – 4:35pm	W	**W3 S16: TBD** *Speakers: Alex Leow*	Zoom
4:35pm – 5:00pm	W	**W3 S17: A biophysical spectral graph theory-based model of brain oscillations** *Speakers: Parul Verma and Ashish Raj*	Zoom
5:00pm – 5:15pm	W	**W3 S18: Panel discussion** *Speakers: Organizers*	Zoom