ConTaMiNEURO Summer School

PROGRAM

Monday 9th September

8:15 Registration opening (registration desk at Ca' Bottacin building)

9:00-9:05 Introduction to the School. - *Samir Suweis/Achille Giacometti*

9:05-11:00
Dynamics and Effective Connectivity in Neuronal Cultures: Experimental and Computational Challenges - *J. Soriano*

11:00-11:30 Coffee break

11:30-12:15
Reconciling grid cells with place cells over a set of flexible charts - *A. Treves*

12:15-13:00
Temporal correlations in the brain - *L. De Arcangelis*

13:00-14:30 Lunch

14:30-15:00
Project Tutorial: Dynamics, functional connectivity and simulations grounded on experimental data – *Jordi Soriano*

15:00-15:30
Project Tutorial: Matching structure to function in multi-scale brain networks – *Jesus Cortes*

15:30-16:00
Project Tutorial: Spiking models of metastable activity: theory and applications (part 1) – *Luca Mazzuccato*

16:00-17:00
Project Tutorial: Data Analytics in Neuroscience– *Avgoustinos Vouros & Eleni Vasilaki*

17:00-17.30 Coffee break

17:30-19:00 Working groups → time to get acquainted.

ConTaMiNEURO Summer School

Tuesday 10th September

9:05-11:00
Brain networks as a predictor of aging along lifespan - *J. Cortes*

11:00-11:30 Coffee break

11:30-12:15
Cortical synaptic and non-synaptic synchronization and wave propagation - *M.S. Vives*

12:15-13:00
New optical approaches to reveal the neural code underlying sensory perception - *T. Fellin*

13:00-15:00 Lunch

15:00-16:00
Tool Tutorial: Optogenetics, or how can optical and genetic access help in understanding brain mechanisms – *M. Dal Maschio*

16:00-16:30
Project Tutorial: Spiking models of metastable activity: theory and applications (part 2) – *Luca Mazzuccato*

16:30-17:00 Coffee break

17:00-19:00 Working groups

ConTaMiNEURO Summer School

Wednesday 11th September

9:05-11:00
Modelling dendritic computations - *Y. Poirazi*

11:00-11:30 Coffee break

11:30-12:15
Reinforcement Learning in Neuroscience - *E. Vasilaki*

12:15-13:00
The Virtual Brain - *P. Ritter*

13:00-14:30 Lunch

14:30-15:30
Tool Tutorial: Information theoretic methods to study brain function - *S. Panzeri*

15:30-16:30
Tool Tutorial: Introduction to Machine Learning and Neural Networks– *M. Pellilo*

16:30-17:00 Coffee break

17:00-19:00 Working groups

ConTaMiNEURO Summer School

Thursday 12th September

9:05-11:00
E/I Networks, Loose and Tight Balance - *K. Miller*

11:00-11:30 Coffee break

11:30-12:15
Stimulation Driven Transitions Between Different Brain States: A Probabilistic State Space Framework - *G. Deco*

12:15-13:00
Cognitive brain network discovery and functional connectivity analysis of MEG data - *A. Brovelli*

13:00-15:00 Lunch

15:00-16:30
Tool Tutorial: Artificial recurrent neural networks in neuroscience – *L. Fontolan*

16:30-17:00 Coffee break

17:00-19:00 Working groups

ConTaMiNEURO Summer School

Friday 13th September

9:30-10:15
Inferring visual processing in the brain - *S. Ditlevsen*

10:15-11:00
Neuronal Avalanches in cortex dynamics and the synchronization transition - *R. Burioni*

11:00-11:30 Coffee break

11:30-12:15
Fundamental law of memory recall - *M. Tsodyks*

12:15-13:00
Modelling neural mechanisms of language production - *S. Di Santo*

13:00-14:30 Lunch

14:30-18:00
Working group

18:00-20:00
Aperitif and Open Round Table
Biological and Artificial Intelligence: What can we learn from brain about efficient algorithms and about brain from artificial neural networks? - *L. Ballan, S. Vassanelli, M. Zorzi* (incl. open discussion)

ConTaMiNEURO Summer School

Saturday 14th September

9:00-10:00
Metastable attractor dynamics underlying sensory processing and action planning - *L. Mazzucato*

10:00-11:00
Presentations Working Groups

11:00-11:30 Coffee Break

11:30-12:30
Learning and memory in recurrent networks - *N. Brunel*

12:30
Concluding remarks – S. Suweis