

Scheduled Topics and Speakers

Day	Foundation Topics	Current applications to neuroscience and psychology	Mentors
Monday, May 31, 2021	Finite difference equations, phase resetting and phase locking Poincaré maps and introduction to ordinary differential equations	Perception, action, sensorimotor integration	Theory: Gil Bub, Leon Glass and Thomas Bury Applications: Caroline Palmer
Tuesday, June 1, 2021	Coupled nonlinear oscillators, phase locking, phase transitions, population persistence and spread	Synchronization and group dynamics	Theory: Sue Ann Campbell and Frédéric Guichard Applications: Alex Demos
Wednesday, June 2, 2021	Electrophysiological systems, excitable systems, bifurcation methods	Ion channels, sensory transduction, neural excitability and information processing	Theory: Michael Guevara and Edward Large Applications: Bernhard Ross
Thursday, June 3, 2021	Deterministic and stochastic models, reaction kinetics, biophysical models	Gene regulatory networks; neural dynamics	Theory: Paul Francois and Lea Popovic Applications: Andre Longtin
Friday, June 4, 2021	Molecular dynamics, partial differential equations, well-mixed and reaction diffusion models	Protein-protein interactions, cell motility, axonal growths	Theory: Lisanne Rens and Anmar Khadra Applications: Claire Brown
Monday, June 7, 2021	Computational neuroscience	Network science, brain network topology, cooperative-competitive spreading	Theory: Bratislav Misic and Viktor Jirsa Applications: Petra Ritter
Tuesday, June 8, 2021	Machine learning, feature extraction, neural networks, brain dynamics	Visual neuroscience and psychophysics	Theory: Pouya Bashivan and Erik Cook Applications: Paula Silva
Wednesday, June 9, 2021	Population models, social networks, Bayesian inference	Infectious diseases (COVID 19), immunological responses, meta-network dynamics	Theory: Morgan Craig and Jacques Bélair Applications: Jane Heffernan

Thursday, June 10, 2021	Trainee presentations (group projects)
Friday, June 11, 2021	Trainee presentations (group projects)

Weekly Schedule of Events

Week 1					
Time	Monday	Tuesday	Wednesday	Thursday	Friday
10:00-11:00	Speaker	Speaker	Speaker	Speaker	Speaker
11:00-11:15 Morning Break					
11:15-12:15	Speaker	Speaker	Speaker	Speaker	Speaker
12:15-1:00 Lunch break					
1:00-2:00	Applications Speaker				
2:00-2:30 Afternoon Break					
2:30-4:30	Computer and/or tutorials: Solving problems (including 15-minute break)				

Week 2					
Time	Monday	Tuesday	Wednesday	Thursday	Friday
10:00-11:00	Speaker	Speaker	Speaker	Trainee presentations: Group1	Trainee presentations: Group7
11:00-11:15 Morning Break					
11:15-12:15	Speaker	Speaker	Speaker	Group2-3	Group8-9
12:15-1:00 Lunch Break					
1:00-2:00	Applications Speaker			Group4	Group10
2:00-2:30 Afternoon break					
2:30-4:30 Computer labs: Group project time (incl 15-minute break)				Group5-6	Group11-12; feedback