### Monday, 21 March 2022

08:50 – 09:00	Organizers	Welcome
09:00 – 09:40	Stefan Luther	Spatio-Temporal Organization of Cardiac Fibrillation
09:40 – 10:20	Arkady Pikovsky	Active Oscillators and Active Particles: Synchronization vs Chaos
10:20 – 10:40	COFFEE BREAK	
10:40 – 11:20	Jean-Christophe Loiseau	Challenges in Nonlinear System Identification
11:20 – 12:00	Fred Wolf	Sparse Chaos and Localization in the Dynamics of Neuronal Circuits
12:30	LUNCH BREAK	
14:30 – 17:00	Discussion Groups	
17:00 – 18:00	TEA BREAK	
18:00 – 19:30	Poster Session	
19:30	APÉRITIF	
20:00	DINNER	
21:00 – 22:00	Poster Session, contin	ued

## Tuesday, 22 March 2022

09:00 – 09:40	Svetlana Gurevich (Online)	Dynamics of Temporal and Spatio- Temporal Localized States in Time- Delayed Systems
09:40 – 10:20	Markus Bär (Online)	Modelling Dynamics and Control in Cardiac Systems and Active Fluids
10:20 – 10:40	COFFEE BREAK	
10:40 – 11:20	Marc Timme (Online)	Inferring Complex Systems Structure from Dynamics
11:20 – 12:00	Jan Nagler (Online)	Impact of Network Motifs on Response Dynamics
12:30	LUNCH BREAK	
14:30 – 17:00	Discussion Groups	
17:00 – 18:00	TEA BREAK	
18:00 – 18:40	Alain Pumir	Structure and Scaling of Extreme Events in Hydrodynamic Turbulence
18:40 – 19:20	Ulrich Parlitz	Challenges in Complex Cardiac Dynamics
20:00	DINNER	
21:00 – 21:40	Oleh Omel'chenko (online)	Collective States in a Ring Network of Theta Neurons

## Wednesday, 23 March 2022

09:00 - 09:40	Davide Faranda	A Dynamical Systems Approach to the Study of Complex Systems
09:40 – 10:20	Ulrike Feudel	Tipping Phenomena and Resilience in Complex Systems
10:20 – 10:40	COFFEE BREAK	
10:40 – 11:20	Holger Kantz (online)	Power Law Error Growth Rates - a Dynamical Mechanism for a Strictly Finite Prediction Horizon in Weather Forecasts
11:20 – 12:00	Antoine Venaille	Chaos in the Stratosphere?
12:30	LUNCH BREAK	
14:30 – 17:00	Discussion Groups	
17:00 – 18:00	TEA BREAK	
18:00 – 18:40	Demian Battaglia (online)	Dynamics and Primitive Computations: Mapping the Algorithmic Effects of Brain Circuit Nonlinear Dynamics
18:40 – 19:00	Thanos Manos	Long-term Desynchronization by Coordinated Reset Stimulation in a Neural Network Model with Synaptic and Structural Plasticity
19:00 – 19:20	Matthias Wolfrum	Bumps, Chimera States, and Turing Patterns in Systems of Coupled Active Rotators
20:00	DINNER	
21:00 – 21:40	Theo Geisel	Psychophysics of Musical Rhythms and the Riddle of Swing

### Thursday, 24 March 2022

09:00 – 09:40	Vincent Hakim	Metamorphosis of the Landau Transition in the Flow of a Resonantly- Driven Bistable Condensate
09:40 – 10:20	Daniel Schertzer	A Century of Cascade Processes from Turbulence and Intermittency to Climate: Successes, Limitations and Challenges
10:20 – 10:40	COFFEE BREAK	
10:40 – 11:20	Alessandro Torcini (online)	A Reduction Methodology for Fluctuation Driven Population Dynamics
11:20 – 12:00	Simona Olmi (online)	Exact Neural Mass Model for Synaptic- Based Working Memory
12:30	LUNCH BREAK	
14:30 – 17:00	Discussion Groups	
14:30 – 17:00 17:00 – 18:00	Discussion Groups	
14:30 – 17:00 17:00 – 18:00 18:00 – 18:40	Discussion Groups TEA BREAK Francesco Ginelli	Universal Mean Field Upper Bound for the Generalisation Gap of Deep Neural Networks
14:30 - 17:00 17:00 - 18:00 18:00 - 18:40 18:40 - 19:00	Discussion Groups TEA BREAK Francesco Ginelli Pau Clusella Coberó	Universal Mean Field Upper Bound for the Generalisation Gap of Deep Neural Networks Complex Spatiotemporal Oscillations Emerging from Transverse Instabilities in Large-Scale Brain Networks
14:30 - 17:00 17:00 - 18:00 18:00 - 18:40 18:40 - 19:00 19:00 - 19:20	Discussion Groups TEA BREAK Francesco Ginelli Pau Clusella Coberó Bastian Pietras	Universal Mean Field Upper Bound for the Generalisation Gap of Deep Neural Networks Complex Spatiotemporal Oscillations Emerging from Transverse Instabilities in Large-Scale Brain Networks Metastability in Mesoscopic Network Models of Spiking Neurons with Short- Term Plasticity
14:30 - 17:00 17:00 - 18:00 18:00 - 18:40 18:40 - 19:00 19:00 - 19:20 19:20 - 19:30	Discussion Groups TEA BREAK Francesco Ginelli Pau Clusella Coberó Bastian Pietras Stefan Jorda	Universal Mean Field Upper Bound for the Generalisation Gap of Deep Neural Networks Complex Spatiotemporal Oscillations Emerging from Transverse Instabilities in Large-Scale Brain Networks Metastability in Mesoscopic Network Models of Spiking Neurons with Short- Term Plasticity About the Wilhelm and Else Heraeus Foundation

### Friday, 25 March 2022

09:00 – 09:40	Jonas Ranft	A Self-Consistent Analytical Theory for Rotator Networks Under Stochastic Forcing: Effects of Intrinsic Noise and Common Input
09:40 – 10:20	Michael Rosenblum	High-Order Phase Reduction Applied to Remote Synchronization
10:20 – 10:40	COFFEE BREAK	
10:40 – 11:20	Georg Martius	Finding Concise Formulas for Data Using Machine Learning
11:20 – 12:00	Christophe Eloy	Far-Field Hydrodynamic Interactions in a Model of Fish School
12:00 – 12:15	Organizers	Closing Remarks
12:30	LUNCH	