

Seminars organized by the CRC 910

Date	Speaker	Title
28.11.2022	Johanne Hizanidis (University of Crete, Greece)	Dynamical properties of neuromorphic Josephson junctions
28.11.2022	Astero Provata (National Center for Scientific Research "Demokritos" Athens, Greece)	2D networks of neuronal oscillators: effects of locally perturbed connectivity on synchronization properties
31.10.2022	Simona Olmi (Istituto dei sistemi complessi, Italy)	Next generation neural mass models: short term synaptic plasticity vs spike frequency adaptation
31.10.2022	Alessandro Torcini (Istituto dei sistemi complessi, Italy)	Coherent oscillations in balanced neural networks driven by endogenous fluctuations
27.10.2022	Rainer Klages (Queen Mary University of London, United Kingdom)	Stochastic processes with finite propagation velocity
15.09.2022	Martin Gärttner (Heidelberg University)	Solving quantum and classical dissipative dynamics with artificial neural networks
17.08.2022	Nishant Malik (Rochester Institute of Technology, United States)	Data Driven Modeling of Complex Systems
19.07.2022	Sarika Jalan (Indian Institute of Technology Indore, India)	Nonlinear dynamics of Kuramoto oscillators coupled through higher-order interactions
15.06.2022	Alexander Ziepke (Ludwig-Maximilians-Universität München)	Mechano-chemical interactions in a one-dimensional description of intracellular reaction-diffusion systems
13.06.2022	Nathan Harshman (American University, United States)	A Review of One-Dimensional Anyons
27.04.2022	Zahra Mokhtari (Freie Universität Berlin)	Spontaneous trail formation in populations of auto-chemotactic walkers
26.04.2022	Jason Bassett (Max-Planck-Institut für Bildungsforschung)	Situational Awareness in Epidemic Settings and Online Experiments for Sustainability: A postdoc's scientific journey through COVID-19
30.03.2022	Deepak Gupta (Simon Fraser University, Canada)	Minimum-dissipation protocol for F1-ATPase molecular motor
09.03.2022	Özhan Kayacan (Leipzig University)	Population dynamics for systems with cyclic predator-prey relations and pheromone dependent movement
26.01.2022	Sebastian Fürthauer (Technische Universität Wien, Austria)	Towards a physics of living materials
13.12.2021	Christian Arenz (Arizona State University, United States)	Progress toward favorable landscapes in quantum combinatorial optimization
24.11.2021	Alvaro Domínguez (Universidad de Sevilla, Spain)	Self-phoresis driven by correlations – a new mechanism
23.11.2021	Shirin Panahi (University of New Mexico, United States)	Synchronization and control of heterogeneous networks
10.11.2021	Omer Granek (Technion, Israel Institute of Technology, Israel)	The Anomalous Transport of Tracers in Active Baths
02.11.2021	Jaroslav Hlinka (Akademie věd České republiky, Czechia)	Perturbations both trigger and delay seizures due to generic properties of slow-fast relaxation oscillators
23.06.2021	Lailai Zhu (National University of Singapore)	Self-oscillatory propulsion in inertialess fluids: simulation, theory and experiments
15.06.2021	Philipp Lorenz-Spreen (Max-Planck-Institut für Bildungsforschung)	Modeling radicalization dynamics and polarization in temporal networks
09.06.2021	Haie Yang (Beihang University, Beijing, China)	Flow, Mixing, and Heat Transfer in Elastic Turbulence
08.06.2021	Chunming Zheng (Max-Planck-Institut für Physik komplexer Systeme)	Transition to Synchrony in the Three-Dimensional Noisy Kuramoto Model
27.04.2021	Eddie Nijholt (University of Illinois, United States)	Exotic symmetry in networks
21.04.2021	Johannes Schmidt (bonacci GmbH)	Fibonacci universality of dynamic systems
20.04.2021	Alan David Rendall (Johannes Gutenberg-Universität Mainz)	Bogdanov-Takens bifurcations and the regulation of enzymatic activity by autophosphorylation
04.03.2021	Andrew Armour (University of Nottingham, United Kingdom)	Quantum non-linear dynamics of photons and Cooper-pairs in a cavity-Josephson junction system
16.02.2021	Simona Olmi (Istituto dei sistemi complessi, Italy)	Emergent excitability in populations of non-excitable units
09.02.2021	Svetlana Gurevich (Westfälische Wilhelms-Universität Münster)	Dynamics of temporal and spatio-temporal localized states in time-delayed systems
02.02.2021	David Müller-Bender (Technische Universität Chemnitz)	Laminar chaos in systems with time-varying delay
19.01.2021	Michal Hadrava (Akademie věd České republiky, Czechia)	A Dynamical Systems Approach to Spectral Music: Modeling the Role of Roughness and Inharmonicity in Perception of Musical Tension
13.01.2021	Yagmur Kati (Institute for Basic Science, Korea)	Equilibrium and Nonequilibrium Gross-Pitaevskii Lattice Dynamics
12.01.2021	Serhiy Yanchuk (Technische Universität Berlin)	Delay systems and machine learning applications
24.11.2020	Giulia Ruzzene (Istituto de Fisica Interdisciplinar y Sistemas Complejos, Spain)	Control of chimera states in multilayer network
18.11.2020	Christina Kurzthaler (Princeton University, United States)	Transport in active, crowded systems and confinement
17.11.2020	Angela Stevens (Universität Münster)	Discontinuous shear thickening: fluctuations and formation of torque clusters
15.07.2020	Habib Rahbari (Korea Institute for Advanced Study, Korea)	Discontinuous shear thickening: fluctuations and formation of torque clusters
10.06.2020	Clemens Bechinger (Universität Konstanz)	Active Matter with Programmable Interactions
09.06.2020	Sergio Alonso (Universitat Politècnica de Catalunya, Barcelona, Spain)	The use of empiric models for the short-term prediction and risk assessments of COVID-19
04.02.2020	Robin Kopp (Universität Konstanz)	Generalized nonlinear integral models for time-dependent flows of viscoelastic liquids near the glass transition
29.01.2020	Andreas Kuhn (Universität Würzburg)	Applying the Vicsek model to trypanosomes
06.01.2020	Alex Chamolly (University of Cambridge, United Kingdom)	Dissolving active particles, and hydrodynamic essentials of flagellar bundling
10.12.2019	Petia Vlahovska (Northwestern University, United States)	Active Colloidal Fluids

26.11.2019	Rolf Bader, Lenz Hartmann (Universität Hamburg)	From musical structure to neural network synchronization: Neural correlates of musical form perception
23.10.2019	Viktor Holubec (Universität Leipzig)	Brownian molecules formed by delayed harmonic interactions
16.10.2019	Benjamin Lindner (Humboldt-Universität zu Berlin)	Asynchronous states in networks of randomly coupled oscillators
07.10.2019	Jens Elgeti (Forschungszentrum Jülich)	Physics of Growth
27.06.2019	Rohit Jain (Universität Göttingen)	On the exact solution for a linear stochastic delay differential equation
03.06.2019	Gil Ariel (Bar-Ilan University, Israel)	A statistical physics view of swarming bacteria
29.05.2019	Daiki Nishiguchi (University of Tokyo, Japan)	How to extract long-range order from chaotic bacterial collective motion
17.04.2019	Theresa Jakuszeit (University of Cambridge, United Kingdom)	Active particles in a complex environment
11.12.2018	Sarika Jalan (Indian Institute of Technology Indore, India)	Delay regulated explosive synchronization in multiplex networks
04.12.2018	Vadim Anishchenko (Saratovskiy Natsional'nyy Issledovatel'skiy Gosudarstvennyy Universitet, Russia)	Spiral-wave structures in 2D lattices of nonlocally coupled discrete-time systems
20.11.2018	Katrin Schmietendorf (Universität Münster)	On the impact of stochastic wind feed-in on power grid stability and frequency quality
05.06.2018	Stephen Teitworth (Duke University, United States)	Fluctuation Loops and Detailed Balance Violation in Noise-Driven Dynamical Systems
15.05.2018	Marius Yamakou (Friedrich-Alexander-Universität Erlangen-Nürnberg)	Weak-noise-induced phenomena and neural information processing
14.12.2017	Philipp Strasberg (Université du Luxembourg, Luxembourg)	Quantifying non-Markovianity in the linear response regime
12.12.2017	Jie Sun (Clarkson University, United States)	Resilience of network synchronization against structural and dynamical perturbations
22.11.2017	Rainer Klages (Queen Mary University of London, United Kingdom)	Stochastic modeling of diffusion in dynamical systems: three examples
07.11.2017	Vadim Anishchenko (Saratovskiy Natsional'nyy Issledovatel'skiy Gosudarstvennyy Universitet, Russia)	Chimera States in Two Coupled Ensembles of Henon and Lozi Maps. Control and Synchronization of Chimera States
10.07.2017	Aamena Ali Alshamsi (Masdar Institute of Science and Technology, United Arab Emirates)	Strategic Diffusion on Networks
28.06.2017	Delora Gaskins (Brandeis University, United States)	Turing patterns: Experimental pattern growth and invasion
09.05.2017	Andrew Keane (University of Auckland, New Zealand)	The importance of being chaotic: Bifurcations in an El Niño model
25.04.2017	Irmela von der Lühe (Freie Universität Berlin)	Zwischen Verfall und Verfeinerung: Thomas Manns 'Buddenbrooks' als Epochendiagnose
42794	Andrzej Jarynowski (Uniwersytet Jagielloński, Poland)	Computer-assisted risk assessment of hospital acquired infections in Polish hospitals
24.11.2016	Alessio Cardillo (Ecole Polytechnique Federale de Lausanne, Switzerland)	To vaccinate or not to vaccinate? A coevolutionary dilemma
01.11.2016	Sarika Jalan (Indian Institute of Technology Indore, India)	Synchronization in multiplex networks
11.10.2016	Egor Kiselev (Karlsruher Institut für Technologie)	Dual-frequency response of an rf-SQUID metamaterial
31.08.2016	Zoran Levnajić (Faculty of Information Studies in Novo mesto, Slovenia)	Complex systems and collective intelligence
13.07.2016	Bogdan Penkovsky (Université de Franche-Comté, France)	Laser delay dynamics for information processing
18.05.2016	Herbert Jaeger (Jacobs University Bremen)	Controlling and shaping neural dynamics with conceptors
10.05.2016	Markus Abel (Universität Potsdam)	Control of Oscillator Networks with Symbolic Regression
28.04.2016	Laurent Larger (University of Franche-Comté, Besançon France)	Nonlinear delay differential equations with a slow integral term: fundamental issues & applications in photonics
12.01.2016	Christian Bick (University of Exeter, United Kingdom)	Localized Dynamics in Phase Oscillators and their Control
01.12.2015	Tomasz Kapitaniak (Politechnika Łódzka, Poland)	Synchronization of pendula: from Huygens to chimeras
17.11.2015	Tanmoy Banerjee (University of Burdwan, India)	Mean-field diffusion induced chimera death
10.11.2015	Nikita Kruk (Technische Universität Darmstadt)	Chimera states of self-propelled active particles
03.11.2015	Johanne Hizanidis (University of Crete, Greece)	Chimeras in SQUID metamaterials
27.10.2015	Hinke Osinga (University of Auckland, New Zealand)	Isochrons: their theory, computation and applications
16.06.2015	Stephen Teitworth (Duke University, United States)	Noise-Induced Transitions in Bistable Electronic Transport Systems
17.02.2015	Muhammet Uzuntarla (Zonguldak Bülent Ecevit Üniversitesi, Turkey)	Emergence of two physical phenomena in neural systems: Inverse Stochastic Resonance and Vibrational Resonance
10.02.2015	Vladimir Klinshov (Weierstrass Institute for Applied Analysis and Stochastics)	Dynamics of networks with time-delayed pulsatile coupling
13.01.2015	Pablo Kaluza (Nationale Universität Cuyo, Argentina)	Autonomous Learning by Simple Dynamical Systems with Delayed Feedback
16.12.2014	Astero Provata, Johanne Hizanidis (National Center for Scientific Research "Demokritos" Athens, Greece)	Chimera states in the Lattice Limit Cycle model with piecewise and hierarchical network connectivity
22.04.2014	Gautam Sethia (Aalborg Universitet, Denmark)	Chimera unchained
07.02.2014	Eckehard Schöll (Technische Universität Berlin) Volker Mehrmann (Technische Universität Berlin) Roland Aust (Technische Universität Berlin)	Soft Skill Seminar on Data Management
12.12.2013	Georgi Medvedev (Drexel University, United States)	Synchronization and spontaneous dynamics in electrically coupled networks
10.09.2013	Pavel Rodin Ioffe (Ioffe Physical-Technical Institute of the Russian Academy of Sciences, Russia)	Simplistic approach to the theory of picosecond avalanche switching of high voltage semiconductor structures
18.06.2013	Stephen Teitworth (Duke University, Durham, United States)	Noise-induced switching dynamics in semiconductor nanostructures
07.05.2013	Maximilian Thess (École Normale Supérieure de Lyon, France)	Ghettoisierung: Phasenübergänge in Physik und Soziologie
19.03.2013	Márton Pósfai Eötvös (Central European University, Hungary)	Core percolation and the controllability of complex networks

18.12.2012	Aleksandar Gjurchinovski (Saints Cyril and Methodius University of Skopje, North Macedonia)	Variable-delay feedback control in chaotic dynamical systems
04.12.2012	Alexander Leymann (Otto-von-Guericke-Universität Magdeburg)	Expectation value based cluster expansion
27.11.2012	Otti D'Huys (Universität Würzburg)	Scaling properties of nonlinear units with multiple time delays
22.11.2012	V. Resmi (Indian Institute of Science Education and Research, India)	Environmental effects on the dynamics of coupled nonlinear systems
20.11.2012	Gabrielle Gutierrez (Brandeis University, United States)	Multiple synaptic mechanisms switch a neuron between competing oscillator subnetworks
08.11.2012	Julien Siebert (Fraunhofer-Institut für Experimentelles Software Engineering)	Agent-based modeling and multilevel simulations techniques
30.10.2012	Igor Franovic (University of Belgrade, Serbia)	Populations of stochastic excitable neurons with coupling delays: self-organization and the paradigm for the mean-field treatment of hierarchical networks
26.09.2012	Julio Rodriguez (Universität Bielefeld)	Networks of Adaptive Frequency Oscillators with Time-Dependent and Delayed Interactions
05.09.2012	Alessandro Torcini (Istituto dei Sistemi Complessi, Italy)	Extensive chaos and collective motion in complex (neural) networks: when topology matters
28.08.2012	Alexandra Kruscha (Max-Planck-Institut für Physik komplexer Systeme)	Biased diffusion inside regular islands under random symplectic perturbations
09.08.2012	Martin Gugat (Friedrich-Alexander-Universität Erlangen-Nürnberg)	Boundary Feedback Control of PDE-Systems: Stability Analysis with Lyapunov Functions
03.07.2012	Anna Zakharova (Universität Potsdam und Potsdam-Institut für Klimafolgenforschung)	Analysis of biological systems via stochastic bifurcations
22.06.2012	Atsushi Mochizuki (RIKEN, Japan)	Dynamics of complex biological systems determined from minimal subsets of molecules in regulatory networks
20.12.2011	Ioannis G. Kevrekidis (Princeton University, United States)	Equation-free modeling of complex systems
15.12.2011	Sitabhra Sinha (Institute of Mathematical Sciences, India)	Mind, Memory and Modules
09.12.2011	Howard M. Wiseman (Griffith University, Austria)	Bringing quantum jumps under control
29.11.2011	Antonio Politi (Istituto dei Sistemi Complessi, Italy)	Dynamical properties of neural networks
08.11.2011	Christian Bick (Max-Planck-Institut für Dynamik und Selbstorganisation)	Gradient Adaptation for Delayed Predictive Feedback Chaos Control
29.09.2011	Sergio González (Escuela Politécnica Nacional, Ecuador)	Multigrid Method for Time-Dependent Optimization Problems
12.07.2011	Andrew Archer (Loughborough University, United Kingdom)	Dynamical density functional theory for driven interacting particles in a ratchet potential
14.06.2011	Stephen W. Teitsworth (Duke University, United States)	Measurement of stochastic switching in nonlinear electronic transport systems
17.05.2011	Tobias Reichenbach (Rockefeller University, United States)	Physics of hearing
12.05.2011	Neill Lambert (University of Tokyo, Japan)	Quantum and Classical Applications of Nanomechanics
28.04.2011	Edward Ott (University of Maryland, United States)	Synchronism in Large Networks of Oscillators: An Emergent Behavior of Complex Systems
22.02.2011	Nikos Kouvaris (National Center for Scientific Research "Demokritos" Athens, Greece)	Synchronization of excitable units with delayed feedback
03.02.2011	Stephanie Beyvers (Universität Potsdam)	Selective excitation of adsorbate vibrations on dissipative surfaces
02.02.2011	Anna Kuznetsova (Saratovskiy Natsional'nyy Issledovatel'skiy Gosudarstvennyy Universitet, Russia)	Study of oscillators and maps with singularities and oscillatory neuronal models
26.01.2011	Pavel V. Paulau (Belarusian State University, Belarus)	Spatio-temporal phenomena in nonlinear systems