

Colloquia organized at ITP TU Berlin in cooperation between the RTG 1558 and the CRC 910

Date	Speaker	Title
02.06.2022	Sandro Wimberger (Università di Parma, Italy)	Coherent control by driving and compensation
25.02.2021	Prof. Vasily Zaburdaev (Friedrich-Alexander Universität Erlangen-Nürnberg)	Understanding bacterial colonies as active materials
10.12.2020	Dr. Karel Proesmans (Université du Luxembourg, Luxembourg)	Finite-time Landauer principle
03.12.2020	Prof. Dr. Eberhard Müller (Technische Universität Berlin)	Bose-Einstein condensation of an ideal quantum gas of photons in an optical microcavity
26.11.2020	Prof. Dr. Alessandro Torcini (CY Cergy Paris Université, France)	Emergent excitability in populations of non-excitable units
12.11.2020	Dr. Christian Carbogno (Fritz Haber Institute)	The Key Role of Lattice Anharmonicity for Heat and Charge Transport in Solids: Fundamental Concepts, Novel Methods, and Relevant Applications
13.02.2020	Prof. Dr. Yuri Maistrenko (Natsional'na akademiya nauk Ukrayiny, Ukraine)	Dissipative solitons for delayed-feedback systems
06.02.2020	Dr. Mikhail Glazov (Ioffe Institute, Russia)	Quantum transport of excitons in transition metal dichalcogenide monolayers
30.01.2020	Prof. Joerg Rottler (University of British Columbia, Canada)	The nonequilibrium physics of driven amorphous soft matter: plasticity and collective effects
12.12.2019	Dr. Antonio Hurtado (University of Strathclyde, United Kingdom)	Neuromorphic Photonics: Towards Ultrafast Brain-Inspired Computing Systems
05.12.2019	Simona Olmi (Inria Sophia Antipolis - Méditerranée Research Centre, France)	Cross frequency coupling in next generation inhibitory neural mass models
14.11.2019	Emil Vosmar Denning (Danmarks Tekniske Universitet, Denmark)	Collective quantum memory activated by a driven central spin
11.07.2019	Dr. David Zwicker (Max-Planck-Institut für Dynamik und Selbstorganisation)	Active droplets in biological cells
04.07.2019	Frank Lengers (Universität Münster)	Ultrafast Spatio-Temporal Carrier Dynamics in Low-Dimensional Semiconductors
20.06.2019	Prof. Dr. Thomas Speck (Johannes Gutenberg-Universität Mainz)	Multi-scale Modeling Out of Equilibrium
16.05.2019	Prof. Dr. Svetlana Santer (Universität Potsdam)	Light Responsive Micro-Objects
09.05.2019	Alexander Blum (Max-Planck-Institut für Wissenschaftsgeschichte)	Heisenberg's Weltformel
02.05.2019	Maja Feierabend (Chalmers tekniska högskola, Sweden)	Controlling the optical fingerprint of transition metal dichalcogenides via molecules, strain and disorder
18.04.2019	Dr. Anna Zakharova (Technische Universität Berlin)	Modeling of climate change
07.02.2019	Cristina Masoller (Universitat Politècnica de Catalunya, Spain)	Dynamics of FitzHugh Nagumo neurons under weak periodic external input
31.01.2019	Dr. Alexander Badinski (Chief Digital Officer BASF Schwarzheide)	Non-linear dynamics in the chemical industry – one cornerstone for the digital transformation
17.01.2019	Michael Wilczek (Max-Planck-Institut für Multidisziplinäre Naturwissenschaften)	Self-organized large-scale order in active fluids ITER - An Essential Step Toward Fusion Energy
10.01.2019	Prof. Dr. Yuri Maistrenko (Natsional'na akademiya nauk Ukrayiny, Ukraine)	Solitary States in Coupled Oscillators and Power Grids
09.01.2019	Prof. Dr. Nicola Gaston (University of Auckland, New Zealand)	Why Science is Sexist
06.12.2018	Nikola Sadzak (Humboldt-Universität Berlin)	Dynamical decoupling and spectroscopy with a single solid state spin magnetometer
08.11.2018	Nikolett Nemet (University of Auckland, New Zealand)	Coupled Nanofibre Fabry-Perot Cavity-QED
05.07.2018	Rafa Sanchez (Universidad Autónoma de Madrid, Spain)	Mesoscopic thermo-electronics
28.06.2018	Philipp Kanehl (IBM Deutschland GmbH)	Data Science at IBM - The Toxic Comment Classification Challenge
07.06.2018	Axel Voigt (Technische Universität Dresden)	Microscopic field theoretical approaches for active systems
31.05.2018	Sven Banisch (Max-Planck-Institut für Mathematik in den Naturwissenschaften, Leipzig)	Novel Models of Opinion Dynamics
19.04.2018	Andrew Keane (University of Auckland, New Zealand)	State-dependent delay in the El Niño Southern Oscillation system
15.02.2018	Ben Fabry (Friedrich-Alexander-Universität Erlangen-Nürnberg)	Forces and movements in crowded environments: from penguin huddles to tumor cells
01.02.2018	Inmaculada Leyva (Universidad Rey Juan Carlos, Spain)	Interlayer synchronization in multiplex complex networks
25.01.2018	Víctor Eguíluz (Universitat de les Illes Balears, Spain)	Big data, complex systems and marine megafauna movement
11.01.2018	Tiago de Paula Peixoto (University of Bath, United Kingdom)	Inferring the large-scale structure of networks
21.12.2017	Christian Flindt (Aalto-yliopisto, Finland)	Lee-Yang zeros in condensed matter physics: theory and experiment
30.11.2017	Ahsan Nazir (University of Manchester, United Kingdom)	Quantum dynamics and thermodynamics at strong reservoir coupling
23.11.2017	Dirk Helbing (Eidgenössische Technische Hochschule Zürich, Switzerland)	Can physics help to understand and fix society?
09.11.2017	Anna Zakharova (Technische Universität Berlin)	Chimera patterns in networks: interplay of dynamics, structure, noise, and delay
02.11.2017	Takuya Higuchi (Friedrich-Alexander-Universität Erlangen-Nürnberg)	Light-Field-Driven Landau-Zener-Stückelberg interferometry in Graphene

26.10.2017	Gerard Degan / Eric Alamous (Université Nationale des Sciences, Technologies, Ingénierie et Mathématiques, Benin)	Non-linear and linear stability analysis of a Maxwell-Jeffrey fluid in a rotating anisotropic porous layer with oblique principal axes / Hydrological Modelling Based on the Principle of Least Action: Application to the Rain Flow
19.10.2017	Matthias Schneider (Technische Universität Dortmund)	From Physics to Biology: Pulses, Fluctuations, Non-linearities... Living State
20.07.2017	Fernando Peruani (Université Nice Sophia Antipolis, France)	Towards a quantitative, physical approach of bacterial infections: Salmonella Typhimurium in the search of host cells
06.07.2017	Wolfram Just (Queen Mary University of London, United Kingdom)	On synchronisation of oscillator networks with propagation delay
29.06.2017	Marc Timme (Max-Planck-Institut für Dynamik und Selbstorganisation)	Inverse Problems of Network Dynamics: From Control to Reconstruction and Design
16.02.2017	James Gleeson (University of Limerick, Ireland)	Temporal profiles of avalanches on networks
09.02.2017	Yamir Moreno (Universidad de Zaragoza, Spain)	Disease spreading processes in multilayer networks
26.01.2017	Thomas Ihle (Ernst-Moritz-Arndt-Universität Greifswald)	Kinetic theory of active particles: von Mises distribution, Chapman-Enskog expansion and ring-kinetic theory
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08.12.2016	Dvira Segal (University of Toronto, Canada)	Charge and heat transport at the nanoscale: Lessons from elementary models
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10.11.2016	Jens Starke (Universität Rostock)	Equation-free analysis of collective behavior in particle models
03.11.2016	Matthias Krüger (Max-Planck-Institut für Intelligente Systeme)	Classical fluctuation forces out of equilibrium
20.10.2016	Jörn Dunkel (Massachusetts Institute of Technology, United States)	Geometric control of pattern formation in soft elastic materials and active fluids
07.07.2016	Glenn Lawyer (Max-Planck-Institut für Informatik)	Beyond Centrality: Understanding node influence in networks
30.06.2016	Peter Ashwin (Exeter University, United Kingdom)	The unreasonable effectiveness of symmetry in nonlinear dynamics
23.06.2016	Felix Höfling (Freie Universität Berlin)	Anomalous transport in heterogeneous environments and crowded cells
09.06.2016	Andrew Goryachev (University of Edinburgh, United Kingdom)	Activator-inhibitor patterns inside biological cells
02.06.2016	Gernot Alber (Technische Universität Darmstadt)	Quantum Electrodynamical Processes in Large Cavities
12.05.2016	Arnd Scheel (University of Minnesota, United States)	Coherent Structures in Nonlocal Equations
11.02.2016	Guillaume Charras (University College London, United Kingdom)	Biophysical mechanisms of oriented tissue growth in epithelial monolayers
04.02.2016	Katharina Krischer (Technische Universität München)	Spatial coexistence of different patterns in oscillatory media: how common is it?
28.01.2016	Jaume Casademunt (Universitat de Barcelona, Spain)	Hydrodynamic instabilities and weak turbulence in expanding epithelial tissues
21.01.2016	Sebastian Heidenreich (Physikalisch-Technische Bundesanstalt)	Mathematical modelling: From active fluids to uncertainty quantification
07.01.2016	Jacob Crandall (Masdar Institute of Science and Technology, United Arab Emirates)	Regulating Highly Automated Machine Ecologies
10.12.2015	Yohann Duguet (Centre national de la recherche scientifique, France)	Hysteretic turbulence in pipes and channels
03.12.2015	Tineke Stroucken (Philipps University Marburg)	Bright p-excitons indicating exciton condensation in novel 2D materials
26.11.2015	Elena Panteley (Centre national de la recherche scientifique, France, and ITMO University, Russia)	Analysis and control design for networks of Stuart-Landau oscillators and applications to neuronal populations
29.10.2015	Bernd Krauskopf (University of Auckland, New Zealand)	A geometric perspective on the route to chaos in the Lorenz system
15.10.2015	Avraham Be'er (Universität Ben-Gurion ba-Negev, Israel)	Complex Dynamics of Collectively Swarming Bacteria
09.07.2015	Steven Niederer (King's College London, United Kingdom)	Modelling Pathological Variations in Time and Space across the Heart
02.07.2015	Michael Stich (Aston University, United Kingdom)	Local vs. global time-delay feedback schemes for oscillatory systems
11.06.2015	Matthias Weiss (Universität Bayreuth)	Organizing living matter - From molecules to cellular structures
21.05.2015	Gernot Schaller (Technische Universität Berlin)	Thermodynamics of quantum transport
07.05.2015	Thilo Gross (University of Bristol, United Kingdom)	Epidemics in adaptive and heterogeneous networks
16.04.2015	Doris Reiter (Universität Münster)	Optical control of a single Mn spin in a single quantum dot
12.02.2015	Raymond Kapral (University of Toronto, Canada)	Quantum Dynamics in Open Quantum-Classical Systems
05.02.2015	Haye Hinrichsen (Universität Würzburg)	Critical Phenomena in Systems with Long-Range Couplings
29.01.2015	David Citrin (Georgia Institute of Technology, United States)	Chaos in External-Cavity Semiconductor Lasers (PDF, 197,8 KB)
15.01.2015	Vittoria Colizza (French National Institute for Health and Medical Research and Pierre Louis Institute of Epidemiology and Public Health, France)	Epidemics on temporal networks: targeted interventions and invasion conditions
08.01.2015	Anton Dontsov (Ioffe Institute, Russia)	Mode switching in ring lasers with delayed optical cross-feedback
18.12.2014	Alexey Zaikin (University College London, United Kingdom)	Noise and Intelligence in intracellular gene-regulatory networks (PDF, 199,7 KB)

11.12.2014	Mattia Frasca, Arturo Buscarino (Università degli Studi di Catania, Italy)	Remote synchronization in complex networks, Dynamical processes on time-varying networks
20.11.2014	Berenike Maier (Universität zu Köln)	Coordination of bacterial motors (PDF, 196,1 KB)
13.11.2014	Alessio Serafini (University College London, United Kingdom)	Diffusive conditional dynamics and the control of quantum continuous variables (PDF, 197,4 KB)
16.10.2014	Sean Cornelius (Northeastern University, United States)	Cascades, compensatory perturbations, and control in complex networks (PDF, 198,3 KB)
17.07.2014	Andreas Bausch (Technische Universität München)	Cytoskeletal pattern formation: Self organization of topology
03.07.2014	Luca Ghiringhelli (Fritz-Haber-Institut der Max-Planck-Gesellschaft)	Towards ab initio modelling of heterogeneous catalysis: beyond the static, monostructure description
19.06.2014	Frank Jahnke (Universität Bremen)	Quantum optics with semiconductor quantum dots in optical microcavities
05.06.2014	Klaus Kroy (Universität Leipzig)	Non-isothermal Brownian motion
22.05.2014	Viktor Jirsa (Aix-Marseille Université)	Non-stationarity of the human resting state causes rich functional connectivity dynamics
08.05.2014	Jens Christian Claussen (Jacobs University Bremen)	Social humans, economic agents and bacterial games - and how game payoffs control the stability: From microscopic interactions to macroscopic evolutionary dynamics
17.04.2014	Oleh Omel'chenko (Weierstraß-Institut für Angewandte Analysis und Stochastik Berlin)	Bifurcation analysis of chimera states
13.02.2014	Andreas Alvermann (Ernst-Moritz-Arndt-Universität)	A computational perspective on the spin-boson model
06.02.2014	Peter Lenz (Philipps-Universität Marburg)	Self-organized biological patterns in systems with density-suppressed motility
30.01.2014	Antonio Celani (Institut Pasteur, France)	Chemical senses, small and large
16.01.2014	Hartmut Löwen (University of Düsseldorf)	Collective dynamics of self-propelled particles: from crystallization to turbulence
05.12.2013	Rudolf Podgornik (Univerza v Ljubljani, Slovenia)	Disorder and Coulomb interactions
28.11.2013	Marc-Thorsten Hütt (Jacobs University Bremen)	Predicting biological patterns from cell properties: general concept and application to Dictyostelium discoideum
14.11.2013	Tatyana Vadivasova (Saratovskiy Natsional'nyy Issledovatel'skiy Gosudarstvennyy Universitet, Russia)	Rotating waves, multistability and noise effects in the FitzHugh-Nagumo medium
31.10.2013	Philipp Hövel (Technische Universität Berlin)	Synchronization, desynchronization, and hybrid states: nonlinear dynamics on networks
24.10.2013	Marten Richter (Technische Universität Berlin)	Theory of spectroscopy and light emission of nanostructures
17.10.2013	Patrick Rinke (Fritz-Haber-Institut der Max-Planck-Gesellschaft)	Hybrid inorganic/organic systems from first principles
11.07.2013	Marcus Hauser (Otto-von-Guericke-Universität Magdeburg)	Synchronisation in yeast cell populations
27.06.2013	Tobias Korn (Universität Regensburg)	Optical spectroscopy of monolayer MoS2
20.06.2013	Jesper Mørk (Danmarks Tekniske Universitet, Denmark)	Slow light and cavity quantum electrodynamics in semiconductors
13.06.2013	Maurizio Mattia (Istituto Superiore di Sanità, Rome)	Population dynamics of spiking neurons: from theory to cultured networks
06.06.2013	Jürgen Horbach (Universität Düsseldorf)	Nonlinear response of soft-sphere glasses to external fields
23.05.2013	Alexander Morozov (University of Edinburgh, United Kingdom)	Understanding swimming in viscoelastic fluids
02.05.2013	Markus Engstler (Universität Würzburg)	Deadly trypanosomes and a little physics
25.04.2013	Luca Celardo (Università degli Studi di Firenze, Italy)	Is energy transfer in natural photosynthetic systems a superradiant phenomenon?
14.02.2013	Viktor Urumov (Ss. Cyril and Methodius University of Skopje, North Macedonia)	Control by time-varying delay of unstable steady states and periodic orbits
07.02.2013	Ralf Schützhold (Helmholtz-Zentrum Dresden-Rossendorf)	Fundamental Quantum Effects in the Laboratory?
24.01.2013	Andreas Buchleitner (Albert-Ludwigs-Universität Freiburg)	(Quantum) complexity in biological tissue - why could coherence matter?
17.01.2013	Gorka Zamora-López (Humboldt-Universität zu Berlin)	Segregation and integration in cortical networks: structure, function and dynamics
10.01.2013	Stephan W. Grill (Max-Planck-Institut für molekulare Zellbiologie und Genetik)	The Generation of Form in Biology: Principles of Mechano-chemical Patterning
06.12.2012	Fatihcan Atay (Max-Planck-Institut für Mathematik in den Naturwissenschaften)	Time Delays and Coherent Activity in Spatially Extended Systems
29.11.2012	Igor Lesanovsky (Universität Tübingen)	Characterizing dynamical phases of open quantum systems
08.11.2012	Paul van der Schoot (Technische Universiteit Eindhoven, Netherlands)	Connectedness Percolation of Carbon Nanotubes and Graphene Fillers
25.10.2012	Thomas Franosch (Universität Erlangen-Nürnberg)	Complex Transport Beyond Brownian Motion
12.07.2012	Jun Jiang (Xi'an Jiaotong University, China)	On a two-scale numerical method for the global analysis of nonlinear systems
05.07.2012	Josef Käs (Universität Leipzig)	Are fundamental changes in a cell's material properties necessary for tumor progression?
28.06.2012	Frank Hohls (Physikalisch-Technische Bundesanstalt Braunschweig)	Semiconductor non-adiabatic quantized charge pumps
07.06.2012	Markus Porto (Universität Köln)	Proteins: Structure, Folding, and Evolution
31.05.2012	Jochen Peters (Philips Research, Germany)	Applied research lecture: Medical Image Processing

10.05.2012	Yuri Maistrenko (Natsional'na akademiya nauk Ukrayiny, Ukraine)	Emergent complex dynamics on oscillatory networks
26.04.2012	Dimitri Averin (Stony Brook University, United States)	Thermodynamics and quantum mechanics of Coulomb blockade structures
16.02.2012	Boris Gutkin (École normale supérieure, France)	Phase response curves as a signature of neural excitability dynamics with implications for neuromodulation, spike delays and inverse stochastic resonance
09.02.2012	Jens Chr. Claussen (Universität Lübeck)	Neuronal dynamics during sleep: state switching on different scales
02.02.2012	Lyderic Bocquet (Université de Lyon, France)	Playing with osmotic forces: from mixing to self-propelled swimmers
26.01.2012	Cristiano Ciuti (Université Paris Cité, France)	Quantum fluids of light in nonlinear polaritonic systems
05.01.2012	Nikolaos Kouvaris (DRIBIA Data Research, Spain)	Traveling fronts and stationary patterns in bistable reaction-diffusion systems on networks
01.12.2011	Rainer Klages (Queen Mary University of London, United Kingdom)	Spatio-temporal dynamics of bumblebees foraging under predation risk
24.11.2011	Janine Splettstoesser (Rheinisch-Westfälische Technische Hochschule Aachen and Chalmers tekniska högskola, Sweden)	Time scales in the dynamics of an interacting quantum dot
17.11.2011	Martin Hasler (École polytechnique fédérale de Lausanne, Switzerland)	Dynamical systems for detecting communities in complex networks
03.11.2011	Axel Pelster (Universität Bielefeld)	On the Dirty Boson Problem
14.07.2011	Wouter-Jan Rappel (University of California, United States)	How do cells know which way to go? Insights from modeling and experiments.
30.06.2011	Joern Davidsen (University of Calgary, Canada)	Pattern formation in reaction-diffusion systems: From spiral waves to turbulence
23.06.2011	Vincenzo Savona (École polytechnique fédérale de Lausanne, Switzerland)	Polariton quantum optics and quantum collective phenomena: overview and perspectives
09.06.2011	Patrick Ilg (Eidgenössische Technische Hochschule Zürich, Switzerland)	Systematic coarse-graining procedure for deriving constitutive equations of complex fluids from microscopic models
12.05.2011	Neill Lambert (RIKEN, Japan)	Quantum and Classical Applications of Nanomechanics
05.05.2011	Sarah Koester (Universität Göttingen)	Cellular Dynamics in Microflow
28.04.2011	Edward Ott (University of Maryland, United States)	Synchronism in Large Networks of Oscillators: An Emergent Behavior of Complex Systems
14.04.2011	Jörn Dunkel (Massachusetts Institute of Technology, United States)	Hydrodynamics of Microorganisms
17.02.2011	Harm Rotermund (Dalhousie University Halifax, Canada)	Real Time Imaging and Control of Pattern Formation during Catalytic Surface Reactions
03.02.2011	Doris Heinrich (Technische Universität München)	Spatio-temporally controlled cell migration
27.01.2011	Francesco Ginelli (Centre national de la recherche scientifique, France)	Collective motion in active matter systems
13.01.2011	Rudolf Bratschitsch (Universität Münster)	Ultrafast nanoplasmonics and spintronics
06.01.2011	Marcus Hauser (Otto-von-Guericke-Universität Magdeburg)	Analysis of vein networks of the slime mould Physarum polycephalum