

Dynamics and Statistical Physics Division Fachverband Dynamik und Statistische Physik (DY)

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Overview of Invited Talks and Sessions

(lecture rooms MA 001, MA 004, and MA 144, Poster area A)

Selected Plenary and Keynote Talks

PV II	Mon	14:00–14:45	H 0105	The Fragility of Interdependency: Coupled Networks & Switching Phenomena — ●H. EUGENE STANLEY
PV XVII	Wed	20:00–21:00	Urania	Windenergie - eine turbulente Sache — ●JOACHIM PEINKE
PV XVIII	Thu	8:30– 9:15	H 0105	The Complex Physics of Climate Change: Nonlinearity and Stochasticity — ●MICHAEL GHIL

Invited and Topical Talks

DY 2.1	Mon	9:30–10:00	MA 004	Separation of chiral particles in micro- and nanofluidic systems — ●RALF EICHHORN
DY 2.10	Mon	12:15–12:45	MA 004	Melting transition of hard disks — ●WERNER KRAUTH
DY 5.9	Mon	17:00–17:30	MA 004	Phason dynamics in light-induced colloidal quasicrystals — ●MICHAEL SCHMIEDEBERG, JUSTUS KROMER, HOLGER STARK
DY 4.11	Mon	17:45–18:15	MA 001	Environment-induced heating in composite quantum systems — ●ALMUT BEIGE
DY 15.1	Wed	9:30–10:00	MA 004	Fluctuations and State Variables in Driven Granular Materials — ●KAREN DANIELS
DY 15.13	Wed	13:00–13:30	MA 004	Impact of interaction effects on hopping transport in driven systems — ●MARIO EINAX
DY 16.1	Wed	10:00–10:30	MA 144	Pepsi[®]-or ☹ interfacial instabilities between magnetic/non-magnetic liquids — ●REINHARD RICHTER
DY 21.10	Wed	16:45–17:15	MA 144	Algorithms in statistical physics: Percolation — ●STEPHAN MERTENS, CRISTOPHER MOORE
DY 25.1	Thu	9:30–10:00	MA 004	Through mountains high and valleys low: Ultracold atoms in random potentials. — ●CORD MÜLLER
DY 25.13	Thu	13:00–13:30	MA 004	Transport beyond Brownian Motion – Persistent correlations — ●THOMAS FRANOSCH
DY 27.1	Thu	14:30–15:00	MA 004	Single particle trajectories and weak ergodicity breaking in ageing systems — ●RALF METZLER
DY 28.10	Thu	17:15–17:45	MA 144	Sensitivity and out-of-sample error in data assimilation — ●JOCHEN BRÖCKER
DY 31.1	Fri	9:30–10:00	MA 004	Pair Superfluidity of Constrained Bosons in Two Dimensions — ●STEFAN WESSEL, LARS BONNES
DY 31.13	Fri	13:00–13:30	MA 004	Multifractal fluctuations and Scaling at the three-dimensional Anderson transition — ●ALBERTO RODRIGUEZ, LOUELLA J. VASQUEZ, KEITH SLEVIN, RUDOLF A. ROEMER

Invited talks of the joint focus session Statistics of Cellular Motion (with BP)

Organised by Carsten Beta, Peter Dieterich, Rainer Klages and Lutz Schimansky-Geier.

BP 11.1	Tue	9:30–10:00	H 1028	Data-driven modeling of cell trajectories: a do-it-yourself kit — •HENRIK FLYVBJERG
BP 11.2	Tue	10:00–10:30	H 1028	The statistics of eukaryotic chemotaxis — •EBERHARD BODENSCHATZ
BP 11.3	Tue	10:30–11:00	H 1028	Dynamics of directed cell migration — •ALBRECHT SCHWAB, OTTO LINDEMANN, PETER DIETERICH
BP 11.4	Tue	11:00–11:30	H 1028	Medley swimming of sleeping sickness parasites — •VASILY ZABURDAEV, SRAVANTI UPPALURI, THOMAS PFOHL, MARKUS ENGSTLER, RUDOLF FRIEDRICH, HOLGER STARK

Invited talks of the joint focus session Nonlinear Dynamics of the Heart (with BP)

Organised by Ulrich Parlitz

DY 14.1	Wed	9:30–10:00	MA 001	Modelling Excitation Contraction Coupling — •MARTIN FALCKE
DY 14.2	Wed	10:00–10:30	MA 001	Modeling of electrical and mechanical function of the heart — •ALEXANDER PANFILOV
DY 14.3	Wed	10:30–11:00	MA 001	Mechanisms for calcium alternans — •BLAS ECHEBARRIA, ENRIC ALVAREZ-LACALLE, CARLOS LUGO, ANGELINA PEÑARANDA, INMA R. CANTALAPIEDRA
DY 14.4	Wed	11:00–11:30	MA 001	Synchronization as a mechanism of chaos control; Applications to cardiac arrhythmias. — •FLAVIO H. FENTON, STEFAN LUTHER, PHILIP BITTIHN, DANIEL HORNING, EBERHARD BODENSCHATZ, ROBERT F. GILMOUR JR
DY 14.5	Wed	11:30–12:00	MA 001	Cardiac dynamics from a nonlinear system's perspective - from basic science to applications — •STEFAN LUTHER

Invited talks of the joint focus session Alternative Energies (with DF)

Organised by Joachim Peinke and Martin Diestelhorst

DF 17.1	Thu	15:00–15:30	EB 107	Wind energy - Characterization and modeling of short-term fluctuations in incoming wind and power output — •MICHAEL HÖLLING, MATTHIAS WÄCHTER, ALLAN MORALES, PATRICK MILAN, JOACHIM PEINKE
DF 17.2	Thu	15:30–16:00	EB 107	Fluktuationen in der Stromerzeugung aus erneuerbarer Energien: Ihre Charakterisierung und Möglichkeiten ihrer Kompensation — •DETLEV HEINEMANN
DF 17.4	Thu	16:30–16:50	EB 107	The dielectric AC and DC characterisation of composite capacitors for energy storage — •SEBASTIAN LEMM, WOLFRAM MÜNCHGESANG, MARTIN DIESTELHORST, MANDY ZENKNER, THOMAS GROSSMANN, ALEXANDRA BUCHSTEINER, HORST BEIGE, STEFAN G. EBBINGHAUS, HARTMUT S. LEIPNER
DF 17.5	Thu	16:50–17:10	EB 107	Permittivity, energy density and carrier storage time of film composite capacitors — •WOLFRAM MÜNCHGESANG, SEBASTIAN LEMM, MARTIN DIESTELHORST, CLAUDIA EHRHARDT, JENS GLENNEBERG, ALEXANDRA BUCHSTEINER, HORST BEIGE, STEFAN G. EBBINGHAUS, HARTMUT S. LEIPNER
DF 17.6	Thu	17:10–17:40	EB 107	High Tc Superconducting Energy Storage Systems — •FRANK WERFEL
DF 17.7	Thu	17:40–18:10	EB 107	The transmission of high-power microwaves via dielectric diamond windows: Design, qualification and first steps towards a broadband diamond window in the range of 30GHz to several THz for actual and future fusion devices — •THEO SCHERER, DIRK STRAUSS

Invited talks of the symposium SYNM

See SYNM for the full program of the symposium.

SYNM 1.1	Wed	15:00–15:30	H 0105	Mechanical resonators in the quantum regime — •ANDREW N. CLELAND
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SYNM 1.2	Wed	15:30–16:00	H 0105	Quantum optomechanics: exploring the interface between quantum physics and gravity — ●MARKUS ASPELMEYER
SYNM 1.3	Wed	16:00–16:30	H 0105	Integrated transduction and coherent control of high Q nanomechanical systems using dielectric gradient forces — ●EVA M. WEIG
SYNM 1.4	Wed	16:30–17:00	H 0105	Cavity optomechanics with microwave photons — ●JOHN TEUFEL
SYNM 1.5	Wed	17:00–17:30	H 0105	Optomechanical crystals — ●OSKAR PAINTER

Invited talks of the symposium SYND

See SYND for the full program of the symposium.

SYND 1.1	Thu	9:30–10:00	H 0105	Controlling Complex Networks with Compensatory Perturbations — ●ADILSON E. MOTTER
SYND 1.2	Thu	10:00–10:30	H 0105	Toward control, prediction, and optimization of biological and engineering complex networks — ●KAZUYUKI AIHARA
SYND 1.3	Thu	10:30–11:00	H 0105	Design of robust functional networks as complex combinatorial optimization problem — ●ALEXANDER S. MIKHAILOV
SYND 1.4	Thu	11:00–11:30	H 0105	Braess Paradox, (In-)Stability and Optimal Design: Nonlinear Dynamics of Modern Power Grids — ●MARC TIMME, DIRK WITTHAUT, MARTIN ROHDEN, ANDREAS SORGE
SYND 1.5	Thu	11:30–12:00	H 0105	Delay-Coupled Laser Networks: Complex Behavior, Synchronization and Applications — ●INGO FISCHER

Invited talks of the symposium SYOL

See SYOL for the full program of the symposium.

SYOL 1.1	Fri	9:30–10:00	H 0105	From sequence to function: Random polymerization and modular evolution of RNA — ●SUSANNA C. MANRUBIA
SYOL 1.2	Fri	10:00–10:30	H 0105	Spontaneous autocatalysis and periodic switching in a prebiotic broth — ●EVA WOLLRAB, SABRINA SCHERER, KARSTEN KRUSE, ALBRECHT OTT
SYOL 1.3	Fri	10:30–11:00	H 0105	Thermal solutions for molecular evolution — ●DIETER BRAUN
SYOL 1.4	Fri	11:00–11:30	H 0105	Systems chemistry: Self-replication and chiral symmetry breaking — ●GUENTER VON KIEDROWSKI

Sessions

DY 1.1–1.14	Mon	9:30–13:15	MA 001	Statistical Physics of Biological Systems I (with BP, talks from DY)
DY 2.1–2.10	Mon	9:30–12:45	MA 004	Statistical Physics (General)
DY 3.1–3.8	Mon	10:00–12:00	MA 144	Fluid dynamics I
DY 4.1–4.11	Mon	15:00–18:15	MA 001	Quantum Dynamics, Decoherence, and Quantum Information
DY 5.1–5.9	Mon	15:00–17:30	MA 004	Soft Matter I
DY 6.1–6.6	Mon	15:00–16:30	MA 144	Delay Dynamics
DY 7.1–7.7	Mon	16:45–18:30	MA 144	Reaction-Diffusion-Systems
DY 8.1–8.8	Mon	15:00–17:30	C 243	Glasses I (with CPP, talks by CPP)
DY 9.1–9.10	Mon	15:00–17:30	H 1058	Statistical Physics of Biological Systems II (with BP, talks from BP)
DY 10.1–10.13	Tue	9:30–13:00	MA 001	Nonlinear Dynamics, Synchronisation and Chaos
DY 11.1–11.10	Tue	10:00–12:30	MA 004	Glasses II (with CPP, talks by DY)
DY 12.1–12.11	Tue	9:30–13:30	H 1028	Joint focus session (with BP): Statistics of Cellular Motion
DY 13.1–13.4	Tue	14:15–15:15	MA 004	Nonlinear Stochastic Processes
DY 14.1–14.5	Wed	9:30–12:00	MA 001	Joint focus session: Nonlinear Dynamics of the Heart
DY 15.1–15.13	Wed	9:30–13:30	MA 004	Statistical Physics far from equilibrium
DY 16.1–16.7	Wed	10:00–12:00	MA 144	Fluid dynamics and turbulence II
DY 17.1–17.1	Wed	9:30–10:15	H 0110	Networks I (with SOE)
DY 18.1–18.9	Wed	10:15–12:45	H 0110	Networks II (with SOE)
DY 19.1–19.7	Wed	15:00–16:45	MA 001	Nonlinear Dynamics of the Heart: Contributed talks to focus session
DY 20.1–20.7	Wed	15:00–16:45	MA 004	Networks III

DY 21.1–21.10	Wed	14:30–17:15	MA 144	Granular Matter/Contact Dynamics
DY 22.1–22.53	Wed	17:00–19:00	Poster A	Posters I
DY 23.1–23.7	Thu	9:30–11:15	MA 001	Quantum Chaos I
DY 24.1–24.7	Thu	11:30–13:15	MA 001	Quantum Chaos II
DY 25.1–25.13	Thu	9:30–13:30	MA 004	Brownian Motion and Transport
DY 26.1–26.7	Thu	15:00–18:10	EB 107	Joint focus session: Alternative Energies: Compensation of long- and short-term fluctuations (with DF)
DY 27.1–27.10	Thu	14:30–17:15	MA 004	Transport and Anomalous Diffusion
DY 28.1–28.10	Thu	15:00–17:45	MA 144	Data Analysis Methods and Modelling of Geophysical Systems
DY 29.1–29.54	Thu	17:00–19:00	Poster A	Posters II
DY 30.1–30.8	Fri	10:00–12:00	MA 001	Networks IV (with SOE)
DY 31.1–31.13	Fri	9:30–13:30	MA 004	Phase Transitions and Critical Phenomena
DY 32.1–32.10	Fri	10:00–12:30	MA 144	Soft Matter II

Annual General Meeting of the Dynamics and Statistical Physics Division

Thursday 19:00–20:00 Raum MA 004

- Bericht
- Wahl
- Verschiedenes