

Biological Physics Division Fachverband Biologische Physik (BP)

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Overview of Invited Talks and Sessions

(Lecture Rooms H43, H44, and H46; Poster B2 and C)

Plenary Talks related to BP

PV I	Mon	8:30– 9:15	H1	Optical Dressing of Molecules and Materials — ●THOMAS W. EBBESEN
PV VII	Tue	14:00–14:45	H15	Self-assembly, Self-organization and Control of Colloidal Suspensions — ●SABINE H. L. KLAPP
PV IX	Wed	8:30– 9:15	H1	Mechanics and dynamics of rapid cell movement — ●JULIE THERIOT
PV XVII	Thu	14:00–14:45	H15	Observing the Interactions of Ions with Solid-Liquid Interfaces using X-rays — ●PAUL FENTER

Invited Talks of BP sessions

BP 1.1	Mon	9:30–10:00	H43	Motor-clutch model for substrate stiffness sensing by living cells — ●DAVID ODDE, BENJAMIN BANGASSER, STEVEN ROSENFELD
BP 2.1	Mon	9:30–10:00	H44	Energy conversion mechanisms of heat shock proteins — ●THORSTEN HUGEL
BP 5.1	Mon	15:00–15:30	H43	Cytoskeletal pattern formation: Self organization of driven filaments — ●ANDREAS BAUSCH
BP 12.1	Tue	9:30–10:00	H43	Motor and Track Systems for Navigating the Cytoskeleton — JOANNA KALITA, ●RONALD ROCK
BP 12.7	Tue	11:15–11:45	H43	Molecular Motors from DNA — ●ANDREW TURBERFIELD
BP 13.1	Tue	9:30–10:00	H44	Ultrasensitive detection, microscopy, tracking, and manipulation of nano-objects — ●VAHID SANDOGHDAR
BP 15.1	Tue	12:00–12:30	H43	Protein diffusion on DNA — ●RALF SEIDEL
BP 17.1	Wed	9:30–10:00	H43	Processing of recombinant proteins for biomaterials applications: about spider silk and more — ●THOMAS SCHEIBEL
BP 18.1	Wed	9:30–10:00	H44	Out-of-equilibrium membrane physics and cellular organelles. — ●PIERRE SENS
BP 20.1	Wed	15:00–15:30	H43	Challenges of Neurophysics — ●THEO GEISEL
BP 21.1	Wed	15:00–15:30	H46	Mimicking cellular membranes: lessons from reconstitution — ●EVA SCHMID
BP 27.1	Thu	9:30–10:00	H43	DNA Origami: Applications in Physics and Biotechnology — ●TIM LIEDL
BP 28.1	Thu	9:30–10:00	H44	Advanced Fluorescence Methods for Investigating the Lifecycle of Viruses — ●DON C. LAMB
BP 28.7	Thu	11:30–12:00	H44	Looking at proteins inside live cells with atomic resolution: Science fiction or science reality? — ●PHIL SELENKO
BP 30.1	Thu	15:00–15:30	H43	Inversion and perversion in biomechanics: from microscopic anisotropy to macroscopic chirality. — ●ALAIN GORIELY
BP 30.5	Thu	16:15–16:45	H43	A noisy path to order: refinement of a developing tissue — ●BUZZ BAUM

Invited Talks of the Joint Symposium Charge Transfer Effects in Molecular Materials

Organizers Wolfgang Brütting and Frank Schreiber. For more details see SYCT.

SYCT 1.1	Mon	9:30–10:00	H1	A coarse grained QM/MM approach for the description of charge transfer in complex systems — ●MARCUS ELSTNER
SYCT 1.2	Mon	10:00–10:30	H1	Identifying and resolving charge separation in organic solar cells — ●EBERHARD RIEDLE
SYCT 1.3	Mon	10:30–11:00	H1	Quantifying the energy of charge transfer states: From molecular crystals to donor-acceptor blends — ●REINHARD SCHOLZ
SYCT 1.4	Mon	11:00–11:30	H1	Efficient Exciton Generation and Collection in Organic Solar Cells — ●MARK THOMPSON, CONG TRINH, STEVE FORREST, JERAMY ZIMMERMAN
SYCT 1.5	Mon	11:30–12:00	H1	Electron transport in organic single-crystal transistors and Schottky-gated heterostructures — ●ALBERTO MORPURGO

Invited Talks of the Joint Symposium Magnetic Nanoparticles in Biomedical Diagnostics and Therapy

Organizers Gernot Güntherodt and Eckart Rühl. For more details see SYBD.

SYBD 1.1	Mon	15:00–15:30	H1	Functionalization and Pharmaceutical Aspects of Magnetic Nanoparticles (Magnetic Carriers) — ●URS O. HÄFELI
SYBD 1.2	Mon	15:30–16:00	H1	Fluid mechanical aspects of therapeutic application of suspensions of magnetic nanoparticles — ●STEFAN ODENBACH
SYBD 1.3	Mon	16:00–16:30	H1	Magnetic Particle Imaging: A new Medical Imaging Modality — ●THORSTEN BUZUG
SYBD 1.4	Mon	16:30–17:00	H1	Superparamagnetic iron oxide nanoparticles for MR-visible mesh implants and novel drug targeting models — ●IOANA SLABU, ANJALI ROETH, CHRISTIANE KUHLE, THOMAS SCHMITZ-RODE, MARTIN BAUMANN
SYBD 1.5	Mon	17:00–17:30	H1	Magnetic measurement techniques assisting biomedical applications of magnetic nanoparticles — ●LUTZ TRAHMS

Invited Talks of the Joint Symposium Computational Challenges in Scale-Bridging Modeling of Materials

Organizers Gianaurelio Cuniberti and Frauke Gräter. For more details see SYMM.

SYMM 1.1	Thu	9:30–10:00	H1	Challenges for first-principles based computation of properties of oxide materials — ●KARSTEN ALBE
SYMM 1.2	Thu	10:00–10:30	H1	Deformation and Fracture of Solids: Tough Nuts at Atomic and Continuum Scales — ●PETER GUMBSCH, MATOUS MROVEC, KINSHUK SRIVASTAVA, DANIEL WEYGAND
SYMM 1.3	Thu	10:30–11:00	H1	Crucial Issues and Future Directions of Through-Process Modeling — ●GUENTER GOTTSTEIN
SYMM 1.4	Thu	11:00–11:30	H1	Adaptive Resolution Simulations for Soft Matter: Applications and New Developments — ●KURT KREMER
SYMM 1.5	Thu	11:30–12:00	H1	Materials by design — ●MARKUS BUEHLER

Invited Talks of the Joint Focus Session Publishing in the Age of the Internet (with jDPG)

Organizers Stephan Köhler (jDPG) and Ulrich Schwarz (BP).

BP 6.1	Mon	15:30–16:00	H44	Publishing in Physical Review Letters — ●KARSTEN KRUSE
BP 6.2	Mon	16:00–16:30	H44	The Opportunities of Open Access Publishing — ●EBERHARD BODENSCHATZ

Invited Talks of the Joint Focus Session Dynamics of Adaptive Networks (with SOE and DY)

Organizers Eckehard Schöll and Jens Christian Claussen.

SOE 15.1	Wed	9:30–10:00	H37	Adaptive Networks: Of social interactions and mathematical tools — ●ANNE-LY DO
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SOE 15.8	Wed	11:30–12:00	H37	Bio-molecular Networks: Structure, Function, Evolution — ●MICHAEL LÄSSIG
SOE 15.9	Wed	12:00–12:30	H37	Adaptive networks and critical dynamics — ●STEFAN BORNHOLDT

Invited Talks of the Joint Focus Session Biomechanics (with jDPG)

Organizers Jochen Schneider (jDPG) and Ulrich Schwarz (BP).

AGjDPG 3.1	Wed	15:00–15:30	H6	Active Mechanical Processes in Cells and Tissues — ●FRANK JÜLICHER
AGjDPG 3.2	Wed	15:30–16:00	H6	Cell mechanics: An experimental biophysicist's perspective — ●JOCHEN GUCK

Sessions

BP 1.1–1.12	Mon	9:30–13:00	H43	Cell migration
BP 2.1–2.11	Mon	9:30–12:45	H44	Proteins
BP 3.1–3.8	Mon	9:30–11:30	H47	Statistical Physics in Biological Systems I (joint with DY)
BP 4.1–4.5	Mon	9:30–12:00	H1	Symposium Charge Transfer Effects in Molecular Materials (SYCT, joint with CPP, HL and DS)
BP 5.1–5.7	Mon	15:00–17:00	H43	Cytoskeleton
BP 6.1–6.2	Mon	15:30–17:30	H44	Publishing in the Age of the Internet (joint with jDPG)
BP 7.1–7.5	Mon	15:00–17:30	H1	Symposium Magnetic Nanoparticles in Biomedical Diagnostics and Therapy (SYBD, joint with MA, CPP and ST)
BP 8.1–8.30	Mon	17:30–19:30	Poster B2	Posters: Proteins
BP 9.1–9.10	Mon	17:30–19:30	Poster B2	Posters: Membranes
BP 10.1–10.17	Mon	17:30–19:30	Poster B2	Posters: Imaging
BP 11.1–11.24	Mon	17:30–19:30	Poster B2	Posters: Statistical Physics in Biological Systems (joint with DY)
BP 12.1–12.7	Tue	9:30–11:45	H43	Molecular Motors
BP 13.1–13.9	Tue	9:30–12:00	H44	Imaging
BP 14.1–14.12	Tue	9:30–13:00	H34	Biomaterials and Biopolymers I (joint with CPP)
BP 15.1–15.7	Tue	12:00–14:00	H43	DNA/RNA and related enzymes
BP 16.1–16.4	Tue	15:00–16:00	H37	Evolutionary Game Theory (joint with SOE and DY)
BP 17.1–17.11	Wed	9:30–12:45	H43	Biomaterials and Biopolymers II (joint with CPP)
BP 18.1–18.9	Wed	9:30–12:15	H44	Membranes and Vesicles I
BP 19.1–19.9	Wed	9:30–12:30	H37	Focus Session: Dynamics of Adaptive Networks (joint with SOE and DY)
BP 20.1–20.9	Wed	15:00–17:30	H43	Statistical Physics in Biological Systems II (joint with DY)
BP 21.1–21.5	Wed	15:00–16:30	H46	Membranes and Vesicles II
BP 22.1–22.5	Wed	15:00–16:45	H6	Biomechanics (joint focus session with jDPG)
BP 23.1–23.5	Wed	15:45–17:00	H37	Networks, From Topology to Dynamics (joint with SOE and DY)
BP 24.1–24.34	Wed	17:30–19:30	Poster C	Posters: Physics of Cells
BP 25.1–25.21	Wed	17:30–19:30	Poster C	Posters: Cytoskeleton
BP 26.1–26.12	Wed	17:30–19:30	Poster C	Posters: Biomaterials and Biopolymers (joint with CPP)
BP 27.1–27.8	Thu	9:30–12:00	H43	Biotechnology and Bioengineering
BP 28.1–28.11	Thu	9:30–13:00	H44	Focus session: Intracellular Spectroscopy
BP 29.1–29.5	Thu	9:30–12:00	H1	Symposium Computational Challenges in Scale-Bridging Modeling of Materials (SYMM, joint with CPP, DY and MM)
BP 30.1–30.8	Thu	15:00–17:30	H43	Tissue
BP 31.1–31.10	Thu	15:00–17:30	H46	Statistical Physics in Biological Systems III (joint with DY)
BP 32.1–32.13	Fri	9:30–13:00	H43	Cell Adhesion and Mechanics
BP 33.1–33.12	Fri	9:30–12:45	H44	Statistical Physics in Biological Systems IV (joint with DY)

Annual General Meeting of the Biological Physics Division

Wednesday 19:00–20:00 H43

- Award of the EPL poster prizes for biological physics
- Report of the current speakers
- Election of the new speakers
- Lessons learned and spring meeting Dresden 2014
- Miscellaneous