

Biological Physics Division Fachverband Biologische Physik (BP)

Sarah Köster
 Georg-August-Universität Göttingen
 Institut für Röntgenphysik
 Friedrich-Hund-Platz 1
 37077 Göttingen
 sarah.koester@phys.uni-goettingen.de

Gerhard Gompper
 Forschungszentrum Jülich
 Institute of Complex Systems
 Wilhelm-Johnen-Straße
 52425 Jülich
 g.gompper@fz-juelich.de

Friederike Schmid
 Johannes-Gutenberg-Universität
 Institut für Physik
 Staudingerweg 7
 55099 Mainz
 friederike.schmid@uni-mainz.de

Overview of Invited Talks and Sessions

(Lecture halls H4, H10, H11, and H1; Poster B2)

Plenary Talks of BP

PRV II	Mon	13:15–13:45	H1	Ultimate Rayleigh-Bénard and Taylor-Couette turbulence — •DETLEF LOHSE
PLV II	Mon	14:00–14:45	H1	Self-propelled topological defects in biological systems — •JULIA M YEO-MANS
PLV IV	Tue	8:30– 9:15	H1	Impact of Turbulence on Cloud Microphysics — •EBERHARD BODEN-SCHATZ
PLV VII	Wed	8:30– 9:15	H1	Mechanics of Single Protein Molecules — •MATTHIAS RIEF
PLV XIV	Fri	8:30– 9:15	H1	Soft Matter: Topological constraints do matter — •KURT KREMER

Invited Talks

BP 1.1	Mon	9:30–10:00	H4	Structural dynamics of active membrane transporters as seen by single-molecule techniques — •THORBEN CORDES
BP 2.5	Mon	10:30–11:00	H10	Lessons learned from complex mimics of biological membranes — •GEORG PABST
BP 3.7	Mon	11:30–12:00	H11	Cryo-Electron Tomography: Reconstruction Methods and Applications — •ACHILLEAS FRANGAKIS
BP 5.1	Mon	15:00–15:30	H11	Gene transfer between bacteria: from single molecules to genome dynamics — •BERENIKE MAIER
BP 8.7	Tue	11:30–12:00	H10	Force generation by actin, microtubules and motors — •RHODA HAWKINS
BP 9.1	Tue	9:30–10:00	H11	Biomolecular structure determination from single molecule X-ray scattering with three photons per image — •HELMUT GRUBMUELLER, BENJAMIN VON ARDENNE
BP 13.7	Wed	11:15–11:45	H4	Non-equilibrium dynamics in biological matter — •CHRISTOPH F SCHMIDT
BP 14.5	Wed	10:30–11:00	H10	Physical determinants of phagocytic uptake and transport — •HOLGER KRESS
BP 15.1	Wed	9:30–10:00	H11	Statistical physics of correlated neuronal variability — •MORITZ HELIAS
BP 17.4	Wed	15:45–16:15	H4	Chaos in self-propelled droplets — •ANNETTE ZIPPELIUS, REINER KREE
BP 18.7	Wed	16:30–17:00	H10	Physics of epithelial folding — •GUILLAUME SALBREUX
BP 19.1	Wed	15:00–15:30	H11	Self-organized wave-like beating of actin bundles — MARIEPOCHITALOFF, MATHIEU RICHARD, TAKAGI YASUHARU, WENXIANG CAO, ENRIQUE DE LA CRUZ, JIM SELLERS, JEAN-FRANÇOIS JOANNY, FRANK JÜLICHER, LAURENT BLANCHOIN, •PASCAL MARTIN
BP 24.1	Thu	9:30–10:00	H11	Active motion in living systems: from molecules to assemblies of organisms — •BEN FABRY
BP 26.1	Thu	15:00–15:30	H4	Understanding molecular machines by single-molecule FRET — •THORSTEN HUGEL
BP 27.4	Thu	15:45–16:15	H10	3D scaffolds as cell-instructive biomaterials — •CHRISTINE SELHUBER-UNKEL
BP 28.7	Thu	16:30–17:00	H11	Spontaneous buckling of active matter — •KARSTEN KRUSE

BP 31.1	Fri	9:30–10:00	H10	Mechano-chemical self-organization determines search pattern in migratory cells — •MILOS GALIC
BP 33.1	Fri	12:30–13:15	H1	Pattern formation in active cytoskeletal systems — •ANDREAS R. BAUSCH

Invited talks of the joint Symposium SKM Dissertation-Prize 2019

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	9:30– 9:50	H2	Synchronization and Waves in Confined Complex Active Media — •JAN FREDERIK TOTZ
SYSD 1.2	Mon	9:50–10:10	H2	Spin scattering of topologically protected electrons at defects — •PHILIPP RÜSSMANN
SYSD 1.3	Mon	10:10–10:30	H2	Beyond the molecular movie: Revealing the microscopic processes behind photo-induced phase transitions — •CHRIS W. NICHOLSON
SYSD 1.4	Mon	10:30–10:50	H2	Thermodynamic bounds on current fluctuations — •PATRICK PIETZONKA
SYSD 1.5	Mon	10:50–11:10	H2	Lightwave-driven quasiparticle acceleration — •FABIAN LANGER
SYSD 1.6	Mon	11:10–11:30	H2	Ultrafast plasmon-driven point-projection electron microscopy — •JAN VOGELSANG
SYSD 1.7	Mon	11:30–11:50	H2	Helimagnets, sand patterns and fingerprints linked by topology — •PEGGY SCHÖNHERR

Invited talks of the joint Symposium Patterns in Nature: Origins, Universality, Functions

See SYPN for the full program of the symposium.

SYPN 1.1	Mon	15:00–15:30	H1	Engineering spatial-temporal organization of bacterial suspensions — •IGOR ARONSON
SYPN 1.2	Mon	15:30–16:00	H1	Collective behaviour and pattern formation in phoretic active matter — •RAMIN GOLESTANIAN
SYPN 1.3	Mon	16:00–16:30	H1	Control and selection of spatio-temporal patterns in complex systems — •SVETLANA GUREVICH
SYPN 1.4	Mon	16:45–17:15	H1	Self-organization of Active Surfaces — •FRANK JÜLICHER
SYPN 1.5	Mon	17:15–17:45	H1	Front instabilities can reverse desertification — •EHUD MERON

Invited talks of the joint Symposium Czech Republic as Guest of Honor

See SYCZ for the full program of the symposium.

SYCZ 1.1	Thu	9:30–10:00	H4	Crystal symmetries and transport phenomena in antiferromagnets — •TOMAS JUNGWIRTH
SYCZ 1.2	Thu	10:00–10:30	H4	Terahertz subcycle charge and spin control — •RUPERT HUBER
SYCZ 1.3	Thu	10:30–11:00	H4	1D molecular system on surfaces — •PAVEL JELINEK
SYCZ 1.4	Thu	11:15–11:45	H4	Tunneling microscopy on insulators provides access to out-of-equilibrium charge states — •JASCHA REPP
SYCZ 1.5	Thu	11:45–12:15	H4	Occam's razor and complex networks from brain to climate — •JAROSLAV HLINKA
SYCZ 1.6	Thu	12:15–12:45	H4	Long range temporal correlations in complex systems — •HOLGER KANTZ

Invited talks of the joint Symposium Physics of Self-Organization in DNA Nanostructures

See SYDN for the full program of the symposium.

SYDN 1.1	Thu	9:30–10:00	H1	Functional DNA Nanostructures and Their Applications — •ITAMAR WILLNER
SYDN 1.2	Thu	10:00–10:30	H1	Gaining control of DNA-based nanodevices — •FRANCESCO RICCI
SYDN 1.3	Thu	10:30–11:00	H1	Self-assembly and optical properties of single molecule polymers on DNA origami — •KURT GOTHELF
SYDN 1.4	Thu	11:15–11:45	H1	DNA origami route to dynamic plasmonics — •LAURA LIU
SYDN 1.5	Thu	11:45–12:15	H1	DNA templated metal nanostructures — •RALF SEIDEL

Sessions

BP 1.1–1.11	Mon	9:30–13:00	H4	Protein structure and dynamics
BP 2.1–2.9	Mon	9:30–12:30	H10	Membranes and vesicles I (joint session BP/CPP)
BP 3.1–3.10	Mon	9:30–12:45	H11	Bioimaging and biospectroscopy I
BP 4.1–4.5	Mon	15:00–16:15	H10	Membranes and vesicles II (joint session BP/CPP)
BP 5.1–5.6	Mon	15:00–16:45	H11	Systems biology & gene expression and signaling
BP 6.1–6.83	Mon	17:30–19:30	Poster B2	Poster I
BP 7.1–7.10	Tue	9:30–12:30	H4	Bioimaging and biospectroscopy II
BP 8.1–8.10	Tue	9:30–12:45	H10	Cytoskeletal filaments
BP 9.1–9.12	Tue	9:30–13:00	H11	Computational biophysics
BP 10.1–10.4	Tue	9:30–10:30	H14	Crystallization, nucleation and self-assembly (joint session CPP/BP)
BP 11.1–11.2	Tue	11:30–12:30	H17	Evolutionary game theory (joint session SOE/BP)
BP 12.1–12.80	Tue	14:00–16:00	Poster B2	Poster II
BP 13.1–13.12	Wed	9:30–13:00	H4	Active matter I (joint session BP/CPP/DY)
BP 14.1–14.12	Wed	9:30–13:00	H10	Cell mechanics I
BP 15.1–15.11	Wed	9:30–13:00	H11	Focus session: Collective Dynamics in Neural Networks
BP 16.1–16.5	Wed	9:30–12:00	H17	Dynamics of multilayer networks I (joint session SOE/DY/BP)
BP 17.1–17.9	Wed	15:00–17:30	H4	Statistical physics of biological systems I (joint session BP/DY)
BP 18.1–18.8	Wed	15:00–17:15	H10	Cell mechanics II
BP 19.1–19.7	Wed	15:00–17:00	H11	Focus session: Physics of cilia: Dynamics of synchronized oscillators
BP 20.1–20.5	Wed	15:00–16:45	H17	Dynamics of multilayer networks II (joint session SOE/DY/BP)
BP 21.1–21.9	Wed	15:45–18:30	H13	Biopolymers, biomaterials and bioinspired functional materials (joint session CPP/BP)
BP 22	Wed	18:00–19:00	H4	Annual general meeting of the BP division (BP Mitgliederversammlung)
BP 23.1–23.12	Thu	9:30–12:45	H10	Biomaterials and biopolymers I (joint session BP/CPP)
BP 24.1–24.12	Thu	9:30–13:00	H11	Cell adhesion and migration, multicellular systems I
BP 25.1–25.3	Thu	12:15–13:00	H13	Physics of self-organization in DNA nanostructures (joint session CPP/BP)
BP 26.1–26.3	Thu	15:00–16:00	H4	Single molecules biophysics
BP 27.1–27.7	Thu	15:00–17:00	H10	Biomaterials and biopolymers II (joint session BP/CPP)
BP 28.1–28.9	Thu	15:00–17:30	H11	Statistical physics of biological systems II (joint session BP/DY)
BP 29.1–29.8	Thu	15:00–18:45	H17	PhD Focus session: Theory of stochastic processes with applications in biology (joint session SOE/BP/DY/AKjDPG)
BP 30.1–30.3	Thu	16:15–17:00	H4	Cell mechanics III
BP 31.1–31.9	Fri	9:30–12:00	H10	Cell adhesion and migration, multicellular systems II
BP 32.1–32.10	Fri	9:30–12:00	H11	Active matter II (joint session BP/CPP/DY)
BP 33.1–33.1	Fri	12:30–13:15	H1	Closing talk (joint session BP/CPP/DY)

Annual General Meeting of the Biological Physics Division

Wednesday 3.4.2019 18:00–19:00 H4

- Report of the current speaker team
- Award of the EPL poster prizes of the Biological Physics Division
- Election of the next BP spokespersons
- Miscellaneous