

Biological Physics Division Fachverband Biologische Physik (BP)

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Overview of Invited Talks and Sessions

(Lecture halls H13, H15, and H16; Poster P1 and P4)

Invited Talks

BP 2.4	Mon	10:15–10:45	H13	Integrative modeling of dynamic biomolecular structures — ●HOLGER GOHLKE
BP 4.1	Mon	10:30–11:00	H16	Computer simulations of self-motile active droplets and colloid-active gels composites — ●DAVIDE DAVIDE MARENUZZO
BP 5.1	Mon	15:00–15:30	H15	The functional nano-architecture of axonal actin — ●CHRISTOPHE LETERIER
BP 6.5	Mon	16:15–16:45	H16	From active bacterial microcolonies to biofilms as model tissues — ●VASILY ZABURDAEV
BP 8.1	Tue	9:30–10:00	H15	Phase separation in cells: gene localization and noise buffering — ●SAMUEL SAFRAN
BP 13.1	Wed	9:30–10:00	H15	Cortex mechanics - how subtle modifications matter — ●ANDREAS JANSHOFF
BP 15.4	Wed	11:00–11:30	H13	The importance of water in membrane receptor function — ●ANTHONY WATTS
BP 18.1	Wed	15:00–15:30	H15	Bottom-up molecular control of biomimetic hydrogels — ●KERSTIN G. BLANK
BP 22.1	Thu	9:30–10:00	H15	Cell and tissue mechano-plasticity in development — ●VERENA RUPRECHT
BP 24.1	Thu	10:30–11:00	H16	Actin waves as building blocks of cellular function — ●CARSTEN BETA
BP 26.1	Thu	15:00–15:30	H15	Molecular robots working cooperatively in swarm — ●AKIRA KAKUGO

Invited Talks of the joint Symposium SKM Dissertation Prize 2022 (SYSD)

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	10:15–10:45	H2	Charge localisation in halide perovskites from bulk to nano for efficient optoelectronic applications — ●SASCHA FELDMANN
SYSD 1.2	Mon	10:45–11:15	H2	Nonequilibrium Transport and Dynamics in Conventional and Topological Superconducting Junctions — ●RAFFAEL L. KLEES
SYSD 1.3	Mon	11:15–11:45	H2	Probing magnetostatic and magnetotransport properties of the antiferromagnetic iron oxide hematite — ●ANDREW ROSS
SYSD 1.4	Mon	11:45–12:15	H2	Quantum dot optomechanics with surface acoustic waves — ●MATTHIAS WEISS

Invited Talks of the joint Symposium United Kingdom as Guest of Honor (SYUK)

See SYUK for the full program of the symposium.

SYUK 1.1	Wed	9:30–10:00	H2	Structure and Dynamics of Interfacial Water — ●ANGELOS MICHAELIDES
SYUK 1.2	Wed	10:00–10:30	H2	A molecular view of the water interface — ●MISCHA BONN
SYUK 1.3	Wed	10:30–11:00	H2	Motile cilia waves: creating and responding to flow — ●PIETRO CICUTA

SYUK 1.4	Wed	11:00–11:30	H2	Cilia and flagella: Building blocks of life and a physicist’s playground — ●OLIVER BÄUMCHEN
SYUK 1.5	Wed	11:45–12:15	H2	Computational modelling of the physics of rare earth - transition metal permanent magnets from SmCo₅ to Nd₂Fe₁₄B — ●JULIE STAUNTON
SYUK 2.1	Wed	15:00–15:30	H2	Hysteresis Design of Magnetic Materials for Efficient Energy Conversion — ●OLIVER GUTFLEISCH
SYUK 2.2	Wed	15:30–16:00	H2	Non-equilibrium dynamics of many-body quantum systems versus quantum technologies — ●IRENE D’AMICO
SYUK 2.3	Wed	16:00–16:30	H2	Quantum computing with trapped ions — ●FERDINAND SCHMIDT-KALER
SYUK 2.4	Wed	16:45–17:15	H2	Breaking the millikelvin barrier in cooling nanoelectronic devices — ●RICHARD HALEY
SYUK 2.5	Wed	17:15–17:45	H2	Superconducting Quantum Interference Devices for applications at mK temperatures — ●SEBASTIAN KEMPF

Invited Talks of the joint Symposium Interplay of Substrate Adaptivity and Wetting Dynamics from Soft Matter to Biology (SYSM)

See SYSM for the full program of the symposium.

SYSM 1.1	Wed	15:00–15:30	H1	Statics and Dynamics of Soft Wetting — ●BRUNO ANDREOTTI
SYSM 1.2	Wed	15:30–16:00	H1	Droplets on elastic substrates and membranes - Numerical simulation of soft wetting — ●SEBASTIAN ALAND
SYSM 1.3	Wed	16:00–16:30	H1	Wetting of Polymer Brushes in Air — LARS VELDSCHOLTE, GUIDO RITSEMA VAN ECK, LIZ MENSINK, JACCO SNOELJER, ●SISSI DE BEER
SYSM 1.4	Wed	16:45–17:15	H1	Elastocapillary phenomena in cells — ●ROLAND L. KNORR
SYSM 1.5	Wed	17:15–17:45	H1	Active contact line depinning by micro-organisms spreading on hydrogels — MARC HENNES, JULIEN TAILLEUR, GAËLLE CHARRON, ●ADRIAN DAERR

Invited Talks of the joint Symposium Collective Social Dynamics from Animals to Humans (SYSO)

See SYSO for the full program of the symposium.

SYSO 1.1	Thu	9:30–10:00	H1	Capturing group interactions: The next frontier of modeling social and biological systems — ●FRANK SCHWEITZER
SYSO 1.2	Thu	10:00–10:30	H1	Modelling Individual Mobility Behavior — ●LAURA MARIA ALESSANDRETTI
SYSO 1.3	Thu	10:30–11:00	H1	Validating argument-based opinion dynamics with survey experiments — ●SVEN BANISCH
SYSO 1.4	Thu	11:15–11:45	H1	Self-organization, Criticality and Collective Information Processing in Animal Groups — ●PAWEŁ ROMANCZUK
SYSO 1.5	Thu	11:45–12:15	H1	Collective dynamics and physiological interactions in bird colonies — ●HANJA BRANDL

Sessions

BP 1.1–1.3	Sun	16:00–18:30	H4	Tutorial: Stochastic Processes from Financial Risk to Genetics (joint session SOE/TUT/BP/DY)
BP 2.1–2.9	Mon	9:30–12:15	H13	Computational Biophysics and Neuroscience
BP 3.1–3.10	Mon	9:30–12:30	H15	Cell Mechanics 1
BP 4.1–4.7	Mon	10:30–12:45	H16	Active Matter 1 (joint session BP/PPP/DY)
BP 5.1–5.7	Mon	15:00–17:30	H15	Focus Session: Super Resolution Microscopy and Dynamics of Supramolecular Complexes
BP 6.1–6.7	Mon	15:00–17:15	H16	Statistical Physics of Biological Systems 1 (joint session BP/DY)
BP 7.1–7.46	Mon	18:00–20:00	P1	Poster 1
BP 8.1–8.12	Tue	9:30–13:00	H15	Focus Session: Phase Separation in Biochemical Systems
BP 9.1–9.11	Tue	9:30–13:00	H16	Bioimaging
BP 10.1–10.9	Tue	10:00–12:30	H13	Cell Adhesion and Multicellular Systems
BP 11.1–11.11	Tue	10:00–13:00	H18	Active Matter 2 (joint session DY/BP/PPP)
BP 12.1–12.66	Tue	17:30–19:30	P4	Poster 2
BP 13.1–13.11	Wed	9:30–12:45	H15	Cytoskeleton

BP 14.1–14.10	Wed	9:30–12:30	H16	Active Matter 3 (joint session BP/CPP/DY)
BP 15.1–15.7	Wed	10:00–12:15	H13	Protein Structure and Single Molecules
BP 16.1–16.6	Wed	10:15–12:45	H11	Networks: From Topology to Dynamics (joint session SOE/BP/DY)
BP 17.1–17.7	Wed	15:00–17:00	H13	Membranes and Vesicles
BP 18.1–18.8	Wed	15:00–17:30	H15	Biomaterials (joint session BP/CPP)
BP 19.1–19.8	Wed	15:00–17:15	H16	Cell Mechanics 2
BP 20.1–20.9	Wed	15:00–17:30	H18	Active Matter 4 (joint session DY/BP/CPP)
BP 21	Wed	18:00–19:00	H15	Members' Assembly
BP 22.1–22.9	Thu	9:30–12:15	H15	Migration and Multicellular Systems
BP 23.1–23.3	Thu	10:00–10:45	H13	Evolution
BP 24.1–24.6	Thu	10:30–12:30	H16	Systems Biology, Gene Expression, Signalling
BP 25.1–25.4	Thu	11:00–12:00	H13	Bioinspired Systems
BP 26.1–26.8	Thu	15:00–17:30	H15	Focus Session: Bioinspired Systems
BP 27.1–27.6	Thu	15:00–16:30	H16	Statistical Physics of Biological Systems 2 (joint session BP/DY)
BP 28.1–28.6	Fri	9:30–11:15	H39	Biopolymers, Biomaterials and Bioinspired Functional Materials (joint session CPP/BP)
BP 29.1–29.11	Fri	10:00–12:45	H18	Active Matter 5 (joint session DY/BP/CPP)

Members' Assembly of the Biological Physics Division

Wednesday 18:00–19:00 H15

- Report
- Election
- Miscellaneous