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Fachverband Biologische Physik (BP)

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Overview of Invited Talks and Sessions

(Lecture halls BAR/SCHÖ, BAR/0205, and BAR/0106; Poster P2 and P5)

Invited Talks

BP 1.7	Mon	11:15–11:45	BAR/SCHÖ	**Modeling and inference of magnetotactic motility in complex environments** — •Stefan Klumpp
BP 3.1	Mon	9:30–10:00	BAR/0205	**The unreasonable effectiveness of computational models in biological patterning and morphogenesis** — •Michel Milinkovitch
BP 4.1	Mon	15:00–15:30	BAR/SCHÖ	**The Multi-faceted Role of Cholesterol in Cellular Membranes and Lipid Nanoparticles** — •Rainer Böckmann
BP 8.3	Mon	17:15–17:45	BAR/0106	**Constructing synthetic life-like vesicle systems by integration of artificial metabolic reaction networks** — •Laura Heinen
BP 9.1	Mon	16:45–17:15	BAR/0205	**Breaking the photobleaching limit in single-molecule FRET with nanophotonic DyeCycling.** — Benjamin Vermeer, Dong Hoon Shin, Alexander Vogel, Fabian Zundel, Sabina Caneva, •Sonja Schmid
BP 11.7	Tue	11:15–11:45	BAR/0106	**Physics of bacterial adhesion: heterogeneity, patchiness, and surface interactions** — •Karin Jacobs
BP 12.1	Tue	9:30–10:00	BAR/0205	**Tuning the Tracks: Functional Diversity Encoded in Microtubule Lattice States** — •Lukas Kapitein
BP 16.1	Wed	9:30–10:00	BAR/0205	**Illuminating mitochondrial permeabilisation in apoptosis** — •Ana J. Garcia Saez
BP 18.1	Wed	10:30–11:00	BAR/0106	**Protein complex structure prediction, state-of-the-art and challenges** — •Ezgi Karaca
BP 18.4	Wed	11:45–12:15	BAR/0106	**From Sparse Restraints to All-Atom Models: Integrative Reconstruction of Hidden GPCR Conformations** — •Matthias Elgeti
BP 20.4	Wed	15:45–16:15	BAR/0106	**Solution scattering and MD simulation as quantitative probes of protein-specific and temperature-dependent hydration** — •Jochen S Hub
BP 21.1	Wed	15:00–15:30	HÜL/S386	**Microbial Behavior in Context** — •Fernanda Pinheiro
BP 21.4	Wed	16:15–16:45	HÜL/S386	**The navigability of fitness landscapes shaped by global and universal epistasis** — •Joachim Krug
BP 26.7	Thu	11:15–11:45	BAR/SCHÖ	**Directed evolution of material-producing bacteria** — •André Studart
BP 27.1	Thu	9:30–10:00	BAR/0205	**Tissue interplay and the coordination of morphogenesis** — •Elias Barriga
BP 30.1	Thu	10:15–10:45	BAR/0106	**Mechanogenetics for Cell ImmunoTherapy** — •Yingxiao Wang
BP 30.4	Thu	11:30–12:00	BAR/0106	**Recent theoretical progress on sound-propelled microsystems** — •Raphael Wittkowski
BP 33.1	Thu	15:00–15:30	BAR/0205	**Expanding the Bag of Optical Tricks for (Neuro)Biology** — •Fabian F. Voigt
BP 36.1	Fri	9:30–10:00	BAR/SCHÖ	**Swimming in complex environments** — •Christina Kurzthaler

BP 41.1	Fri	11:30–12:00	BAR/0205	**Probing spatiotemportal electrochemical dynamics on single bacterial cells** — Anaïs Biquet-Bisquert, Baptiste Carrio, Nathan Meyer, Thales Fernandes, Manouk Abkarian, Farida Seduk, Axel Magalon, •Ashley Nord, Francesco Pedaci

Invited Talks of the joint Symposium SKM Dissertation Prize 2026 (SYSD)

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	9:30–10:00	HSZ/0002	**Stochastic-Calculus Approach to Non-equilibrium Statistical Physics** — •Cai Dieball
SYSD 1.2	Mon	10:00–10:30	HSZ/0002	**Nonuniform magnetic spin textures for sensing, storage and computing applications** — •Sabri Koraltan
SYSD 1.3	Mon	10:30–11:00	HSZ/0002	**Anomalous Quantum Oscillations beyond Onsager's Fermi Surface Paradigm** — •Valentin Leeb
SYSD 1.4	Mon	11:00–11:30	HSZ/0002	**Coherent Control Schemes for Semiconductor Quantum Systems** — •Eva Schöll
SYSD 1.5	Mon	11:30–12:00	HSZ/0002	**On stochastic thermodynamics under incomplete information: Thermodynamic inference from Markovian events** — •Jann van der Meer

Invited Talks of the joint Symposium The Sustainability Challenge: A Decade of Transformation (SYSC)

See SYSC for the full program of the symposium.

SYSC 1.1	Mon	15:00–15:30	HSZ/AUDI	**Open-Endedness and Community-Based Approaches to Sustainability Challenges** — •Hiroki Sayama
SYSC 1.2	Mon	15:30–16:00	HSZ/AUDI	**Education as a Social Tipping Element: Evidence from Climate and Physics Education Research** — •Thomas Schubatzky
SYSC 1.3	Mon	16:00–16:30	HSZ/AUDI	**Mechanistic and Material Perspectives on Enzymatic Hydrolysis of Semicrystalline Polyesters** — •Birte Höcker
SYSC 1.4	Mon	16:45–17:15	HSZ/AUDI	**Decarbonization Options for Industry** — •Uwe Riedel
SYSC 1.5	Mon	17:15–17:45	HSZ/AUDI	**Impacts of Cosmic Dust and Space Debris in the Terrestrial Atmosphere** — •John Plane

Invited Talks of the joint Symposium France: Soft, Active and Alive: Emergent Properties in Living Matter (SYGF)

See SYGF for the full program of the symposium.

SYGF 1.1	Wed	15:00–15:30	HSZ/AUDI	**Liquid crystal geometries in type I collagen-based tissues** — •Nadine Nassif
SYGF 1.2	Wed	15:30–16:00	HSZ/AUDI	**Self-organization of the cytoplasm by physical instabilities** — •Jan Brugues
SYGF 1.3	Wed	16:00–16:30	HSZ/AUDI	**From morphogenesis to space partitioning by microtubules and molecular motors.** — •Manuel Thery
SYGF 1.4	Wed	16:45–17:15	HSZ/AUDI	**More than the sum: how composite interfaces govern function** — •Alba Diz-Muñoz
SYGF 1.5	Wed	17:15–17:45	HSZ/AUDI	**Swimming and Swarming of Intelligent Active Particles** — Segun Goh, Priyanka Iyer, Rajendra Singh Negi, •Gerhard Gompper
SYGF 1.6	Wed	17:45–18:15	HSZ/AUDI	**Perturbing the collective motion of fish with challenging environments** — •Aurélie Dupont

Invited Talks of the joint Symposium AI and Data Challenges behind Emerging Self-Driving Laboratories (SYAI)

See SYAI for the full program of the symposium.

SYAI 1.1	Thu	9:30–10:00	HSZ/AUDI	**Data and Experimental Foundations for Reliable Self-Driving Laboratories** — •Dr. Marcus Tze-Kiat Ng

SYAI 1.2	Thu	10:00–10:30	HSZ/AUDI	**Digital Catalysis - AI for Experiment Planning and Control** — •Christoph Scheurer
SYAI 1.3	Thu	10:30–11:00	HSZ/AUDI	**Autonomous, Data-Driven Workflows for Materials Acceleration Platforms with pyiron** — •Jan Janssen, Joerg Neugebauer
SYAI 1.4	Thu	11:15–11:45	HSZ/AUDI	**Machine Learning for Autonomous Optimization and Discovery of Materials** — •Pascal Friederich
SYAI 1.5	Thu	11:45–12:15	HSZ/AUDI	**Transforming Our View on Transformers in the Sciences** — •Kevin Maik Jablonka

Sessions

BP 1.1–1.11	Mon	9:30–12:45	BAR/SCHÖ	**Active Matter I (joint session BP/CPP/DY)**
BP 2.1–2.12	Mon	9:30–12:45	BAR/0106	**Computational Biophysics I**
BP 3.1–3.11	Mon	9:30–12:45	BAR/0205	**Tissue Mechanics I**
BP 4.1–4.5	Mon	15:00–16:30	BAR/SCHÖ	**Computational Biophysics II**
BP 5.1–5.6	Mon	15:00–16:30	BAR/0205	**Membranes, Vesicles and Synthetic Life-like Systems I**
BP 6.1–6.12	Mon	15:00–18:30	ZEU/0160	**Active Matter II (joint session DY/BP/CPP)**
BP 7.1–7.56	Mon	15:00–17:00	P5	**Poster Session I**
BP 8.1–8.6	Mon	16:45–18:30	BAR/0106	**Systems and Networks Biophysics**
BP 9.1–9.6	Mon	16:45–18:30	BAR/0205	**Single Molecule Biophysics**
BP 10.1–10.12	Tue	9:30–12:45	BAR/SCHÖ	**Active Matter III (joint session BP/CPP/DY)**
BP 11.1–11.11	Tue	9:30–12:45	BAR/0106	**Franco-German Session: Bacterial Biophysics I**
BP 12.1–12.11	Tue	9:30–12:45	BAR/0205	**Cytoskeleton I**
BP 13.1–13.5	Tue	14:00–15:30	ZEU/0160	**Active Matter IV (joint session DY/BP/CPP)**
BP 14.1–14.96	Tue	18:00–21:00	P2	**Poster Session II**
BP 15.1–15.11	Wed	9:30–12:45	BAR/SCHÖ	**Computational Biophysics III**
BP 16.1–16.11	Wed	9:30–12:45	BAR/0205	**Membranes, Vesicles and Synthetic Life-like Systems II**
BP 17.1–17.12	Wed	9:30–12:45	ZEU/0114	**Statistical Physics of Biological Systems I (joint session DY/BP)**
BP 18.1–18.6	Wed	10:30–12:45	BAR/0106	**Focus session: Integrative Structural Modeling**
BP 19.1–19.1	Wed	11:45–12:45	ZEU/LICH	**Round Table Discussion: The Future of Neutrons in France and Germany (joint session CPP/BP)**
BP 20.1–20.9	Wed	15:00–17:45	BAR/0106	**Protein Structure and Dynamics**
BP 21.1–21.7	Wed	15:00–17:30	HÜL/S386	**Focus Session: Sequence Spaces, Populations and Evolution**
BP 22.1–22.5	Wed	15:00–16:30	ZEU/0114	**Statistical Physics of Biological Systems II (joint session DY/BP)**
BP 23.1–23.6	Wed	15:00–16:45	ZEU/0255	**Biopolymers, Biomaterials and Bioinspired Functional Materials I (joint session CPP/BP)**
BP 24.1–24.7	Wed	17:00–18:45	ZEU/0255	**Biopolymers, Biomaterials and Bioinspired Functional Materials II (joint session CPP/BP)**
BP 25	Wed	18:30–20:00	BAR/0205	**Members' Assembly**
BP 26.1–26.11	Thu	9:30–12:45	BAR/SCHÖ	**Biomaterials and Biopolymers (joint session BP/CPP)**
BP 27.1–27.11	Thu	9:30–12:45	BAR/0205	**Cell Mechanics I**
BP 28.1–28.11	Thu	9:30–12:45	ZEU/0160	**Active Matter V (joint session DY/BP)**
BP 29.1–29.6	Thu	9:30–11:15	ZEU/0260	**Focus Session: Theoretical Modeling and Simulation of Biomolecular Condensates I (joint session CPP/BP)**
BP 30.1–30.7	Thu	10:15–12:45	BAR/0106	**Focus Session: Controlling Microparticles and Biological Cells by Ultrasound (joint session BP/CPP/DY)**
BP 31.1–31.5	Thu	11:30–12:45	ZEU/0260	**Focus Session: Theoretical Modeling and Simulation of Biomolecular Condensates II (joint session CPP/BP)**
BP 32.1–32.12	Thu	15:00–18:15	BAR/SCHÖ	**Statistical Physics of Biological Systems III (joint session BP/DY)**
BP 33.1–33.12	Thu	15:00–18:30	BAR/0205	**Bioimaging**
BP 34.1–34.8	Thu	15:00–18:00	ZEU/0160	**Focus Session: Emergent Transport in Active Systems (joint session DY/BP)**
BP 35.1–35.5	Thu	15:15–17:45	ZEU/LICH	**Focus Session: 75 Years Division Polymer Physics: From Curiosity to Smart Materials (joint session CPP/BP)**
BP 36.1–36.11	Fri	9:30–12:45	BAR/SCHÖ	**Statistical Physics of Biological Systems IV (joint session BP/DY)**

BP 37.1–37.12	Fri	9:30–12:45	BAR/0106	**Tissue Mechanics II**
BP 38.1–38.9	Fri	9:30–12:15	ZEU/0160	**Active Matter VI (joint session DY/BP)**
BP 39.1–39.6	Fri	9:30–11:15	ZEU/0260	**Focus Session: Theoretical Modeling and Simulation of Biomolecular Condensates III (joint session CPP/BP)**
BP 40.1–40.5	Fri	10:00–11:15	BAR/0205	**Cell Mechanics II / Cytoskeleton II**
BP 41.1–41.4	Fri	11:30–12:45	BAR/0205	**Franco-German Session: Bacterial Biophysics II**
BP 42.1–42.1	Fri	13:15–14:00	HSZ/0002	**Closing Talk (joint session CPP/BP/DY)**

Members' Assembly of the Biological Physics Division

Wednesday 18:30–20:00 BAR/0205

- Report
- Elections
- Miscellaneous