

# 3rd Biology for Physics Conference

## Schedule

This PDF is a programme overview and may contain outdated information. Please refer to the Detailed Programme page for the latest updates.

### Sunday, 6 September, 2026

|             |                                              |
|-------------|----------------------------------------------|
| 18:00-20:00 | <a href="#">Registration</a>                 |
| 20:00-20:45 | <a href="#">Invited talk - Jens Gundlach</a> |

### Monday, 7 September, 2026

|             |                                                                                                                                          |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 08:50-09:00 | <a href="#">Welcome</a>                                                                                                                  |
| 09:00-09:30 | <a href="#">Invited Talk: Precision in a rush: temporal aspects of decision making - Aleksandra Walczak</a>                              |
| 09:30-10:00 | <a href="#">Invited Talk - Massimo Vergassola</a>                                                                                        |
| 10:00-10:30 | <a href="#">Invited Talk - Simona Cocco</a>                                                                                              |
| 10:30-11:10 | <a href="#">Coffee break</a>                                                                                                             |
| 11:10-11:30 | <a href="#">Nonreciprocal Hopfield Nets for Cell Differentiation: Beyond the Waddington Landscape - Jordi Pinero</a>                     |
| 11:30-11:50 | <a href="#">Neuromechanics of peristalsis - Sifan Yin</a>                                                                                |
| 11:50-12:10 | <a href="#">The information encoded in water entropy controls protein sequestration into a biomolecular condensate- Giancarlo Franze</a> |
| 12:10-12:30 | <a href="#">Long-range transport of biomolecular condensates by Marangoni effect - Zhi Qi</a>                                            |
| 12:30-14:00 | <a href="#">Lunch Break</a>                                                                                                              |
| 14:00-14:30 | <a href="#">Invited talk: RNA self assembly from biological machines to disordered condensates - Sarah Woodson</a>                       |
| 14:30-15:00 | <a href="#">Invited talk: Non-equilibrium stabilization of unstable proteins - Paolo de los Rios</a>                                     |
| 15:00-15:30 | <a href="#">Invited talk: Learning Many-Body Interactions from Biological Data - Beatriz Seoane</a>                                      |

15:30-16:10  
[Coffee break](#)

16:10-16:30  
[The protein quake as a time-respecting random walk, and an emergent arrow of time in a biomolecular network](#) - Ali Ana Atilgan

16:30-16:50  
[Beyond Net Charge: Side-Chain Identity as a Critical Regulator of Intrinsically Disordered Protein Ensembles](#)- Roy Beck

16:50-17:10  
[A cascade of self-assembly and phase transitions as a route to the first nucleic acids](#)- Tommaso Bellini

17:15-18:00  
[Industrial talks](#)

18:00-19:30  
[1st Poster session](#)

Tuesday, 8 September, 2026

09:00-09:30  
[Invited Talk: An active DNA segregation module for synthetic cells](#) - Marileen Dogterom

09:30-10:00  
[Invited talk](#) - Anna Erzberger

10:00-10:30  
[Invited talk: Inheritance Entropy: A New Method to Probe the Hereditary Structure of Cell Lineage Trees](#) - Irene Giardina

10:30-11:10  
[Coffee break](#)

11:10-11:30  
[Nuclear packing in a developing epithelium](#) - Fernando Casares

11:30-11:50  
[Nuclear Geometry Predicts the Spatial Patterning of Envelope Tension and Nuclear Pore Complex Conformation](#)- Fernando Casares

11:50-12:10  
[Injury-induced electrochemical coupling triggers organ growth](#) - Jinghui Liu

12:10-12:30  
[Ensemble Theory of Active Fluctuations](#) - Roman Belousov

12:30-14:00  
[Lunch Break](#)

14:00-14:30  
[Invited talk](#) - Thomas Lecuit

14:30-15:00

[Invited talk - James Sharpe](#)

15:00-15:40

[Coffee break](#)

15:40-16:00

[Colony-to-cell feedback patterns phenotypes in bacterial biofilms-Joseph Larkin](#)

16:00-16:20

[How to detect Molecular Motor Activity through Chromatin Tracking- Manoel Manghi](#)

16:20-16:40

[Capillary aggregation and surface waves in bacterial colonies - Ricard Alert](#)

16:45-18:15

[2nd Poster session](#)

18:30-19:00

[Emmy Noether Distinction - Aleksandra Radenovic](#)

20:30-23:00

[Conference dinner](#)

Wednesday, 9 September, 2026

09:00-09:30

[Invited Talk: Model-free lower bounds on entropy production - Udo Seifert](#)

09:30-10:00

[Invited Talk : Thermodynamic probes of life - Edgar Roldan](#)

10:00-10:30

[Invited Talk: Why Life is Hot - Tanja Schilling](#)

10:30-11:10

[Coffee break](#)

11:10-11:30

[The metabolic paradigm of cell differentiation - CANCELLED TALK- Andras Paldi](#)

11:30-11:50

[Control of active field theories at minimal dissipation - Artur Soriani](#)

11:50-12:10

[Efficient irreversibility quantification by categorization of stochastic single-molecule displacements - Stefano Bo](#)

12:10-12:30

[Self-sustained oscillations link spontaneous and information processes in the barrel cortex - Samir Suweis](#)

|             |                                                                                                                                                           |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12:30-14:00 | <a href="#"><u>Lunch Break</u></a>                                                                                                                        |
| 14:00-14:30 | <a href="#"><u>Invited talk - Frank Jülicher</u></a>                                                                                                      |
| 14:30-15:00 | <a href="#"><u>Invited talk: Stochastic Force Inference: learning the dynamics of biological matter - Pierre Ronceray</u></a>                             |
| 15:00-15:30 | <a href="#"><u>Invited talk: Thermodynamics of collective behavior - Nikhta Fakhri</u></a>                                                                |
| 15:30-16:10 | <a href="#"><u>Coffee break</u></a>                                                                                                                       |
| 16:10-16:30 | <a href="#"><u>Mitochondrial flux-force relations and power-efficiency tradeoff in living cells - Xingbo Yang</u></a>                                     |
| 16:30-16:50 | <a href="#"><u>Illuminating non-trivial bacterial electrophysiology dynamics with a genetically encoded voltage indicator BacLai- Munehiro Assaly</u></a> |
| 16:50-17:10 | <a href="#"><u>Cluster Assembly Dynamics Drive Fidelity of Planar Cell Polarity Polarization - Sila Boye Nissen</u></a>                                   |
| 17:10-17:30 | <a href="#"><u>Information-Geometric Selection in T-Cell Receptor Cascades: How Noise Shapes Ligand Discrimination - Mario Castro</u></a>                 |
| 17:30-19:30 | <a href="#"><u>3rd Poster session</u></a>                                                                                                                 |

Thursday, 10 September, 2026

|             |                                                                                                                                                 |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 09:00-09:30 | <a href="#"><u>Invited Talk: Nonequilibrium thermodynamics in biochemical networks: Towards answering Schrödinger’s question - Yuhai Tu</u></a> |
| 09:30-10:00 | <a href="#"><u>Invited talk - Roberto di Leonardo</u></a>                                                                                       |
| 10:00-10:30 | <a href="#"><u>Invited Talk : Hopfield barriers - Jeremy Gunawardena</u></a>                                                                    |
| 10:30-11:10 | <a href="#"><u>Coffee break</u></a>                                                                                                             |
| 11:10-11:30 | <a href="#"><u>Synthetic Biological Circuits for Cellular Inference - Ramez Daniel</u></a>                                                      |
| 11:30-11:50 | <a href="#"><u>Entropy Production in Adaptive Biological Networks - Tuan Pham</u></a>                                                           |

11:55-12:30

EPS Young Minds & Poster prize event

12:30-13:30

Closure ceremony & Invited talk: Energy and Information in Thermodynamics and Beyond - Chris Jarzynski