# Symposium AI in (Bio-)Physics (SYAI)

jointly organised by
the Biological Physics Division (BP),
the Chemical and Polymer Physics Division (CPP),
the Dynamics and Statistical Physics Division (DY), and
the Physics of Socio-economic Systems Division (SOE)

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Artificial intelligence is revolutionizing scientific research, including the study of biophysical systems. The symposium will explore how AI and machine learning can enhance biophysics research, with applications ranging from predictive modeling of biomolecular interactions and high-throughput data analysis to the development of machine-learned force fields and artificial scientific discovery. The goal of this symposium is to create a dynamic forum for scientific exchange in this rapidly developing field, providing novices with a valuable head start while helping experts stay at the forefront of cutting-edge developments. The conceptual nature of AI-powered research approaches will make the discussed topics highly relevant to a broad audience.

## Overview of Invited Talks and Sessions

(Lecture hall H1)

### Invited Talks

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| SYAI 1.1 | Thu | 9:30–10:00 | H1 | **Predicting interaction partners and generating new protein sequences using protein language models** — •Anne-Florence Bitbol |
| SYAI 1.2 | Thu | 10:00–10:30 | H1 | **Realizing Schrödinger's dream with AI-enabled molecular dynamics** — •Alexandre Tkatchenko |
| SYAI 1.3 | Thu | 10:30–11:00 | H1 | **Emergent behavior of artificial intelligence** — •Steffen Rulands |
| SYAI 1.4 | Thu | 11:15–11:45 | H1 | **AI in medical research - navigating complexity with AI** — •Daniel Truhn |
| SYAI 1.5 | Thu | 11:45–12:15 | H1 | **Computational Modelling of Morphogenesis** — •Dagmar Iber |

### Sessions

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| SYAI 1.1–1.5 | Thu | 9:30–12:15 | H1 | **AI in (Bio-)Physics** |