



University of Stuttgart
Institute for Computational Physics

Simulating soft matter across scales

CECAM Flagship School
October 7-11, 2024, Stuttgart, Germany

This school teaches coarse-grained and lattice-based simulations methods to model soft matter systems at different length- and time-scales using the software ESPResSo and waLBerla.

After an introduction to particle-based simulations and the software interface, we will explore the lattice-Boltzmann method for hydrodynamic interactions, machine-learned effective potentials, coarse-grained ionic liquids, polymers, and electrokinetics and catalysis with diffusion-advection-reaction solvers.

Lectures are followed by hands-on sessions tutored by developers of the software. Hence, users can get advice on their specific simulation projects.

Research talks will illustrate practical applications of the simulation software and provide further background in the field of multiscale simulations.

Attendance is free of charge. To apply and submit a poster abstract, follow the registration link below and write a short motivation + CV.

Invited speakers:

Timm Krüger, University of Edinburgh (United Kingdom)

Tristan Bereau, University Heidelberg (Germany)

Christine Peter, University of Konstanz (Germany)

Frederik Hennig, University of Erlangen–Nuremberg (Germany)

Matej Praprotnik, National Institute of Chemistry (Slovenia)

Pablo M. Blanco, Norwegian University of Science and Technology (Norway)

Registration link: <https://www.cecarn.org/workshop-details/1324>

