

Combining particle-based and continuum modelling in soft matter physics with ESPResSo, PyStencils, and LbmPy

	Monday	Tuesday	Wednesday	Thursday	Friday
9:00	Lecture: Introduction to particle-based simulations	Lecture: Lattice-Boltzmann and particle coupling	Lecture: WaLBerla: Overview and examples	Lecture: Active matter	Lecture: Reaction methods
10:00	Lecture: ESPResSo features		Lecture: Automated code generation for stencil methods using PyStencils		
11:00	Lecture: Charged soft matter and electrostatic interactions	Hands-on session: Lattice-Boltzmann simulation	Hands-on session: Diffusion advection equation using PyStencils	Lecture: Blood cell modelling	Hands-on session: The constant-pH method
12:00					
13:00					
14:00	Hands-on session: Lennard-Jones fluid	Hands-on session: Lattice-Boltzmann simulation (continued)	Lecture: Automated code gen. for LB using LbmPy	Hands-on session: Active matter and blood cell modelling	
15:00					
16:00	Talk: Friederike Schmid (University of Mainz)	Lecture: Electrokinetics and reactions	Talk: Jens Harting (Erlangen-Nuremberg)		
17:00	Social event	Talk: Marjolein Dijkstra (Utrecht University)	Lecture: Lattice methods in ESPResSo	Talk: ICP researcher	

Tentative schedule for the CECAM Flagship School ESPResSo, October 11-15 2021, Central European Summer Time (UTC+2 hours).