		Monday		Tuesday		Wednesday		Thursday		Friday	
		Lecture	Content	**Lecture**	Content	**Lecture**	Content	**Lecture**	Content	**Lecture**	Content
09:00	09:15	Registration		**HPCFD04: Finite Volumes**	Basic Idea, Riemann Problem, Flux Functions, Properties	**HPCFD05: Finite Element Method and Incompressible Flows**	Presentation of the fundamentals of Finite Elements for Fluid Mechanics, Properties and Methods for Incompressible flows	**HPCFD07: Turbulence**	- Property and models; DNS, LES, RANS (k-eps) - lambda criterion	**HPCFD08: Parallelization**	MPI/OpenMP Hardware
09:15	09:30										
09:30	09:45	**HPCFD01: Introduction**	Basic equations, Flow regimes								
09:45	10:00										
10:00	10:15										
10:15	10:30										
10:30	10:45										
10:45	11:00	**HPCFD02: Compressible Flows**	Mach, Re, regime								
11:00	11:15										
11:15	11:30			**HPCFD06: Higher Order**	Reconstruction for Finite Volumes, Discontinuous Galerkin			**Lattice-Boltzmann Method (HPCFD11)**	- cut-cells (FV) - LB-q-Val - penalty-term (DG/FEM) - deformed elements (OF)	**HPCFD09: Parallelization**	Access to systems
11:30	11:45										
11:45	12:00										
12:00	12:15	**Exercise X1: Introduction on HPC system**	Modules, Batchsystem							**HPCFD10: Parallelization**	I/O
12:15	12:30										
12:30	12:45										
12:45	13:00										
13:00	13:15	Mittagspause									
13:15	13:30										
13:30	13:45										
13:45	14:00										
14:00	14:15	**Exercise X2: Using Ateles**	Running Simulations with Ateles on the Cluster	**HPCFDX2: Introduction on Visualization**	Making use of Paraview	**HPCFDX7: DG in Ateles**	Simulations on the effect of scheme order	**Exercise: Musubi for LBM simulations**	Running Musubi on the cluster	**Exercise X9: Performance Assessment for Ateles**	Characterization of mesh-based solvers like Ateles
14:15	14:30										
14:30	14:45										
14:45	15:00										
15:00	15:15										
15:15	15:30										
15:30	15:45	**HPCFD03: Numerics of PDEs, Finite Differences**	Classification and Properties of relevant PDEs	**Exercise X3, X4: Flux function and Riemann problem, Gasdynamics**	Using different Fluxes for Shocks, Post-Processing results	**Exercise X4, X5: Mesh generation, Simulation setup with varying order**	Generating Meshes and running Jet simulations with different orders	**Exercise X8: Post-processing the results of the Jet simulation**	Looking into the simulations, with respect to the effect of the different discretizations		
15:45	16:00										
16:00	16:15										
16:15	16:30										
16:30	16:45										
16:45	17:00										
17:00	17:15										
17:15	17:30										