

# An Introduction to HPC at the University Oldenburg

September 20 – 22, 2021 from 10:00 to 17:00 as online workshop

given by Wilke Trei (Forwind) and Stefan Harfst (Scientific Computing)

Time	Monday	Tuesday	Wednesday
10:15 – 11:15	Introduction to HPC (SH) <ul style="list-style-type: none"><li>• Motivation</li><li>• Architectures</li><li>• Overview CARL and EDDY</li></ul>	Introduction to Parallel Programming (WT) <ul style="list-style-type: none"><li>• Overview over parallel models</li><li>• Parallel Programming with OpenMP</li></ul>	Introduction to Matlab on the local HPC-System (SH) <ul style="list-style-type: none"><li>• Setting up the Client</li><li>• Job submission</li></ul>
11:15 – 11:30			
11:30 – 13:00	Basic Usage of the HPC Cluster (WT) <ul style="list-style-type: none"><li>• Job Scheduler SLURM</li><li>• Basic Use of SLURM</li><li>• Exercise SLURM</li></ul>	Parallel Programming with OpenMP (WT) <ul style="list-style-type: none"><li>• Examples and Exercises</li></ul>	Parallel Programming in Matlab (SH) <ul style="list-style-type: none"><li>• Parfor</li><li>• Examples</li></ul>
13:00 – 13:45			
13:45 – 15:15	HPC Environment (SH) <ul style="list-style-type: none"><li>• File Systems</li><li>• Software and Modules</li><li>• Compiler and Toolchains</li><li>• Examples and Exercises</li></ul>	Parallel Programming with OpenMP (SH) <ul style="list-style-type: none"><li>• Examples and Exercises</li></ul>	Parallel Programming in Matlab (SH) <ul style="list-style-type: none"><li>• SPMD</li><li>• Examples</li></ul>
15:15 – 15:30			
15:30 – 17:00	Advanced SLURM (SH) <ul style="list-style-type: none"><li>• Job Arrays</li><li>• Examples and Exercises</li></ul>	Performance Optimization (SH) <ul style="list-style-type: none"><li>• Examples and Exercises</li></ul>	