Workshop
"Optimal approximation spaces for multiscale problems"

February 23 - 27, 2026

organized by
Moritz Hauck and Johan Wärnegård

Time measurement: CET

- **Monday, February 23**

08:30 - 09:00	*Arrival and Self-Registration*
09:00 - 09:10	*Welcome by HIM Director Stefan Müller*
09:10 - 10:00	**Lucia Swoboda** *Variational Analysis of Nonlinear Cosserat Beam Networks for Fiber-Based Materials*
10:00 - 10:45	*Coffee break*
10:45 - 11:30	**Joseph Holten** *Domain Decomposition Methods for Elastic Wave Propagation*
11:30 - 14:30	*Lunch break*
14:30 - 15:30	**Florian Schaefer** *Toward Information Geometric Mechanics*
15:30 - 16:00	*Coffee break*
16:00 - 17:00	**Axel Målqvist** *Numerical simulation of beam network models*
from 17:15 on	*Get-Together*

- **Tuesday, February 24**

09:00 - 10:00	**Peter Bastian** *Practical aspects of some spectral domain decomposition methods*
10:00 - 10:45	*Coffee break*
10:45 - 11:30	**Charles Beall** *A randomized Greedy algorithm with certification over the entire parameter set*
11:30 - 14:30	*Group Photo and Lunch break*
14:30 - 15:15	**Maher Khrais** *Adaptive Iterative Numerical Homogenization for Quasilinear Nonmonotone Elliptic PDE*
15:15 - 16:00	*Coffee break*
16:00 - 16:45	**Malin Mosquera** *A Localised Orthogonal Decomposition Method for Hetergeneous Mixed-Dimensional Problems*

- **Wednesday, February 25**

09:00 - 10:00	**Daniel Peterseim** *Metric-Driven Numerical Methods for Variational Eigenvalue Problems*
10:00 - 10:45	*Coffee break*
10:45 - 11:45	**Christian Döding** *Resolving Vortex Lattices in Type-II Superconductors with Multiscale Techniques*
11:45 - 14:30	*Lunch break*
14:30 - 15:15	**Dilini Kolombage** *Subspace Decomposition Preconditioning with Offline-Online Approximation for Random Defect Models*
15:15 - 16:00	*Coffee break*
18:30	Workshop dinner at Brauhaus Bönnsch

- **Thursday, February 26**

09:00 - 10:00	**Alexei Lozinski** *Higher order MsFEM for Stokes equations on a perforated domain*
10:00 - 10:45	*Coffee break*
10:45 - 11:30	**Christian Alber** *Grassmannian Interpolation of Parametric Local Approximation Spaces*
11:30 - 14:30	*Lunch break*
14:30 - 15:15	**Felix Krumbiegel** *An enriched higher-order numerical homogenization method for acoustic waves*
15:15 - 16:00	*Coffee break*
16:00 - 17:00	**Johannes Storn** *Randomized Projection Operators onto Piecewise Polynomial Spaces*

- **Friday, February 27**

09:00 - 10:00	**Johannes Kraus** *Parameter-robust multilevel block factorization preconditioners based on domain decomposition*
10:00 - 10:45	*Coffee break*
10:45 - 11:30	**Sara Avesani** *Multiscale scattered data interpolation in samplet coordinates*