Scope of the Workshop

This is the 3rd Workshop of the Activity group on Uncertainty Quantification which coordinates UQ-related activities within GAMM.

It features invited talks on theory and application of uncertainty quantification methods, a poster session, a hands-on tutorial session for variance and semivariogram estimation with R, keynote presentations on stochastic modelling of uncertainty, stochastic homogenisation, and the junction of UQ and lattice QFT, as well as AGUQ business meeting.

Venue of the workshop

Campus North of the TU Dortmund

accessible via S-Bahn Stop *Dortmund Universität*

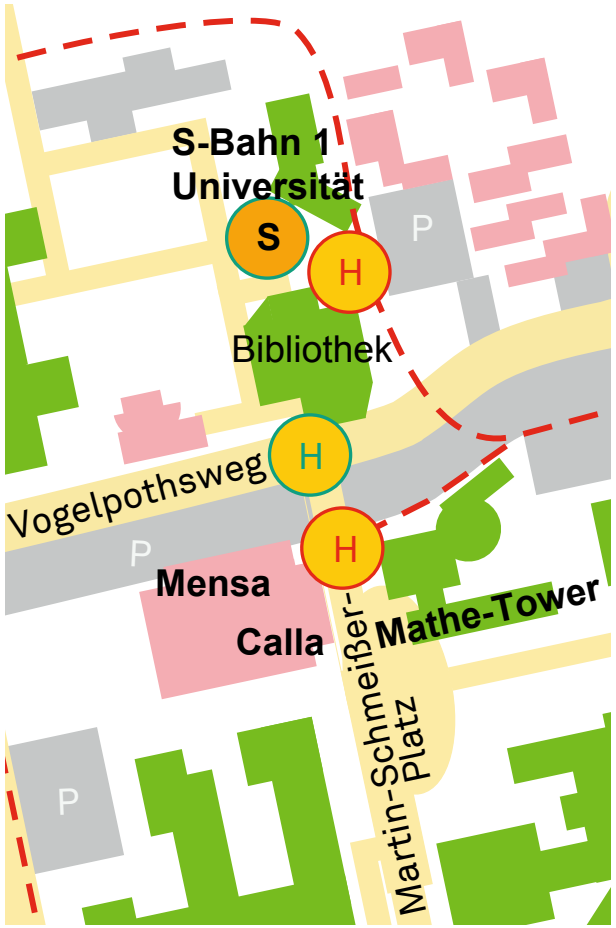
Mathematics-Tower (tallest building on Campus)

Lecture hall: E19 on the ground floor

Registration, coffee breaks, GAMM Business: room E23

R-Tutorial: CIP-pool in room M946 - M948 (9th floor of the same building)

Map



orange: Stop of S-Bahn 1

pink: Calla Restaurant and Main Mensa

green: Mathematics tower
where the Workshop takes place

3rd GAMM AGUQ Workshop on Uncertainty Quantification

12th - 14th March 2018

technische universität dortmund

organized by
Oliver Ernst, Hanno Gottschalk and Ivan Veselić

Monday

9.00 - 10.00 Registration & poster mounting

10.00 - 10.15 **Opening**

10.15 - 11.00 **Fabio Nobile**:
Multi-level and multi-index Monte Carlo methods in Uncertainty Quantification

11.00 - 11.30 Coffee break

11.30 - 12.15 **Tim Sullivan**:
Bayesian Probabilistic Numerical Methods

12.15 - 13.30 Lunch break

13.30 - 14.00 **Poster session**

14.00 - 14.30 Coffee break & poster discussion

14.30 - 15.15 **Michael Günther**:
Lattice Quantumchromodynamics: A mathematical perspective

15.30 - 16.15 **Andreas Frommer**:
Multigrid methods for linear systems with stochastic entries arising in lattice QCD

16.30 - 17.00 **Peter Zaspel**: *Scalable solvers for meshless methods on many-core clusters*

17.15 - 18.15 **GAMM Business Meeting**

Tuesday

10.00 - 10.45 **Felix Otto**: *Characterization of fluctuations in stochastic homogenization*

10.45 - 11.15 Coffee break

11.15 - 12.00 **Jean-Christoph Mourrat**:
Quantitative stochastic homogenization, theory and practice

12.00 - 13.30 Lunch break

13.30 - 14.15 **Peter Stollmann**:
Quantum dynamics for random models: What, why and how

14.30 - 15.15 **Katja Ickstadt**:
Prediction for Stochastic Growth Processes in Fatigue Experiments

15.15 - 15.45 Coffee break

15.45 - 16.15 **Björn Sprungk**:
Metropolis-Hastings algorithms for Bayesian inverse problems in Hilbert spaces

16.30 - 17.00 **Helmut Harbrecht**:
Shape optimization for quadratic functionals and states with random right-hand sides

17.15 - 19.15 **Tutorial/Lab with R**

Wednesday

10.00 - 10.45 **Paul Dupuis**:
Methods for Model Approximation and Optimization in the Presence of Model Uncertainty Using Information Divergences

10.45 - 11.15 Coffee break

11.15 - 11.45 **Alois Pichler**: *Risk measures: their role in quantifying uncertainty*

12.00 - 12.30 **Alexey Chernov**:
Estimation of probability density functions by the Maximum Entropy method

12.30 - 14.00 Lunch break