

8.15–8.45 **Registration**

8.45–9.00 **Address of Welcome**

9.00–10.20 **Session**

Chair: Pflüger

1. **A Sparse-Grid-Based Out-of-Sample Extension for Dimensionality Reduction and Clustering with Laplacian Eigenmaps** – *Benjamin Peherstorfer*
2. **An Investigation of Sparse Grid Interpolation in the Context of Reduced Order Models** – *Daniel Butnaru and Benjamin Peherstorfer*

10.20–11.00 **Coffee Break**

11.00–12.20 **Session**

Chair: Pflüger

1. **Expected Value Estimation in Financial Derivative Pricing with Sparse Grids** – *Janos Benk and Alexander Heinecke*
2. **A Cache-Aware and Vectorized Up-Down Implementation supporting Spatially Adaptive Sparse Grids** – *Alexander Heinecke*

12.20–13.30 **Lunch**

13.30–14.30 **Invited Talk**

Chair: Hegland

1. **Sparse Ideas on Sparse Grids Revisited** – *Christoph Zenger*

14.30–15.10 **Coffee Break**

15.10–16.30 **Session**

Chair: Hegland

1. **The adaptive wavelet-Galerkin method using tensor product wavelets** – *Rob Stevenson and Sebastian Kestler*
2. **Generalized sparse grid generating systems with the optimal diagonal scaling by means of Linear Programming** – *Alexander Hullmann*

9.00–10.20 **Session**

Chair: Garcke

1. **Adaptive Sparse Grids and Multilevel Monte Carlo** – *Thomas Gerstner and Stefan Heinz*
2. **Numerical Integration used for inference in state-space models** – *Constantin Weiser*

10.20–11.00 **Coffee Break**

11.00–12.20 **Session**

Chair: Garcke

1. **Efficient Regular Sparse Grid Hierarchization by a Dynamic Memory Layout** – *Riko Jacob*
2. **Efficient Pseudo-Recursive Evaluation Schemes for Non-Adaptive Sparse Grids** – *Gerrit Buse*

12.20–13.30 **Lunch**

13.30–14.30 **Invited Talk**

Chair: Hamaekers

1. **Approximation of two-variate functions: singular value decomposition versus sparse grids** – *Michael Griebel and Helmut Harbrecht*

14.30–15.10 **Coffee Break**

15.10–16.30 **Session**

Chair: Hamaekers

1. **Breaking the Curse of Dimension for the Electronic Schrödinger Equation with Functional Analysis** – *Paul Ayers*
2. **Sparse Spectral-Galerkin Methods for High-Dimensional PDEs and Applications to the electronic Schrodinger equation** – *Jie Shen*

9.00–10.20 **Session**

Chair: Stevenson

1. **Sparse grids for the electronic Schrödinger equation** – *Jan Hamaekers*
2. **Multidimensional Quadrature Approaches for Solving the Electronic Schrödinger Equation** – *James S. M. Anderson and Paul W. Ayers*

10.20–11.00 **Coffee Break**

11.00–12.20 **Session**

Chair: Stevenson

1. **n -Widths and ε -dimensions for high-dimensional sparse approximations** – *Dinh Dung and Tino Ullrich*
2. **Sparse space-time Galerkin BEM for the nonstationary heat equation** – *Alexey Chernov and Christoph Schwab*

12.20–13.30 **Lunch**

14.30–17.00 **Guided city tour @ Marienplatz**

17.30–19.00 **Tour of brewery @ Nockherberg**

19.00–22.00 **Conference dinner @ Brewery Nockherberg**

9.00–10.20 **Session**

Chair: Reisinger

1. **SG^{++} – Software for Spatially Adaptive Sparse Grids** – Dirk Pflüger
2. **Multi-GPU fluid simulations on sparse grids** – Peter Zaspel and Michael Griebel

10.20–11.00 **Coffee Break**

11.00–12.20 **Session**

Chair: Reisinger

1. **Modified applications of the combination technique in density estimation** – Matthias Wong
2. **An Opticom Method for Computing Eigenpairs** – Christoph Kowitz and Markus Hegland

12.20–13.30 **Lunch**

13.30–14.30 **Invited Talk**

Chair: Harbrecht

1. **The sparse grid combination technique for quasi-linear PDEs** – Christoph Reisinger

14.30–15.10 **Session**

Chair: Harbrecht

1. **Analysis and Application of Stochastic Collocation on Sparse Grids** – Bettina Schieche and Jens Lang

15.10–15.50 **Coffee Break**

15.50–17.10 **Session**

Chair: Harbrecht

1. **A hierarchical adaptive sparse grid stochastic wavelet collocation method for PDEs with random input data** – Clayton Webster, Max Gunzburger and Guannan Zhang
2. **Stochastic collocation for a groundwater problem** – Björn Sprungk and Oliver Ernst

9.00–10.20 **Session**

Chair: Gerstner

1. **Using Hyperbolic Cross Approximation to measure and compensate Covariate Shift** – *Jochen Garcke and Thomas Vanck*
2. **Principal manifold learning with a dimension-adaptive sparse grid discretization** – *Bastian Bohn and Michael Griebel*

10.20–11.00 **Coffee Break**

11.00–12.20 **Session**

Chair: Gerstner

1. **Distributed data-mining with sparse grids using alternating direction method of multipliers** – *Valeriy Khakhutskyy*
2. **Robust solutions to hyperbolic PDE's with multiple grids** – *Brendan Harding and Markus Hegland*

12.20–13.30 **Lunch**

13.30–15.30 **Session**

Chair: Hegland

1. **Goal Orientated Adaptivity for Quantifying Uncertainty in Computationally Intensive Models** – *John Jakeman*
2. **Dimension-adaptive Sparse Grid Quadrature for Integrals with Boundary Singularities** – *Michael Griebel and Jens Oettershagen*
3. **Generated sets vs. sparse grids as sampling schemes for hyperbolic cross trigonometric polynomials** – *Lutz Kämmerer*