Tentative Programme of the Evaluation Colloquium SPP 1324

Monday, April 21

8:15 – 9:00	Internal Meeting of Reviewers
9:00 – 9:15	Opening
9:15 – 9:30	**Eberlein (Freiburg)**, Credit data mining and portfolio models
9:30 – 9:45	**Hackbusch (Leipzig) / Schneider (Berlin)**, Tensor methods in multi-dimensional spectral problems with particular application in electronic structure calculations
9:45 – 10:00	**Yserentant (Berlin)**, Regularity, complexity, and approximability of electronic wavefunctions
10:00 – 10:15	**Voigt (Dresden)**, Molecular dynamics, density functional theory, phase field modeling, computational material science, sparse spectral methods
10:15 – 10:30	**Hermann (Dresden) / Ohser (Darmstadt)**, Modeling and simulation of complex metallic glasses – prediction of new materials with improved properties
10:30 – 11:00	Coffee Break
11:00 – 11:15	**Lubich (Tübingen)**, Numerical methods in quantum dynamics
11:15 – 11:30	**Bebendorf (Leipzig) / Frey (Leipzig) / Schmidt (Leipzig)**, Efficient numerical solution of high-dimensional PIDEs in finance
11:30 – 11:45	**Gerstner (Bonn)**, Model-adaptive numerical simulation in computational finance and insurance
11.45 – 12:00	**Bender (Braunschweig) / Bollhöfer (Braunschweig)**, Validating numerical solutions of high-dimensional backward SDEs arising from finance
12:00 – 13:15	Lunch
13:15 – 13:30	**Kiesel (Ulm) / Urban (Ulm)**, Adaptive wavelet methods for structured financial products
13:30 – 13:45	**Kallsen (Kiel)**, Numerical methods for computing optimal hedging strategies in complex setups
13:45 – 14:00	**Ernst (Freiburg) / Starkloff (Zwickau)**, Stochastic Galerkin methods: Fundamentals and algorithms
14:00 – 14:15	**Harbrecht (Bonn)**, Development of efficient numerical methods for the solution of differential equations on stochastic domains
14:15 – 14:30	**Jahnke (Karlsruhe) / Schütte (Berlin)**, Numerical methods for high-dimensional stochastic reaction networks
14:30 – 14:45	**Dahlke (Marburg) / Ritter (Darmstadt) / Schilling (Dresden)**, Adaptive wavelet methods for SPDEs

14:45 – 15:00	**Friesecke (München) / Junge (München)**, Development of new analytical and numerical techniques for the handling of transfer operators in high-dimensional stochastic dynamical systems
15:00 – 16:00	Coffee Break, Informel Discussion with the Reviewers
16:00 – 16:15	**Litvinenko (Braunschweig) / Matthies (Braunschweig)**, Sparse techniques for information extraction in stochastic partial differential equations
16:15 – 16:30	**Matthies (Braunschweig) / Rang (Braunschweig)**, Navier-Stokes equations with stochastic coefficients, sparse tensor product representations, stochastic PDEs, uncertainty quantification
16:30 – 16:45	**Wohlmuth (Stuttgart)**, Adaptive sparse grids for multiscale variational problems with applications to option pricing
16:45 – 17:00	**Kunoth (Paderborn) / Simmer (Bonn) / Venema (Bonn)**, Adaptive computation of radiative transfer in atmospheric models
17:00 – 17:15	**Dahlke (Marburg) / Maaß (Bremen) / Stevenson (Amsterdam)**, Adaptive wavelet frame methods for operator equations: Sparse grids, vector-valued spaces and applications to nonlinear inverse parabolic problems
17:15 – 17:30	**Iske (Hamburg) / Plonka-Hoch (Duisburg)**, Adaptive approximation algorithms for sparse data representations
17:30 – 17:45	**Dahmen (Aachen) / Kutyniok (Stanford) / Schwab (Zürich)**, Numerical and harmonic analysis of problems with anisotropic features, directional representation system and the solution to transport equations
17:45 – 18:00	**Sickel (Jena)**, Optimal approximation of tensor products of linear operators
18:00	Dinner
19:30 – 22:00	Internal meeting of reviewers

Tuesday, April 22

9:00 – 9:15	**Grasedyck (Leipzig)**, Alternative black-box approximation of high-dimensional tensors
9:15 – 9:30	**Hochmuth (Kassel)**, Restrained nonlinear approximation with respect to tensor product bases in high dimensions
9:30 – 9:45	**Bungartz (Garching)**, Classification with spatially adaptive sparse grids: Towards high dimensional problems
9:45 – 10:00	**Garcke (Berlin)**, Reinforcement learning in a continuous state space
10:00 – 10:15	**Scherfner (Berlin) / Schmidt-Thieme (Hildesheim)**, Methods of information geometry for improved machine learning and dimension reduction for sparse data in recommender systems

10:15 – 10:30	**Lorenz (Bremen) / Teschke (Neubrandenburg)**, Sparsity and compressed sensing in inverse problems
10:30 – 11:00	Coffee Break
11:00 – 11:15	**Maaß (Bremen) / Schuster (Hamburg)**, Beyord sparsity – Banach space methods in theory and applications of inverse problems
11:15 – 11:30	**Holtz (Berlin)**, The linear algebra of compressed sensing, with applications to PDEs
11:30 – 11:45	**Griebel (Bonn)**, Lower-dimensional principal manifold learning in higher-dimensional data spaces by sparse grid methods
11:45 – 12:00	**Börm (Kiel)**, Development of fast quadrature techniques based on the non-linear approximation of high-dimensional functions
12:00 – 12:15	**Novak (Jena)**, Computation of weighted integrals by randomized algorithms: The Metropolis algorithm, explicit error bounds and improvements
12:15 – 13:30	Lunch
13:30 – 13:45	**Henrion (Berlin) / Römisch (Berlin)**, Quantization and stochastic optimization
13:45 – 14:00	**Creutzig (Darmstadt) / Dereich (Berlin) / Müller-Gronbach (Magdeburg) / Ritter (Darmstadt) / Scheutzow (Berlin)**, Constructive quantization and multilevel algorithms for quadrature of SDEs
14:00 – 14:15	**Kunis (Chemnitz) / Potts (Chemnitz)**, Sparse fast Fourier transforms
14:15 – 14:30	**Haase (Berlin) / Schliep (Berlin)**, Algebraic statistics for model selection
14:30 – 16:00	Informal Discussion with the Reviewers
16:00 – ?	Internal Meeting of Reviewers

Wednesday, April 23

9:00 – 12:00	Final Meeting of Reviewers, Final Recommendation