

Monday, 15 April 2013

- 13:00 Opening
- 13:10 Short Welcoming Speech by Prof. Dr. Dr.h.c. Helmut J. Schmidt, President of the University of Kaiserslautern
- 13:20 Short Welcoming Speech by Prof. Dr. Ralf Korn, on behalf of the Dean of the Department of Mathematics in Kaiserslautern
- 13:30 Volker Michel (Siegen): *The Reason why we are Here*
- 14:00 Willi Freeden (Kaiserslautern): *Essential Principles of Geomathematical Modeling*
- 14:45 Michael Schreiner (Buchs): *Sphere Oriented Approximation — Ideas and Techniques of Willi Freeden*

Chair:
V. Michel

- **15:30 Coffee Break**

- 16:00 Frederik J. Simons (Princeton): *Maximum-likelihood Estimation of Lithospheric Flexural Rigidity, Initial-loading Fraction, and Load Correlation, Under Isotropy*
- 16:45 Henning Omre (Trondheim): *Generalized Gaussian Random Fields*
- 17:30 Ralf Korn (Kaiserslautern): *Aspects of Stochastic Modelling and Statistics in Applications With a View Towards Geothermics*
- 18:15 Matthias Augustin (Kaiserslautern): *Modeling the Stress Field in Geothermal Reservoirs*
- 18:35 Lutz Roesse-Koerner (Bonn): *Convex Optimization Under Inequality Constraints in Rank-deficient Systems*

Chair:
C. Gerhards

- **19:00 Dinner**

Tuesday, 16 April 2013

- 8:00 Peter Maaß (Bremen): *Mathematical Formulation of Sparsity Models in Data Analysis*
- 8:45 Roger Telschow (Siegen): *Iterative Sparse Approximation of Extremely Scattered Data on the Sphere*
- 9:05 Volker Michel (Siegen): *How Mathematics can Help to Observe Climate Change — An Example*
- 9:25 Judith Schall (Bonn): *Optimisation of Point Grids in Regional Gravity Field Analysis*
- **9:45 Coffee Break**

Chair:
H. Nutz

- 10:15 Zuhair Nashed (Orlando): *Noise Models for Inverse Problems and Moment Discretization* Chair:
M. Schreiner
- 11:00 Helga Nutz (Kaiserslautern): *Multiscale Regularization of Tensorial Satellite Gravity Gradiometry*
- 11:20 Tim Masterlark (South Dakota): *Probing the Magma Chamber of an Active Volcano With InSAR, Seismic Tomography, and Finite Element Models*
- 11:40 Jürgen Kusche (Bonn): *Global Geodetic-geophysical Inverse Problems: Mass Redistribution and Sea Level*
- **12:30 Lunch**
- 13:30 Reiner Rummel (Munich): *GOCE Satellite Gradiometry and the Ocean* Chair:
S. Eberle
- 14:15 Sergei Pereverzyev (Linz): *Multi-penalty Regularization with Component-wise Penalization*
- 15:00 Valeriya Naumova (Linz): *Multi-penalty Regularization with a Possible Application in Geomathematics*
- 15:20 Otmar Scherzer (Vienna): *Optical Flow on Evolving Surfaces*
- **16:05 Coffee Break**
- 16:30 Erik Grafarend (Stuttgart): *The Runge-Walsh(-Krarup) Approximation Theorem in Critical Review and the Regularization of the Improperly Posed Problem of Geodetic Downward Continuation: Minimum Bias Versus Minimum of Mean Square Error* Chair:
M. Gutting
- 17:15 Peiliang Xu (Kyoto): *Regularization With Variance Components and Reduced Bias*
- 17:35 Mikhail Eremin (Tomsk): *Mathematical Model of Geomedium Failure*
- 17:55 Christian Blick (Kaiserslautern): *3D Wavelet Decomposition of Seismic Data*
- 18:15 Christophe Haynes (Paris): *A Sensitivity Analysis of Meteor-generated Infrasonid*
- 18:35 Thomas Sonar (Braunschweig): *The Development of the Navigational Arts in Europe*
- 19:20 End of the Session
- **19:30 Banquet With Regional Specialties**

Wednesday, 17 April 2013

- 8:00 Nils Olsen (Lyngby): *The Magnetic Field — a Tool for Exploring the Earth's Interior* Chair: C. Blick
- 8:45 Christian Gerhards (Sydney): *Multiscale Methods for Geomagnetic Modeling*
- 9:05 Alain Plattner (Princeton): *Source Field Estimation From Satellite Data Using Vectorial Spatiospectrally Concentrated Functions*
- 9:25 Wolfgang Erb (Lübeck): *An Alternative to Slepian Functions on the Unit Sphere — A Time-frequency Analysis Based on Localized Spherical Polynomials*
- **9:45 Coffee Break**
- 10:15 Jürgen Prestin (Lübeck): *Quadrature Rules for Scattered Data on Spherical Triangles* Chair: M. Augustin
- 11:00 Daniel Potts (Chemnitz): *Fast Algorithms for the Computation of Optimal Quadrature Points on the Sphere*
- 11:20 Martin Gutting (Kaiserslautern): *Fast Multipole Accelerated Spline Approximation*
- 11:40 Stephan Dahlke (Marburg): *Recent Results on Shearlet Coorbit Spaces: An Overview*
- **12:30 Lunch**
- 13:30 Andreas Meister (Kassel): *Thermal Fluid Structure Interaction* Chair: R. Telschow
- 14:15 Dmitri Kondrashov (UCLA): *Nonlinear Data-driven Reduction by Stochastic Energy-conserving Models With Memory Effects*
- 14:35 Sarah Eberle (Kaiserslautern): *Mathematical Modeling of Forest Fire Spreading*
- 14:55 Volker Michel (Siegen): *Conclusions*
- 15:00 Willi Freeden (Kaiserslautern): *The Final Say*