



Johann Radon Institute for Computational
and Applied Mathematics (RICAM)
Austrian Academy of Sciences (ÖAW)

Chemnitz University of Technology
Department of Mathematics
Analysis – Inverse Problems



CHEMNITZ UNIVERSITY
OF TECHNOLOGY

Chemnitz–RICAM–Symposium on Inverse Problems

Linz, Austria

July 14-15, 2009

Conference Program

- Location:** Johann Radon Institute (RICAM)
Johannes Kepler University Linz
Altenberger Str. 69 (Hochschulfondsgebäude)
Room HF9901
4040 Linz, Austria
- Scientific Board:** Heinz W. Engl (Vienna and Linz, Austria)
Bernd Hofmann (Chemnitz, Germany)
Peter Mathé (Berlin, Germany)
Sergei V. Pereverzyev (Linz, Austria)
Ulrich Tautenhahn (Zittau, Germany)
- Conference Contacts:** Bernd Hofmann
hofmannb@mathematik.tu-chemnitz.de
Magdalena Fuchs
magdalena.fuchs@oeaw.ac.at
<http://www.ricam.oeaw.ac.at/events/symposia/csip/>
http://www.tu-chemnitz.de/mathematik/inverse_probleme/

Short program and overview

Day 1: Tuesday, July 14, 2009	Day 2: Wednesday, July 15, 2009
09.00 - 09.15 Opening Heinz W. Engl/Bernd Hofmann	09.00 - 10.30 Session 5 Hans-Jürgen Reinhardt Ulrich Tautenhahn Antonio Leitão
09.15 - 10.30 Session 1 Victor Isakov Martin Burger	
10.30 - 11.00 Break	10.30 - 11.00 Break
11.00 - 12.00 Session 2 William Rundell Jin Cheng	11.00 - 12.00 Session 6 Hanna K. Pikkarainen Jaan Janno
12.00 - 13.30 Lunch Break	12.00 - 13.30 Lunch Break
13.30 - 15.00 Session 3 Sergei V. Pereverzyev Peter Mathé Masahiro Yamamoto	13.30 - 15.00 Session 7 Melina Freitag Volker Michel Mourad Sini
15.00 - 15.30 Break	15.00 - 15.30 Break
15.30 - 17.20 Session 4 Ronny Ramlau Torsten Hein Philipp Kügler Kristian Bredies	15.30 - 16.30 Session 8 Uno Hämarik Radu I. Boț Marcus Grasmair
	16.30 - 16.50 Break
	16.50 - 17.35 Session 9 Marcus Meyer Thomas Bonesky Jens Geissler
	17.35 - 17.45 Closing and Conclusions
	18.00 Conference Dinner in Restaurant 'Keplers'

Day 1: Tuesday, July 14, 2009

09.00 - 09.15 **Opening**

Inaugural address by Heinz W. Engl and Bernd Hofmann

09.15 - 10.30 **Session 1, Chair: Heinz W. Engl (Vienna/Linz, Austria)**

09.15 - 10.00 **Victor Isakov** (Wichita, USA):

“Increasing Stability in Inverse Problems”

10.00 - 10.30 **Martin Burger** (Münster, Germany):

“Variational Models with Non-Gaussian Noise”

10.30 - 11.00 **Break**

11.00 - 12.00 **Session 2, Chair: Bernd Hofmann (Chemnitz, Germany)**

11.00 - 11.30 **William Rundell** (Texas, USA):

“Some ‘Probe-Methods’ for the Reconstruction of Inverse Inclusion Problems”

11.30 - 12.00 **Jin Cheng** (Shanghai, China):

“The Mathematical Model for the Diffusion Process and Related Inverse Problems”

12.00 - 13.30 **Lunch Break**

13.30 - 15.00 **Session 3, Chair: Victor Isakov (Wichita, USA)**

13.30 - 14.00 **Sergei V. Pereverzyev** (Linz, Austria):

“A Carleman Estimate and the Balancing Principle in the Quasi-Reversibility Method for Solving the Cauchy Problem for Laplace Equation”

14.00 - 14.30 **Peter Mathé** (Berlin, Germany):

“On some Minimization-Based Heuristic Parameter Choice in Inverse Problems”

14.30 - 15.00 **Masahiro Yamamoto** (Tokyo, Japan):

“Inverse Problems for Diffusion Equations of Fractional Orders”

15.00 - 15.30	Break
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15.30 - 17.20	Session 4, Chair: Martin Burger (Münster, Germany)
15.30 - 16.00	Ronny Ramlau (Linz, Austria): <i>“Tikhonov Regularization with Sparsity Constraints - Regularization Properties, Convergence Rates and Optimization”</i>
16.00 - 16.30	Torsten Hein (Chemnitz, Germany): <i>“Iterative Regularization in Banach Spaces”</i>
16.30 - 17.00	Philipp Kügler (Linz, Austria): <i>“An Extended State Approach to Online Parameter Identification in a Class of Infinite Dimensional Dynamical Systems”</i>
17.00 - 17.20	Kristian Bredies (Graz, Austria): <i>“Inverse Problems with Non-Convex Separable Constraints”</i>

Day 2: Wednesday, July 15, 2009

09.00 - 10.30	Session 5, Chair: William Rundell (Texas, USA)
09.00 - 09.30	Hans-Jürgen Reinhardt (Siegen, Germany): <i>“Multidimensional Inverse Heat Conduction Calculations”</i>
09.30 - 10.00	Ulrich Tautenhahn (Zittau, Germany): <i>“Conditional Stability Estimates and Regularization with Applications to Cauchy Problems for the Helmholtz Equation”</i>
10.00 - 10.30	Antonio Leitão (Florianopolis, Brazil): <i>“On Multiple Level Set Type Regularization Methods”</i>
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10.30 - 11.00	Break
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11.00 - 12.00	Session 6, Chair: Peter Mathé (Berlin, Germany)
11.00 - 11.30	Hanna K. Pikkarainen (Linz, Austria): <i>“A Bayesian Model for Root Computation”</i>
11.30 - 12.00	Jaan Janno (Tallinn, Estonia): <i>“New Uniqueness Results for Parabolic Integro-Differential Identification Problems”</i>
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12.00 - 13.30	Lunch Break
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13.30 - 15.00	Session 7, Chair: Arnd Rösch (Duisburg, Germany)
13.30 - 14.00	Melina Freitag (Bath, UK): <i>“Data Assimilation in Numerical Weather Prediction: 4D-Var and Links to Other Regularisation Methods”</i>
14.00 - 14.30	Volker Michel (Siegen, Germany): <i>“Seismic Tomography - Mathematical Modelling, Methods and Challenges”</i>
14.30 - 15.00	Mourad Sini (Linz, Austria): <i>“On the Accuracy of the Sampling Methods for Reconstructing Obstacles”</i>
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15.00 - 15.30	Break
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15.30 - 16.30	Session 8, Chair: Sergei V. Pereverzyev (Linz, Austria)
15.30 - 15.50	Uno Hämarik (Tartu, Estonia): <i>“Minimum Strategy for Parameter Choice in Regularization Methods”</i>
15.50 - 16.10	Radu I. Boț (Chemnitz, Germany): <i>“Minimality via Convex Subdifferential Calculus: the Role of the Regularity Conditions”</i>
16.10 - 16.30	Markus Grasmair (Innsbruck, Austria): <i>“Restricted Isometry Property and Range Condition for Sparse Regularisation”</i>
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16.30 - 16.50	Break

16.50 - 17.35	Session 9, Chair: Antonio Leitão (Florianopolis, Brazil)
16.50 - 17.05	Marcus Meyer (Chemnitz, Germany): <i>“Parameter Identification Problems for Elastic Large Deformations”</i>
17.05 - 17.20	Thomas Bonesky (Bremen, Germany): <i>“Regularization with Sparsity Constraints and Morozov’s Discrepancy Principle”</i>
17.20 - 17.35	Jens Geissler (Chemnitz, Germany): <i>“Convergence Rates for Tikhonov Regularization with General Similarity Functional”</i>

17.35 - 17.45 **Closing and Conclusions**

18.00 **Conference Dinner
in Restaurant ‘Keplers’**
Altenberger Straße 69
4040 Linz
