Publications
Barbara Kaltenbacher

Book and Book Chapter


Papers in Journals


Invited Conference and Colloquium Talks

Oberwolfach Workshop *Inverse Problems in Medical Imaging and Nondestructive Testing*, 4-10 February 1996,
"Some Newton type methods for the regularization of nonlinear ill–posed problems”

GAMM annual meeting, 24-27 March 1997, Regensburg,
“Newton and quasi–Newton type methods for nonlinear ill–posed problems”

GAMM annual meeting, 12-16 April 1999, Metz
“A projection-regularized Newton method for nonlinear ill-posed problems and its application to parameter identification problems with finite element discretization”

International conference *Inverse and Direct Problems and Applications* 26-30 April 1999, Milano and Gargnano
"Newton type methods for nonlinear inverse problems”

Tag der Mathematik, 13 April 2000, Österreichische Akademie der Wissenschaften, Wien,
"Inverse Probleme in der Bildverarbeitung und anderen Anwendungen”

Lehrstuhl für Systemsimulation, Universität Erlangen, 2 November 2000,
"Ill-posed problems, regularization by discretization, and multigrid methods”

International Workshop *Inverse Problems: Detection of internal damage*, Karlsruhe, 9-11 May 2001,
"Regularization methods for inverse problems with application to damage detection”

Oberseminar des Lehrstuhls für angewandte Mathematik, Universität Bayreuth, 11 June 2001,
"Mehrgitterverfahren für instabile inverse Probleme”

International Workshop *Inverse Problems in Applications*, 10-12 September 2001, WIAS, Berlin,
"Material parameter identification by regularizing Newton-multilevel iterations”

Max-Planck-Institut für Mathematik in den Naturwissenschaften, Leipzig, 17 January 2002,
"Regularization by multilevel discretization for linear and nonlinear ill-posed problems”

Institut für Mathematik, Universität Augsburg, 20 June 2002,
"Materialparameterbestimmung mittels regularisierter Newton-Mehrgitter-Iterationen”

Institut für Mathematik und Bauinformatik, Universität der Bundeswehr München, 30 September 2002,
"Inverse Probleme — Anwendungen in der Geodäsie und Regularisierung durch Mehrgitterverfahren”

Kolloquium des Instituts für Numerische und Angewandte Mathematik, Georg-August-
Universität Göttingen, 17.Dezember 2002,
"Regularisierung durch Diskretisierung und Mehrgitterverfahren für instabile Probleme"

MATHMOD 2003, Technische Universität Wien, 5-7 February 2003,
"Determination of material parameters based on field computations and regularized iterative inversion"

Oberwolfach Workshop *Numerical Techniques for Optimization Problems with PDE Constraints*, 16-22 February 2003,
"Regularization by Discretization and Multigrid Methods for Ill-posed Problems"

Tag der Mathematik, Siemens-Forum, Erlangen, 15 March 2003,
"Inverse Probleme"

Oberseminar Analysis, Universität Regensburg, 25 April 2003,
"Regularisierung durch Diskretisierung und adaptive Parametrisierung für ein Identifikationsproblem in der Grundwassermodellierung"

International conference *Applied Inverse Problems: Theoretical and Computational Aspects*, 17-23 May 2003, UCLA Lake Arrowhead Conference Center, USA
Organization of a minisymposiums *Inverse Problems in Electrical Engineering*

Institut für Angewandte und Numerische Mathematik, Technische Universität Wien, 12 June 2003,
"Multilevel Regularisierung inverser Probleme und deren Anwendung bei der Materialparameterbestimmung in Magnetik und Piezoelektrizität"

Oberseminar Lehrstuhl für Numerische Mathematik und Steuerungstheorie, Technische Universität München, 23 June 2003,
"Materialparameterbestimmung in der Piezoelektrizität"

International Workshop *Advances in Numerical Algorithms*, Graz, Austria, 10-13 September, 2003,
"Material parameter identification in piezoelectricity and nonlinear magnetics"

*Die Mathematik ist weiblich*, math.space, MuseumsQuartier, Wien, 15 October 2003,
"Mathematik erfolgreich forschen: Inverse Probleme"

Kolloquium Mathematik, Mathematisches Institut, Universität Erlangen, 17 October 2003,
"Inverse Probleme"

ECCOMAS 2004 conference, 24-28 July 2004, Jyväskylä,
Organization of a minisymposium "Parameter identification problems in electromagnetic, mechanical, and acoustic systems"

Zentrum Mathematik, Technische Universität München, 11 October 2004,
"Identifikation von Parametern in nichtlinearen partiellen Differentialgleichungen und Regularisierung durch Multilevel-Verfahren"

Lehrstuhl für Angewandte Mathematik I, Universität Erlangen-Nürnberg, 27 January
2005,
“Parameteridentifikation in nichtlinearen partiellen Differentialgleichungen mithilfe von Multilevel-Verfahren”
Lehrstuhl für Angewandte Mathematik, Universität Stuttgart, 17 February 2005,
“Identifikation von Materialparametern piezoelektrischer Werkstoffe”
GAMM annual meeting 2005, 28 March-1 April 2005, Luxemburg,
Organization of a minisymposium Computational Inverse Problems and talk
“Material nonlinearities in piezoelectricity: Parameter identification in a hyperbolic type system of PDEs”
Workshop Inverse Problems, 11-13 April 2005, Obergurgl,
“Multilevel methods for ill-posed problems: Towards global convergence for strongly nonlinear problems”
Oberwolfach Workshop Optimal Control of Coupled Systems of PDEs, 17-23 April 2005,
“Some inverse problems in piezoelectricity”
International conference Applied Inverse Problems, Cirencester, UK, 25-30 June 2005,
Organization of a minisymposium Computational Methods in Parameter Identification
Computational Plasticity COMPLAS VIII (ECCOMAS), Barcelona, 5-7 September 2005,
“Identification of models for nonlinearity and hysteresis in piezoelectricity”
Workshop Direct and Inverse Problems in Piezoelectricity, Linz, 6-7 October 2006, organization
Workshop Inverse Problems, Trippstadt, 24-25 November 2005,
“Characterization of piezoelectric material nonlinearities via inverse coefficient problems in PDEs”
Fachrichtung Mathematik, Technische Universität Dresden, 18 October 2005,
“Direkte und inverse Probleme in der Sensorik und Aktorik”
International Workshop Direct and Inverse Field Computations in Mechanics, 7-11 November 2005, Linz, organization
Lehrstuhl für Angewandte Mathematik, Universität Stuttgart, 16. Dezember 2005
“Identifikations- und Optimierungsprobleme in der Sensorik und Aktorik”
Oberwolfach Workshop Numerical Techniques for Optimization Problems with PDE Constraints, 27 February-4. March 2006,
“Modelling and Identification of Hysteresis in PDEs”
International conference Inverse Problems in Applied Sciences, Sapporo, 3-7 July 2006
plenary talk “Characterization of nonlinear material behaviour: Parameter identification problems in nonlinear PDEs and their regularized solution”
Chemnitz Symposium on Inverse Problems, TU Chemnitz, 28-29 September 2006,
“Some aspects in the iterative solution of nonlinear ill-posed problems: nonlinearity restrictions, global convergence, constraints”

International conference on *Applied Inverse Problems*, Vancouver, 25-29 June 2007:
“Coefficient identification in a nonlinear parabolic PDE with applications in magnetics and population dynamics” and
“On the determination of cracks in piezoelectric media by multilevel projection methods”

ICIAM, Zürich, 16-20 July 2007,
“Identification of parameters in nonlinear time-dependent PDEs via a multiharmonic ansatz”

ENUMATH, Graz, 10-14 September 2007
“Goal oriented adaptive discretization in parameter identification for PDEs”

*Chemnitz Symposium on Inverse Problems*, TU Chemnitz, 27-28 September 2007,
“Goal oriented adaptive discretization in parameter identification for PDEs”

Universität Wien, 1 October 2007:
“Computational Science: Überblick und eigene Beiträge in Algorithmik und Anwendungen”

ESAT (Department of Electrical Engineering), KU Leuven, 2-3 October 2007:
lecture “Inverse Problems”

Oberseminar Angewandte Mathematik, Universität Münster, 7 November 2007:
“Adaptive Diskretisierung inverser Probleme”