

Curriculum Vitae

Mrs. Larisa Beilina, Ph.D. in Mathematics

born 1970.02.10, Latvia

Docent, Associate Professor

Department of Mathematical Sciences

Chalmers University of Technology and Gothenburg University, Sweden

Education

Degree	Date	School
Ph.D. in Mathematics	2003	Chalmers University of Technology, Gothenburg
Ph.Lic. in Mathematics	2002	Chalmers University of Technology, Gothenburg
M.Sc. in Mathematics	1994	University of Latvia, Riga, Latvia

Thesis

- Adaptive Finite Element/Difference Methods for Time-Dependent Inverse Scattering problems. Doctoral Dissertation, Chalmers University of Technology, University, Gothenburg, Sweden, 2003. Thesis Advisor Professor Claes Johnson.

- Adaptive Hybrid FEM/FDM methods for Inverse Scattering problems. Thesis for the Degree of LICENTIATE of Engineering, Chalmers University of Technology, University, Gothenburg, Sweden, 2002. Thesis Advisor Professor Claes Johnson.

Professional experience:

2009 - present	Lecturer at the Department of Mathematical Sciences at Chalmers University of Technology and Gothenburg University, Gothenburg, Sweden.
2007-2008	PostDoc position at Norwegian University of Science and Technology, NTNU, Trondheim, Norway.
2004	Lecturer at Basel University, course "Computational Differential Equations", Master Program, Switzerland.
2003 - 2005	PostDoc position at Mathematical Department, Basel University, Switzerland.
2000 - 2003	PhD student at Chalmers University of Technology, Gothenburg, Sweden.
1998 - 1999	Research fellowship (Visby program) at Chalmers University of Technology, Gothenburg, Sweden.

Particular computational tools

- Adaptive hybrid FEM/FDM methods for inverse scattering problems
- Hybrid (domain decomposition) FEM/FDM methods
- Adaptive hybrid FEM/FDM methods for transient wave equations (scalar, elastic and electromagnetic)
- Numerical Analysis of PDEs and mathematical software
- Scientific computing, parallel processing, high performance computing (C++ libraries PETSC (MPI uni and MPI), MV++ classes)
- Optimization
- Grid generation and applications (AVS/Express, CAD, GID, TETGEN, PLOTMTV)

- Programming(C/C++, Pascal, Fortran, Matlab/Femlab, Assembler, Natural/ADABAS)

- **Participation in research projects and international collaboration:**

- 1998-1999 Project “Osmotic mass transfer through the semipermeable membrane”. Collaborative project within the Visby Program between Sweden (Chalmers University of Technology, Prof.Claes Johnson) and Latvia (Latvian State University, L.Beilina).
- 2003-2005 Project entitled ”New numerical methods for Maxwell’s equations”, The University of Basel, Switzerland, under the leadership of Prof. Marcus Grote. I worked on the hybrid interior penalty Discontinuous Galerkin FEM/FDM method for solution of Maxwell’s equations and application of it to solution of the MCIP.
- 2003-2005 Project “Quantitative sonographic imaging of human hard tissue by mathematical modelling in scanning acoustic microscopy”. This was a collaborative project with The Medical Center of The Frankfurt University (Prof. Dr. Robert Sader), The Institute for Applied Mathematics of the University of Basel (Prof. Marcus Grote), and The Institute of Experimental Surgery and Hospital Management, University Hospital Basel (Prof. Michael Heberer). I have applied the method which I have developed in my Ph.D. Thesis to reconstruct the elastic medium in scanning acoustic microscopy.
- 2007-2008 Project “Information and Communication Technologies” at Norwegian University of Science and Technology, NTNU, in collaboration with the project leader Prof. Harald Krogstad. I am worked on the adaptive FEM for inverse electromagnetic scattering problems.
- 2007-2008 The Notur project (THE NORWEGIAN METACENTER FOR COMPUTATIONAL SCIENCE) of High Performance Computing (HPC) at Norwegian University of Science and Technology, NTNU. I have developed the C++ software in a parallel infrastructure for numerical solutions of some hyperbolic equations with variable coefficients as well as for corresponding MCIPs.
- 2007- 2011 Project “Globally convergent numerical methods for Multidimensional Coefficient Inverse Problems”. This Project was supported by the Army Research Office (ARO) grant W911NF-08-1-0470. PI of the Project was Prof. Michael V. Klibanov, University of North Carolina at Charlotte, USA.
- 2010-2013 Project “Adaptive finite element methods for solutions of inverse problems” supported by the Swedish Institute, Visby Program. This is the collaborative project between Sweden and Russia. I’m PI of this project. Project includes development of new mathematical idea - adaptivity technique - to the solution of coefficient inverse problems in imaging using electromagnetic waves as well as in signal reconstruction in scanning electron tomography.

- 2011 - 2014 Project "Globally Convergent Numerical Methods for Inverse Problems of Imaging of Buried Targets". This is a collaborative project with the PI of the project Prof. Michael V. Klibanov, University of North Carolina at Charlotte, USA, and Prof. Michael Fiddy, Optical Center of the University of North Carolina at Charlotte, USA. This project is supported by the USA Army Research Laboratory grant W911NF-11-1-0399.
- 2012-2015 PI of the Project "Global convergence and adaptivity for coefficient inverse problems for Maxwell equations" supported by the Swedish Research Council (VR), Sweden.
- 2011-present I'm head of the new started scientific computing project WaveES, see project page <http://waves24.com/>. Project WavES (Wave Equations Solutions) is a combined theoretical and practical tool for the numerical solution of different types of time-dependent Wave Equations (acoustic, elastic and electromagnetic). Theoretical tool consists of published books, papers, courses and presentations where are presented new efficient numerical methods and strategies for the solution of time-dependent wave equations. Practical tool is represented by the C++ program library WavES for the computational solution of time-dependent wave equations (acoustic, elastic and electromagnetic) using three different methods: Finite Element Method (FEM), Finite Difference Method (FDM), Hybrid FEM/FDM method.

Experience from the supervision of students

- (1) In 2002/2003 I was a Scientific Advisor of Mrs. O.Simdyankina at the Masters Program NADA, KTH, Stockholm, Sweden. O.Simdjankina has received her M.Sc. in Scientific Computing in 2003. The thesis title was "Adaptive FEM for an inverse scattering problem with Dirichlet boundary conditions".
- (2) Since Mars 2010 I am advising PhD student Azba Riaz from Department of Mathematics, University Cergy-Pontoise, Paris, France on the topic "Adaptive Hybrid Interior Penalty Discontinuous Galerkin FEM/FDM methods for solutions of Maxwell's equations".
- (3) In 2011-2012 I advised PhD student Koshev Nikolay from Moscow State University (he is participant of the Visby program). He will defend his thesis in May 2012 in Moscow.
- (4) I was co-advisor of Marte Hatlo-Andresen at NTNU, Trondheim, Norway. She has defended her PhD thesis at 29 March 2012 at the Department of Mathematics, NTNU, Trondheim.

Awards

- 4-years grant holder for the Project "Global convergence and adaptivity for coefficient inverse problems for Maxwell equations" supported by the Swedish Research Council (VR), Sweden.
- The Visby Program Award from the Swedish Institute - I'm grant holder and leader of the project "Adaptive finite element methods for solutions of inverse problems", 2010-2013.
- The best publication Award of The Institute of Mathematics of the Academy of Sciences of the Czech Republic, 2005

- The Visby Program Award from the Swedish Institute. Grant within the limits of the collaborative research program between Sweden and Baltic Countries hosted at the Department of Mathematics, Chalmers University of Technology, Sweden, 1998-1999.
- DAAD (German Academic Exchange Service Award), Rostock University, Germany, 1993.

List of publications of L. Beilina

Citations in *MathSciNet* are presented excluding self-citations.

Book

L. Beilina and M. V. Klibanov. *Approximate global convergence and adaptivity for Coefficient Inverse Problems*, Springer, New York, ISBN 978-1-4419-7804-2, 2012.

Peer-reviewed articles

1. L. Beilina, Adaptive hybrid FEM/FDM methods for inverse scattering problems. *Inverse Problems and Information Technologies*, V.1, N.3, pp.73-116, 2002.
2. L. Beilina, Adaptive hybrid finite element/difference methods: application to inverse elastic scattering. *Inverse and Ill-Posed Problems*, V.11, N.6, pp.585-618, 2003.
3. L. Beilina, Efficiency of a Hybrid FEM/FDM methods for elastic waves, *Applied and Computational Mathematics*, V.2, N.1, pp.13-29, 2003.
4. L. Beilina, Adaptive Finite Element/Difference Method for inverse elastic scattering waves, *Applied and Computational Mathematics*, V.2, pp.119-134, 2003.
5. L. Beilina, S. Korotov, M. Krizek, Local Nonobtuse tetrahedral refinement techniques near Fichera-like corners. *Applications of Mathematics*, N.50, pp. 569-581, 2005.
6. L. Beilina, C. Johnson, A posteriori error estimation in computational inverse scattering, *Mathematical Models and Methods in Applied Sciences*, V.15, N.1, pp.23-37, 2005.
7. L. Beilina and C. Clason, An adaptive hybrid FEM/FDM method for an inverse scattering problem in scanning acoustic microscopy, *SIAM Sci.Comp.*, V.28, I.1, pp.382-402, 2006.
8. L. Beilina, M. V. Klibanov, A globally convergent numerical method for some coefficient inverse problems with resulting second order elliptic equations, *SIAM Sci.Comp.*, V.31, N.1, 478-509, 2008.
9. L. Beilina, M. P. Hatlo, H. E. Krogstad, Adaptive algorithm for an inverse electromagnetic scattering problem, *Applicable Analysis*, V.88, N.1, 15-28, 2009.
10. L. Beilina and M. V. Klibanov. A posteriori error estimates for the adaptivity technique for the Tikhonov functional and global convergence for a coefficient inverse problem, *Inverse Problems*, 26, 045012, 2010.
11. L. Beilina and M. V. Klibanov. Synthesis of global convergence and adaptivity for a hyperbolic coefficient inverse problem in 3D, *J. Inverse and Ill-posed problems*, 18(1), 85-132, 2010.
12. M.V. Klibanov, M.A. Fiddy, L. Beilina, N. Pantong and J. Schenk, Picosecond scale experimental verification of a globally convergent numerical method for a coefficient inverse problem, *Inverse problems*, 26, 045003, 2010.

13. J. Xin, L.Beilina, Michael V.Klibanov, Globally convergent numerical methods for coefficient inverse problems for imaging inhomogeneities, *Computing in Science and Engineering, (CISE)*, V.12(5), pp.64-77, 2010.
14. L.Beilina, M.V.Klibanov and M.Yu.Kokurin, Adaptivity with relaxation for ill-posed problems and global convergence for a coefficient inverse problem, *Journal of Mathematical Sciences, JMS*, Springer, 167(3), pp.279-325, 2010.
15. L.Beilina, Adaptive Finite Element Method for a coefficient inverse problem for the Maxwell's system, *Applicable Analysis*, V.90(10), pp.1461-1479, 2011.
16. L.Beilina, Adaptive Hybrid Finite Element/Difference Method for Maxwell's Equations: An a Priori Error Estimate and Efficiency, *Applied and Computational Mathematics (ACM)*, V.9(2), 2010.
17. M. Asadzadeh and L. Beilina, A posteriori error analysis in a globally convergent numerical method for a hyperbolic coefficient inverse problem, *Inverse Problems*, 26, 115007, 2010.
18. L. Beilina, M. Grote, Adaptive Hybrid Finite Element/Difference Method for Maxwell's equations, *TWMS J. of Pure and Applied Mathematics*, V.1(2), pp.176-197, 2010.
19. A.Kuzhuget, L.Beilina, M.V.Klibanov, Global convergence and quasi-reversibility for a coefficient inverse problem with backscattered data, *Journal of Mathematical Sciences, JMS*, Springer, 2012.
20. L.Beilina, M.V.Klibanov, A.Kuzhuget, New a posteriori error estimates for adaptivity technique and global convergence for a hyperbolic coefficient inverse problem, *Journal of Mathematical Sciences, JMS*, Springer, 172, 4, 449-476, 2011.
21. L.Beilina, M.V.Klibanov, Reconstruction of dielectrics from experimental data via a hybrid globally convergent/adaptive inverse algorithm, *Inverse Problems*, 26, 125009, 2010.
22. M.V.Klibanov, A.B.Bakushinsky, L.Beilina, Why a minimizer of the Tikhonov functional is closer to the exact solution than the first guess, *J. Inverse and Ill-posed problems*, 19, pp.83-105, 2011.
23. Beilina L and Klibanov M V The philosophy of the approximate global convergence for multidimensional coefficient inverse problems *Complex Variables and Elliptic Equations*, DOI:10.1080/17476933.2011.636432, 2011.

Peer-reviewed conference proceedings

1. L. Beilina, K. Samuelsson, K. Åhlander, Efficiency of a hybrid method for the wave equation. *Proceedings of the International Conference on Finite Element Methods: Three dimensional problems*. GAKUTO international Series, Mathematical Sciences and Applications, V. 15, 2001.
2. L. Beilina, C. Johnson, Hybrid FEM/FDM method for Inverse scattering problem. *N Numerical Mathematics and Advanced Applications - ENUMATH 2001*, Springer-Verlag.
3. L. Beilina and C. Clason, An inverse medium problem for scanning acoustic microscopy, *PAMM, WILEY-VCH Verlag GmbH & Co.*, 5, pp.647-648, 2005.
4. L. Beilina, A posteriori error estimation in biomedical imaging, *IEEE ISBI2007, Proceedings of International Symposium on Biomedical Imaging: from nano to macro*, pp.1372-1375, 2007.
5. L. Beilina, A posteriori error estimation for an inverse scattering problem, *Proceedings of ECCOMAS thematic conference Computational Methods in Structural Dynamic and Earthquake Engineering*, 2007.

6. L.Beilina, M.V.Klibanov, Global convergence for Inverse Problems, *Proceedings of ICNAAM2010, AIP (American Institute of Physics) Conference Proceedings*, 2010.
7. L.Beilina, Adaptive Finite Element Method for an electromagnetic coefficient inverse problem, *Proceedings of ICNAAM2010, AIP (American Institute of Physics) Conference Proceedings*, 2010.
8. L.Beilina, Hybrid Discontinuous Finite Element/Finite Difference Method for Maxwell's equations, *Proceedings of ICNAAM2010, AIP (American Institute of Physics) Conference Proceedings*, 2010.

Preprints (available online at :www.phi.chalmers.se, www.math.unibas.ch, www.math.ntnu.no and www.math.chalmers.se/Math/Research/Preprints/)

- L.Beilina, Osmotic mass transfer through a cylindric semipermeable membrane. Chalmers University of Technology, Blue series, Preprints, 1999:1
- L.Beilina,K.Samuelsson,K.Åhlander, A Hybrid Method for the Wave Equation . Chalmers Finite Element Centre Preprint Series, Preprint 2001:14
- L.Beilina, Adaptive hybrid FEM/FDM methods for inverse scattering problems. Chalmers Finite Element Centre Preprint Series, Preprint 2002:05
- L.Beilina, A Hybrid FEM/FDM methods for elastic waves. Chalmers Finite Element Method Preprint Series, 2003:11
- L.Beilina, Adaptive Hybrid FEM/FDM methods for inverse elastic scattering. Chalmers Finite Element Preprint Series, 2003
- L.Beilina,C.Johnson, An a posteriori error estimate for parameter identification. Chalmers Finite Element Preprint Series, 2003
- L. Beilina and M. J. Grote", Adaptive Hybrid Finite Element/Difference Method for Maxwell's equations, University of Basel, Switzerland , 2004
- L. Beilina, Adaptive Hybrid Finite Element/Difference Method for Maxwell's equations: An a Priori Error Estimate and Efficiency ", University of Basel, Switzerland, 2004
- L. Beilina and M. Shishlenin, Computational comparison of an adaptive hybrid FEM/FDM method and Gel'fand-Levitan method for an inverse scattering problem, University of Basel, Switzerland, 2006
- L. Beilina, M. Hatlo, H. Krogstad, Error estimates in inverse design of photonic crystals, NTNU, Trondheim, 2007-08
- L. Beilina and M.Hatlo and H. Krogstad, Error estimates in inverse electromagnetic scattering, *Technical report* No. 10, NTNU, Norway, 2007.
- L. Beilina and M. V. Klibanov, A globally convergent numerical method for some coefficient inverse problems with resulting second order elliptic equations, *Technical report* No.11, NTNU, Norway. Available online at http://www.ma.utexas.edu/mp_arc/index-07.html, preprint number 07-311, 2007.
- L. Beilina and M. V. Klibanov. A globally convergent numerical method and adaptivity for a hyperbolic coefficient inverse problem, available on-line at *Chalmers Preprint Series* ISSN 1652-9715, 2009:6 and at http://www.ma.utexas.edu/mp_arc/.
- L. Beilina and M. V. Klibanov. Synthesis of global convergence and adaptivity for a hyperbolic coefficient inverse problem in 3D, available on-line at *Chalmers Preprint Series* ISSN 1652-9715, 2009:11 and at http://www.ma.utexas.edu/mp_arc/.
- J. Xin, L.Beilina, Michael V.Klibanov, Globally convergent numerical methods for coefficient inverse problems for imaging inhomogeneities, available on-line at *Chalmers Preprint Series* ISSN 1652-9715, 2009

- L.Beilina, Michael V.Klibanov, A globally convergent numerical method and the adaptivity technique for a hyperbolic coefficient inverse problem. Part I: analytical study, available on-line at *Chalmers Preprint Series* ISSN 1652-9715, 2009
- L.Beilina, Michael V.Klibanov, A globally convergent numerical method and the adaptivity technique for a hyperbolic coefficient inverse problem. Part II: numerical studies, available on-line at *Chalmers Preprint Series* ISSN 1652-9715, 2009
- L.Beilina, M.V.Klibanov and M.Yu.Kokurin, Adaptivity with relaxation for ill-posed problems and global convergence for a coefficient inverse problem, available on-line at *Chalmers Preprint Series* ISSN 1652-9715, 2009.
- L.Beilina, Michael V.Klibanov, A posteriori error estimates for the adaptivity technique for the Tikhonov functional and global convergence for a coefficient inverse problem, available on-line at *Chalmers Preprint Series* ISSN 1652-9715, 2009.
- M. Asadzadeh and L. Beilina, A posteriori error analysis in a globally convergent numerical method for a hyperbolic coefficient inverse problem, available on-line at *Chalmers Preprint Series* ISSN 1652-9715, 2010:8.
- Beilina, L. Domain decomposition finite element/finite difference approach for the Maxwell's system in time domain, available on-line at *Chalmers Preprint Series* ISSN 1652-9715 Nr. 142368, 2011:18
- Beilina, L., Hatlo Andresen M. P. and Krogstad, H. E. Reconstruction of dielectrics in a symmetric structure via adaptive algorithm with backscattering data, available on-line at *Chalmers Preprint Series* ISSN 1652-9715, 2011:22.
- Kuzhuget, A. V. and Beilina, L. and Klibanov, M. V. et al. Blind backscattering experimental data collected in the field and an approximately globally convergent inverse algorithm, available on-line at *Chalmers Preprint Series* ISSN 1652-9715, 2011:25.
- Kuzhuget, A. V., Beilina, L. and Klibanov, M. V. et al. Approximate global convergence and quasi-reversibility for a coefficient inverse problem with backscattering data, available on-line at *Chalmers Preprint Series* ISSN 1652-9715, 2011:13.
- N.Koshev and L. Beilina, Adaptive finite element method for the Fredholm integral equation of the first kind and its verification on the experimental data, available on-line at *Chalmers Preprint Series* ISSN 1652-9715, 2011:29.

Teaching

- Fall semester 2011, Course at the Department of Mathematical Sciences "Electromagnetic Fields and Waves: mathematical models and numerical methods", 7.5 Hp (together with prof.Y.Shestopalov, Karlstad University).

Course link:

<https://sites.google.com/site/visby2010/course-at-department-of-mathematical-sciences-chalmers-university-of-technology-and-gotheburg-university-sweden>

- Fall semester 2009, Course at the Department of Mathematical Sciences "Numerical methods for solutions of Coefficient Inverse Problems", 7.5 Hp.

Course page:

<http://www.math.chalmers.se/larisa/FU.html>

Conference presentations (invited speaker)

In the list of invited presentations below, presentations 1-5 are concerned with the global convergence topic. The rest of the invited presentations were concerned with the adaptivity method.

- (1) Second annual workshop on Inverse Problems within the Visby Program, Sunne, 2-6 May 2012. Presentation: Approximate global convergence in imaging of land mines from backscattered data.
- (2) Department of Mathematics , Seminar "Spectral Theory" (organized by Ari Laptev), KTH, 24.11.2011. Title: Approximate global convergence and adaptive finite element method for coefficient inverse problems with experimental data.
- (3) 2011-09-27 - 2011-09-29 Conference "Inverse Problems and Applications" at CMAP, Ecole Polytechnique (Palaiseau), France. Presentation: Approximate globally convergent numerical method and adaptivity technique for inverse problems with experimental data.
- (4) First annual workshop on Inverse Problems within the Visby Program, Department of Mathematical Sciences, Chalmers University of Technology and Gothenburg University, 2-3 June 2011. Presentation: Adaptive Finite Element Method for a Coefficient Inverse Problem for the Maxwell's system.
- (5) Mini-workshop on Inverse Problems at Moscow State University, Moscow, Russia, 27.04.2011. Presentation: Approximate global convergence and adaptivity for solutions of inverse problems.
- (6) Presentation at University Paris 6 at d'Alembert general seminar in Paris, France, on 10 February 2011.
- (7) Presentation at Mathematical Department in Basel University, November 2010.
- (8) Presentation at CAM seminar, Chalmers University of Technology, Sweden, November 2010.
- (9) Presentation at AGMP2010, TjÄrnÄ¶, Sweden, November 2010.
- (10) 8th International Conference of Numerical Analysis and Applied Mathematics ICNAAM2010, Rhodes, Greece, 2010.
- (11) Conference "Inverse Problems", organized by University Cergy-Pontoise, France, October 2009.
- (12) Conference "Control and Inverse Problems in PDE : Theoretical and numerical aspects", Organized by The International Center for Mathematical Meetings, Marseille, France, February 2009.
- (13) Special Semester on Computational Methods for Inverse Problems - Theory and Practice, Johan Radon Institute for Computational and Applied Mathematics (RICAM), Linz, Austria, April 2009.
- (14) Conference on Applied Inverse Problems, University of Vienna, organized by Johan Radon Institute for Computational and Applied Mathematics (RICAM), Linz, Austria, July 2009. Invited speaker at the minisymposium "Carleman estimates: theory and numerical methods for inverse problems".
- (15) Special Semester on Quantitative Biology Analyzed by Mathematical Methods, at Johan Radon Institute for Computational and Applied Mathematics (RICAM), Linz, Austria, 2007.
- (16) European Community on Computational Methods in Applied Sciences (ECCOMAS): thematic conference COMPDYN 2007 "Computational methods in Structural Dynamic and Earthquake Engineering", 13-16 June 2007, Rethymno, Crete, Greece. I was invited on the minisymposium "Computational Methods for Inverse Scattering".

- (17) IEEE ISBI2007 (International Symposium on Biomedical Imaging), April 12-15, 2007, Metro Washington, D.C.,USA. I was invited on the special session “Adaptive mesh refinement techniques in biomedical imaging”.
- (18) MAGIC (Manifolds and Geometric Integration Colloquia), Atnasjøen, Norway, 2007.
- (19) The Second International Conference on Inverse Problems, Turkey, Fethiye, 2004.
- (20) The First International Conference on Inverse Problems, Fethiye, Turkey, 2002.
- (21) Workshop on Optimization in Heidelberg, University of Heidelberg, Germany, 2002.
- (22) International Conference on Finite Element Methods: three dimensional problems, University of Jyväskylä, Finland, 2001.
- (23) ENUMATH 2001 (European Conference on Numerical Mathematics and Advanced Applications), Ischia, Italy, 2001.
- (24) Nordic computational differential equations circus, Tampere University, Finland, 2001.
- (25) The Finite Element Center day at Chalmers, Chalmers University, Göteborg, Sweden, 2001.
- (26) Nordic computational differential equations circus, Bergen University, Bergen, Norway, 2000.

Administrative activities

- Member of the international organizing committee on the conference “Inverse Problems: Modeling and Simulation”, Antalya, Turkey, 2010.
- Organizer of the minisymposium "*Recent advances in numerical methods for inverse problems resolution*" on the 8th International Conference of Numerical Analysis and Applied Mathematics (ICNAAM2010), Rhodes, Greece, 2010.
- Reviewer in J. *Inverse problems, Inverse Problems in Science and Engineering*. Reviewer of the book "*Introduction to Iterative Methods for Ill-Posed Problems*" by Anatoly Bakushinsky, Mikhail Kokurin, Alexandra Smirnova, de Gruyter, 2010, and "*Handbook of Mathematical Methods in Imaging*", Springer, 2010.

Organization of conferences

- 2011-04-27 Mini-workshop on Inverse Problems at Moscow State University, Russia. Organized within the Visby program and supported by the Swedish Institute.
- The First annual workshop on Inverse Problems within the Visby Program at 02.06-03.06. 2011, see <https://sites.google.com/site/visby2010/annual-workshop-on-inverse-problems>
The subject of the first annual workshop was to present new analytical developments and new numerical methods for solutions of Inverse Problems.
- Organizer of the minisymposium “Spectral and computational methods for Maxwell’s equations” (together with prof.Y.Shestopalov, Karlstad University) at AGMP-7, Mulhouse, France, 24-26 October 2011.
- The Second annual workshop on Inverse Problems within the Visby Program at 02.05-06.05. 2012, for information see <https://sites.google.com/site/visby2010/second-annual-workshop-on-inverse-problems>

Career break

- 2005-2006 Maternity leave