

PRESENTATIONS AT PROFESSIONAL MEETINGS

(Name of the presenter is underlined if two or more authors are listed)

1. A. Smirnova, “On data-driven predictor-corrector optimization algorithm for stable parameter estimation in epidemiology”, *Women in Scientific Computing on Complex Physical and Biological Systems*, University of Florida, Gainesville, FL, October 24-26, 2022 (**plenary talk, invited**).
2. A. Smirnova and R. Luo, “On Stable Estimation of Disease Parameters and Forecasting in Epidemiology”, *Collaborative Workshop for Women in Mathematical Biology (sponsored by the United Health Group)*. Minnetonka, MN (in-person). June 20 - 24, 2022 (**group leader, invited**).
3. A. Smirnova and B. Pidgeon, “On Parameter Cascade Approach to Solving Constrained Nonlinear Least Squares Problems with Applications to Epidemiology”, *CM2022: 17th Copper Mountain Conference on Iterative Methods*. Format: Virtual. April 4-8, 2022 (**invited**).
4. A. Smirnova, ‘Model predictions in epidemiology by using stable parameter estimation and real data’, *44th SIAM Southeastern Atlantic Sectional Conference, Special Session on Recent Progress of Classical and Deep Learning Methods in Inverse Problems and Imaging*. Auburn University, Alabama/Virtual, 2021, (**invited**).
5. B. Pidgeon and A. Smirnova, ‘Modeling and Forecasting of COVID-19 Pandemic Using Iteratively Regularized Predictor-Corrector Algorithm’, *12th International Scientific Conference and Young Scientists School “Theory and Computational Methods for Inverse and Ill-posed Problems”* organized by Institute of Computational Mathematics and Mathematical Geophysics, SB RAS, and Novosibirsk State University, Russia. Format: Virtual. October 15, 2020 (**invited**).
6. B. Pidgeon and A. Smirnova, ‘On Regularized Predictor-Corrector Algorithm for Modeling and Forecasting COVID-19’, *9th Workshop on Computational Advances in Molecular Epidemiology (CAME 2020) in conjunction with the 11th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM BCB)*. Format: Virtual. September 21, 2020 (**invited**).
7. A. Smirnova, ‘On stable parameter estimation for historic measles outbreaks in the United Kingdom by a regularized Levenberg-Marquardt algorithm with iterative rank-one updates for the derivative operator’, *Special Session on Applications of Differential Equations in Mathematical Biology, Southeastern AMS Meeting*, University of Florida, Gainesville, FL, November 2-3, 2019 (**invited**).
8. A. Smirnova, ‘On modified Gauss-Newton-type algorithms for nonlinear ill-posed problems with a normally solvable derivative at the solution’, *Special Session on Nonlinear Solvers and Acceleration Methods, Southeastern AMS Meeting*, University of Florida, Gainesville, FL, November 2-3, 2019 (**invited**).

9. A. Akossi and A. Smirnova, ‘On Discretization Algorithms for Stable Quantification and Forecasting of Infectious Disease Magnitudes’, *The Fifth International Conference on Computational and Mathematical Population Dynamics*, Fort Lauderdale, FL, May 19-24, 2019 (**invited**).
10. A. Smirnova, ‘On New Developments in Iterative Regularization Motivated by Parameter Identification Problems in Epidemiology’, *Special Session on Trends in Applications of Functional Analysis in Computational and Applied Mathematics, Southeastern AMS Meeting*, University of Central Florida, Orlando, FL, September 23-24, 2017 (**invited**).
11. A.B. Smirnova, ‘On Stable Reconstruction of Disease Parameters by Reduced Iteratively Regularized Gauss-Newton Algorithm’, *36th South-Eastern Atlantic Regional Conference on Differential Equations*, Florida Gulf Coast University, Fort Myers, FL, November 5-6, 2016 (**contributed**).
12. A.B. Smirnova, ‘Iterative Regularization with Parameter Decomposition Motivated by Inverse Problems in Epidemiology’, *The 40th SIAM Southeastern Atlantic Section Conference (SIAM-SEAS), Applied Mathematics*, University of Georgia, Athens, GA, March 12-13, 2016 (**invited**).
13. A.B.Smirnova ‘On Stable Parameter Estimation for Inverse Problems in Epidemiology’, *Georgia Scientific Computing Symposium*, Emory University, Atlanta, GA, February 20, 2016 (**plenary**).
14. A.B.Smirnova, ‘On the Selection of a Regularization Parameter for Inverse Problems in Epidemiology’, *IPTA 2014 Conference, Inverse Problems – from Theory to Application*, Bristol, UK, At-Bristol, August 26-28, 2014 (**invited**).
15. A.B.Smirnova, ‘A Novel Stopping Criterion for Iterative Regularization with Undetermined Reverse Connection’, *The European Numerical Mathematics and Advanced Applications (ENUMATH) Conference*, EPFL Lausanne, Switzerland, August 26-30, 2013 (**invited**).
16. A.B.Smirnova, ‘On Stable Parameter Identification in Avian Influenza’, *2013 Inverse Problems Symposium*, Huntsville, Alabama, June 9-11, 2013 (**invited**).
17. A.B.Smirnova, ‘On Further Development of Generalized Gauss-Newton-type Regularization Procedures’, *Canberra Symposium on Regularization*, Australian National University, Canberra, Australia, November 19-24, 2012 (**invited**).
18. A.B.Smirnova, A.B.Bakushinsky, ‘On Convergence Rates for Preconditioned iteratively regularized Gauss-Newton Schemes with Application to Biomedical Imaging’, *2012 Inverse Problems Symposium*, Michigan State University, East Lansing, MI, June 10-12, 2012 (**invited**).

19. A.B.Bakushinsky, A.B.Smirnova, ‘A Posteriori Error Analysis for Nonlinear Inverse Problems’, *The Second Workshop on Inverse Problems*, Sunne, Sweden, May 2-6, 2012 (**invited**).
20. H.Liu and A.B.Smirnova, ‘A Posteriori Error Analysis for Nonlinear Magnetometry Equation’, *Georgia Scientific Computing Symposium*, UGA, Athens, GA, February 25, 2012 (**poster**).
21. A.B.Smirnova, ‘On Implementation of Locally Regularized Iterative Schemes for Nonlinear Unstable Operator Equations’ *Session on Inverse problems, the 8th International ISAAC Congress*, Moscow, Russia, August 22-27, 2011 (**invited**).
22. A.B.Smirnova, ‘On Stable Numerical Algorithms for Irregular Operator Equations’, *International Workshop on Operator Theory and its Applications (IWOTA)*, Seville, Spain, July 3-9, 2011 (**invited**).
23. O. Sitnikova (Sarajlic), A.B.Smirnova, ‘Inverse Problem Involving an Integral Equation in Irrigation Theory’, *Meeting of the American Physical Society*, Anaheim, California, April 30–May 3, 2011 (**contributed**).
24. A.B.Smirnova and N.Tuncer, ‘On Application of Preconditioned Gauss-Newton Algorithm to Inverse Groundwater Filtration Problem’, *Mini-symposium "Optimization for Nonlinear Inverse Problems"*, *SIAM Annual Meeting*, Pittsburg, Pennsylvania, July 12-16, 2010 (**invited**).
25. A.B.Bakushinsky and A.B.Smirnova, ‘The reverse connection control for unstable operator equations’, *Mini-symposium" Recent Advances in Analytical and Numerical Methods in Inverse Problems for PDEs"*, *the Fifth International Conference 'Inverse Problems: Modeling and Simulation'*, Antalya, Turkey, May 24-29, 2010 (**invited**).
26. A.B.Smirnova ‘The Gravitational Sounding Problem by Iteratively Regularized BFGS-Type Algorithm’, *Georgia Scientific Computing Symposium*, GaTech, Atlanta, GA, February 20, 2010 (**invited**).
27. A.B.Smirnova and R.A.Renaut ‘Iteratively Regularized Gauss-Newton Method with Parameter Decomposition for 2D Inverse Problem in Optical Tomography’, *the Fourth International Conference 'Inverse Problems: Modeling and Simulation'*, Oludeniz – Fethiye, Turkey, May 26-30, 2008 (**invited**).
28. A.B.Smirnova and R.A.Renaut ‘Iteratively Regularized Gauss Newton with Parameter Decomposition’, *International Conference on Applied Inverse Problems*, Vancouver, BC, Canada, June 25-29, 2007 (**contributed**).

29. A.B.Bakushinsky and A.B.Smirnova 'On application of generalized Gauss-Newton's schemes to inverse problem in Optical Tomography', *International Conference 'Tikhonov and Contemporary Mathematics'*, Moscow, Russia, June 19-25, 2006 (**invited**).
30. R.A.Renaut, T.Khan and A.B.Smirnova 'Parameter Decomposition for Iteratively Regularized Gauss Newton Solutions in Optical Tomography', *9th Copper Mountain Conference on Iterative Methods*, Copper Mountain, Colorado, April 2-7, 2006 (**contributed**).
31. A.B.Bakushinsky and A.B.Smirnova 'On application of generalized discrepancy principle to iterative methods for 2D inverse gravimetry problem', *International Conference on Applied Inverse Problems*, Royal Agricultural College, Cirencester, UK, June 26-30, 2005 (**contributed**).
32. A.B.Smirnova 'Investigation of the dynamical system method for solving nonlinear ill-posed problems', *International Conference on Difference Equations and Applications*, USC in Los Angeles, CA, August 2-6, 2004 (**contributed**).
33. A.B.Smirnova 'Iteratively regularized Gauss-Newton-type algorithm with simultaneous updates of inverse derivative', *Special Session on Fixed Points: Theory and Application*, Phoenix, Arizona, January 7-10, 2004 (**contributed**).
34. A.B.Smirnova, 'One Dimensional Inverse Problem In Diffusion Based Optical Tomography Using Gauss-Newton-Type Algorithm For Nonlinear Ill-Posed Problems', *Workshop on Inverse Problems and Medical Imaging*, Vancouver, Canada, August 4-8, 2003 (**contributed**).
35. A.B.Smirnova, 'Iterative Gauss-Newton-type algorithm for nonlinear unstable operator equations with simultaneous updates of the regularized Frechet derivative', *VIII Conference on Inverse and Ill-Posed Problems*, Moscow, Russia, June 9-11, 2003 (**invited**).
36. A.B.Smirnova, 'Iterative inversion of the Frechet derivative in the regularized Quasi-Newton methods', *6th IMACS International Symposium on Iterative Methods in Scientific Computing*, University of Colorado at Denver, March 27-30, 2003 (**contributed**).
37. A.B.Smirnova, 'Numerical Techniques for Solving Irregular Operator Equations', *Joint Meeting MAA and SIAM (Southeastern Section)*, Clemson, SC, March 21-22, 2003 (**contributed**).
38. A.B.Smirnova, 'Continuous regularized Gauss-Newton-type algorithm for nonlinear ill-posed equations with simultaneous updates of inverse derivative', *Annual Southeastern-Atlantic Regional Conference on Differential Equations*, October 11-12, 2002, Knoxville, TN (**contributed**).
39. A.B.Smirnova, 'Regularization of nonlinear ill-posed problems by dynamical system method', *NSF/CBMS Regional Research Conference "Mathematical Methods in Nonlinear Wave Propagation"*, May 15-19, 2002, Greensboro, NC (**invited**).

40. A.B.Smirnova, 'Theoretical and Numerical Investigation of the Dynamical System Method for Solving Nonlinear Ill-Posed Problems', *The 2002 International Conference on Differential Equations and Mathematical Physics*, March 26-30, 2002, Birmingham, AL (**contributed**).
41. A.B. Smirnova, 'RGN Method with Simultaneous Updates of Inverse Derivative', *The First SIAM Conference on Imaging Science*, March 4-6, 2002, Boston, MA (**session chair**).
42. A.B.Smirnova, 'Regularization of nonlinear unstable operator equations by secant-type method', *AWM-NSF Workshop for women recent Ph.D.'s*, January 9, 2002, San Diego, CA (**invited**).
43. A.B.Smirnova, 'Continuous algorithm for solving nonlinear ill-posed problems with simultaneous regularized inversion of the Frechet derivative operator', *AMS Special Session on Interaction of Inverse Problems and Image Analysis*, AMS Joint Mathematics Meetings, January 12-13, 2001, New Orleans, LA (**contributed**).
44. A.B.Smirnova, 'Nonlinear ill-posed problems and dynamical systems', *21st Annual Southeastern-Atlantic Regional Conference on Differential Equations*, November 2-3, 2001, Winston-Salem, NC (**contributed**).
45. A.B.Smirnova, 'Continuous Methods for Solving Nonlinear Ill-Posed Operator Equations with Application to Gravitational Sounding Problem', *AWM Workshop for women graduate students and recent Ph.D's at Joint AMS Meetings 2000*, January 21, Washington, DC (**invited**).
46. A.G.Ramm and A.B. Smirnova, 'A Regularized Method for Solving Nonlinear Ill-Posed Problems', *International conference on operator theory and its applications to scientific and industrial problems*, October 7-11, 1998, Winnipeg, Canada (**invited**).