

Curriculum Vitae of M. Heinkenschloss

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a. Professional Preparation

1988 Diploma in Mathematics, University of Trier, Germany,
1991 Ph.D. Mathematics, University of Trier, Germany.

b. Appointments

2017 – present Noah G. Harding Chair and Professor, Rice University.
2005 – 2016 Professor, Rice University.
1996 – 2005 Associate Professor, Rice University.
1993 – 1996 Assistant Professor, Virginia Polytechnic Institute and State University.
1992 – 1993 Assistant Professor, University of Trier, Germany.
1988 – 1992 Assistant, University of Trier, Germany.

c. Products

Most closely related to the proposed project:

1. With H. Antil and S. Hardesty *Shape Optimization of Shell Structure Acoustics*, SIAM J. Control and Optimization. In press
2. With P. Benner, J. Saak, and H. K. Weichelt, *An inexact low-rank Newton-ADI method for large-scale algebraic Riccati equations*, Applied Numerical Mathematics, Vol. 108, 2016, pp. 125-142.
3. With D. P. Kouri, D. Ridzal, and B. G. van Bloemen Waanders. *Inexact Objective Function Evaluations in a Trust-Region Algorithm for PDE-Constrained Optimization under Uncertainty*, SIAM J. Scientific Computing, 2014, Vol. 36, No. 6, pp. A3011-A3029.
4. With D. Ridzal *A Matrix-Free Trust-Region SQP Method for Equality Constrained Optimization*, SIAM Journal on Optimization, 2014, Vol. 24, No. 3, pp.1507-1541.
5. With D. Leykekhman, *Local Error Analysis of Discontinuous Galerkin Methods for Advection-Dominated Elliptic Linear-Quadratic Optimal Control Problems*, SIAM J. Numer. Anal., Vol. 50, 2012, pp. 2012-2038.

Other significant products:

6. With H. Antil, R. H. W. Hoppe, and D. C. Sorensen, *Domain decomposition and model reduction for the numerical solution of PDE constrained optimization problems with localized optimization variables*, Computing and Visualization in Science, Vol. 13, 2010, pp. 249-264.

7. With T. Reis and A.C. Antoulas, Balanced truncation model reduction for systems with inhomogeneous initial conditions. *Automatica*, Vol. 47, 2011, pp 559 - 564.
8. With D. C. Sorensen and K. Sun, *Balanced Truncation Model Reduction for a Class of Descriptor Systems with Application to the Oseen Equations*. *SIAM Journal on Scientific Computing*, Vol. 30, 2008, pp. 1038–1063.
9. With H. Antil and R. H. W. Hoppe, *Domain Decomposition and Balanced Truncation Model Reduction for Shape Optimization of the Stokes System*, *Optimization Methods and Software*, Vol. 26, 2011, pp. 643-669.
10. With S. S. Collis, K. Ghayour, M. Ulbrich, and S. Ulbrich, *Optimal Control of Unsteady Compressible Viscous Flows*, *International Journal for Numerical Methods in Fluids*, Vol. 40 (2002), pp. 1401-1429.

d. Synergistic Activities

1. Past and current member of editorial board for *European Mathematical Society (EMS) Book Series in Industrial and Applied Mathematics* (2013-), *Numerical Linear Algebra with Appl.* (2008-), *Math. Programming* (200-2013), *Systems & Control Letters* (1998-2010), *SIAM J. Control Optim.* (2000-2006).
2. Co-editor of books *Large-Scale PDE-Constrained Optimization* (Springer, 2003), *Real-Time PDE-Constrained Optimization* (SIAM, 2007), and *Large-Scale Inverse Problems and Quantification of Uncertainty* (Wiley, 2011).
3. Conferences co-organized: 2003, '06, '09 Oberwolfach Confs. on Numerical Techniques for Optimization Problems with PDE Constraints; 2013 Oberwolfach Conf. on Numerical Methods for PDE Constrained Optimization with Uncertain Data, 2010 Conf. Model Management and Reduced Order Model Approaches for Simulation Driven Optimization, Houston; 2013 Conf. Large-Scale Inverse Problems and Quantification of Uncertainty: Big Data Meets Big Models, Santa Fe, NM. 2014 INFORMS Optimization Society Conference, Rice University.
4. Scientific Committees: Cluster chair (with M. Hintermuller) of the PDE-Constrained Optimization cluster at the 2015 International Mathematical Programming Symposium, 2009, 2012, 2015.