

Curriculum Vitae

Michael Ulbrich.

Education

1987 – 1992 Studies of Mathematics, TU München
1996 Dissertation in Mathematics, TU München
2002 Habilitation, TU München

Professional Experience

1994 – 1998 Research Associate (Scholar of the Bavarian State), Department of Mathematics, Technische Universität München (TUM)
1994 – 1998 Scientific Assistant (Wiss. Mitarbeiter), Department of Mathematics, TUM
1996 – 1997 Visiting Research Scholar, Department of Computational and Applied Mathematics, Rice University, Houston, USA (DFG Research Grant)
1998 – 2002 Assistant Professor (Wiss. Assistent, C1), TUM
1999 – 2000 Visiting Research Scholar, Department of Computational and Applied Mathematics, Rice University, Houston, USA (DFG Habilitation Grant and CRPC Grant Funding)
2002 Professor (substituting), Department of Mathematics, Universität Hamburg
2002 – 2006 Full Professor (C4), Department of Mathematics, Universität Hamburg
2003 – 2006 Coordinator of the Institute for Optimization and Approximation, Universität Hamburg
2006 – present Full Professor (W3) and Director, Chair for Mathematical Optimization, Department of Mathematics, TUM
2008 – present Secondary Faculty Member, Department of Informatics, TUM
2007 – 2010 Dean of Academic Affairs (Studiendekan), Department of Mathematics, TUM
2012 – 2015 Vice Dean (Prodekan), Department of Mathematics, TUM

Awards, Honours and Offers

1987 – 1992 Scholarship of the Bavarian State (Begabtenförderung)
1993 – 1994 Scholarship of the Bavarian State (Förderung des wissenschaftlichen und künstlerischen Nachwuchses)
1996 Award for Outstanding Dissertations (Bund der Freunde der TUM)
1996 – 1997 DFG Research Grant (USA)
1999 – 2000 DFG Habilitation Grant (USA)
2002 Offer for Full Professorship (C4) at Universität Hamburg (accepted)
2002 1st rank, C4-S Professorship at TU Berlin & WIAS (not realized)
2006 Offer for Full Professorship (W3) at TUM (accepted)
2011 Best Poster Award, ASIM Workshop 2011 (jointly with C. Böhm)
2012 Best Team Poster Award, 6th IGSSE Forum 2012 (jointly with C. Böhm)
2015 Howard Rosenbrock Prize 2015 (jointly with M. Simon)

Editorial Activities

2002 – 2007 Editorial Board *SIAM Journal on Optimization*
2008 – Editorial Board *Mathematical Programming Computation*
2008 – Editorial Board *Optimization and Engineering*
2010 – Editorial Board *Numerical Algebra, Control and Optimization*
2018 – Editorial Board *SIAM Journal on Scientific Computing*

Scientific Supervising

2006 – 2009	Principal Investigator SPP 1253 Optimization with PDEs
2007 – 2014	Principal Investigator EXC 142 Cognition for Technical Systems (CoTeSys)
2009 – 2012	Subproject Leader, KAUST-TUM Special Partnership
2009 – 2012	Principal Investigator (2 projects) and Project Leader Munich Centre of Advanced Computing
2010 – 2015	Vice Coordinator EXC 142 Cognition for Technical Systems (CoTeSys)
2010 – 2014	Principal Investigator SPP 1305 Control Theory of Digitally Networked Dynamical Systems
2012 –	Principal Investigator IGDK 1754 Optimization and Numerical Analysis for Partial Differential Equations with Nonsmooth Structures
2016 –	Principal Investigator and Member of the Steering Committee SPP 1962

Number of PhD theses supervised: 10 completed, 1 submitted, 3 to be completed

Scientific Organisation

2003 –	Organizer of more than 35 invited Minisymposia, Sessions, and Workshops
2007	International Scientific Committee NCP07, Rouen, France
2012	Cluster Co-Chair ISMP 2012, Berlin
2012–	Co-Organizer OCIP 2012, 2013, 2014, 2015, 2016, 2017, 2019, Garching
2013	Program Committee 16th French-German-Polish Conference on Optimization, Krakow, Poland
2013	Section Co-Organizer, GAMM Annual Meeting 2013, Novi Sad, Serbia
2013 – 2018	Member of the ICCOPT Steering Committee
2015	Program Committee 17th British-French-German Conference on Optimization, London, UK
2017	Program Committee 18th French-German-Italian Conference on Optimization, Paderborn, Germany
2018	Co-Chair, GAMM Annual Meeting 2018, Munich, Germany

Selected Publications

- [1] M. Fischer, F. Lindemann, M. Ulbrich, S. Ulbrich: Fréchet differentiability of unsteady incompressible Navier-Stokes flow with respect to domain variations of low regularity by using a general analytical framework, *SIAM J. Control Optim.* 55 (2017), no. 5, 3226–3257.
- [2] M. Hintermüller, M. Ulbrich: A mesh-independence result for semismooth Newton methods, *Math. Program.* 101 (2004), no. 1, 151–184.
- [3] M. Hinze, R. Pinnau, M. Ulbrich, S. Ulbrich: Optimization with PDE constraints, Springer, New York, 2009.
- [4] A. Milzarek, M. Ulbrich: A semismooth Newton method with multidimensional filter globalization for l_1 -optimization, *SIAM J. Optim.* 24 (2014), no. 1, 298–333.
- [5] S. Steffensen, M. Ulbrich: A new relaxation scheme for mathematical programs with equilibrium constraints, *SIAM J. Optim.* 20 (2010), no. 5, 2504–2539.
- [6] M. Ulbrich: Non-monotone trust-region methods for bound-constrained semismooth equations with applications to nonlinear mixed complementarity problems, *SIAM J. Optim.* 11 (2001), no. 4, 889–917.
- [7] M. Ulbrich: Semismooth Newton methods for operator equations in function spaces, *SIAM J. Optim.* 13 (2002), no. 3, 805–841.
- [8] M. Ulbrich: Semismooth Newton methods for variational inequalities and constrained optimization problems in function spaces, MOS-SIAM Series on Optimization, vol. 11, SIAM, Philadelphia, 2011.
- [9] M. Ulbrich, S. Ulbrich: Primal-dual interior-point methods for PDE-constrained optimization, *Math. Program.* 117 (2009), no. 1-2, 435–485.
- [10] M. Ulbrich, S. Ulbrich, L. N. Vicente: A globally convergent primal-dual interior-point filter method for nonlinear programming, *Math. Program.* 100 (2004), no. 2, 379–410.