Peter Benner – Curriculum Vitae

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Address (office): Max Planck Institute for Dynamics
of Complex Technical Systems
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E-mail: benner@mpi-magdeburg.mpg.de

URL: www.mpi-magdeburg.mpg.de/benner

Date and place of birth: May 25, 1967 in Kirchen/Sieg (Germany)

Nationality: German

Education:

1973 – 1977	Grundschule (elementary school) Betzdorf
1977 – 1986	Staatliches Freiherr–vom–Stein Gymnasium in Betzdorf 06/1986: Abitur

Military service:

10/1986 – 12/1987	in Rennerod/Ww., *3. Sanitätsbataillon V* (paramedic)

Higher education:

10/1987 – 03/1993	student of mathematics (major) and economics (minor) at RWTH Aachen. 05/1990: Vordiplom, 03/1993: Diplom.
08/1993 – 12/1993	Ph.D. student at the University of Kansas, Lawrence, USA
01/1994 – 12/1996	Ph.D. student at the Technical University Chemnitz–Zwickau,
02/1997	Ph.D. in mathematics, Technical University Chemnitz–Zwickau
05/2001	*Habilitation* colloquium, University of Bremen

Experience:

10/1989 – 08/1992	*studentische Hilfskraft* and
03/1993 – 07/1993	*wissenschaftliche Hilfskraft* (graduate teaching assistant), *Institut für Geometrie und Praktische Mathematik*, RWTH Aachen
02/1991 – 06/1992	software engineer, *Ingenieurbüro Hille*, Aachen
08/1993 – 12/1993	graduate teaching assistant, University of Kansas, Lawrence, KS (USA)
12/1994 – 12/1996	*Wissenschaftlicher Mitarbeiter* (research assistant), Department of Mathematics, Technical University Chemnitz–Zwickau
01/1997 – 08/1997	*Wissenschaftlicher Mitarbeiter* and
09/1997 – 09/2001	*Wissenschaftlicher Assistent* (assistant professor) *Zentrum für Technomathematik*, University of Bremen
09/2001 – 09/2003	*Oberassistent* (lecturer) at the Institute for Mathematics, Technische Universität Berlin (on leave 10/2001 – 03/2002)
10/2001 – 03/2002	Visiting Associate Professor, Technische Universität Hamburg-Harburg

since 10/2003	Professor for Mathematics in Industry and Technology, Technische Universität Chemnitz (C4/W3 position: 10/2003 – 08/2010)
05/2009	Call W3-Professorship "Applied Mathematics in Engineering" (*Angewandte Mathematik in den Ingeneurwissenschaften*), Technische Universität Hamburg-Harburg, declined 08/2009.
since 04/2010	Scientific Member and Director of the Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg.
2010	Guest Professorship Université du Littoral Côte d'Opale, Calais (France).
since 01/2011	Honorary Professor for Mathematics, Otto-von-Guericke Universität Magdeburg.
01/2013 – 12/2014	Managing Director of the Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg.
2015	Distinguished Professor, Shanghai University

Editorial work

- Member of the editorial board of SCIENCE OPEN since 2015.
- Associate editor of SIAM JOURNAL ON MATRIX ANALYSIS AND APPLICATIONS since 2005.
- Member of the editorial board of NUMERICAL LINEAR ALGEBRA WITH APPLICATIONS 2008–2015.
- Member of the editorial board of COMPUTING LETTERS 2004–2010.
- Member of the editorial board of the SIAM book series FUNDAMENTALS OF ALGORITHMS 2003–2008.
- *Dimension Reduction of Large-Scale Systems* (with V. Mehrmann and D.C. Sorensen), LECTURE NOTES IN COMPUTATIONAL SCIENCE AND ENGINEERING, Vol. 45, Springer-Verlag, Berlin/Heidelberg, June 2005, xii+395 p., ISBN: 3-540-24545-6.
- Special issue on *Order Reduction of Large-Scale Systems* (with R.W. Freund, D.C. Sorensen, and A. Varga), LINEAR ALGEBRA AND ITS APPLICATIONS, Vol. 415, Issues 2-3, pages 231–578, 2006.
- Special issue on *Large-Scale Matrix Equations of Special Type*, NUMERICAL LINEAR ALGEBRA WITH APPLICATIONS, 2008, Vol. 15, No. 9, pp. 747–886.
- *Model Reduction for Circuit Simulation* (with M. Hinze and J. ter Maten), LECTURE NOTES IN IN ELECTRICAL ENGINEERING, Vol. 74, Springer-Verlag, Berlin/Heidelberg, 2011, xiii+315 p., ISBN: 978-94-007-0088-8.
- Special issue of LINEAR ALGEBRA AND ITS APPLICATIONS *on the occasion of Danny Sorensen's 65th birthday* (with M. Embree, C.T. Kelley, and R. Lehoucq), Vol. 436, Issue 8, pages 2717–2962, 2012.
- Special issue on *Applied and Numerical Linear Algebra, Vol. III* (with D. Kressner), GAMM MITTEILUNGEN, Vol. 36, Issue 1, pages 6–129, 2013.
- Special issue on *Structured Matrix Computations in Non Euclidean Geometries: Algorithms and Applications* (with M. Sadkane and A. Salam), BIT NUMERICAL MATHEMATICS, Vol. 54, Issue 1, pages 1–302, 2014.
- *Trends in PDE Constrained Optimization* (with G. Leugering, S. Engell, A. Griewank, H. Harbrecht, M. Hinze, R. Rannacher, and S. Ulbrich), INTERNATIONAL SERIES OF NUMERICAL MATHEMATICS, Vol. 165, Birkhäuser, Basel, 2014, ISBN: 978–3-319-05082-9 (hardcover), 978-3-319-05083-6 (eBook).

- *Large Scale Networks in Engineering and Life Sciences. Lecture Notes of a Summer Schoool held in Magdeburg, September 26–30, 2011* (with R. Findeisen, D. Flockerzi, U. Reichl, and K. Sundmacher), Modeling and Simulation in Science, Engineering and Technology, Birkhäuser Boston, MA, 2014, ISBN: 978-3-319-08436-7 (hardcover), 978-3-319-08437-4 (eBook).
- Special issue related to *European Conference on Computational Optimization (EUCCO), July 17-19, 2013, Chemnitz, Germany* (with R. Herzog, M. Hinze, A. Rösch, V. Schulz, and A. Schiela), Computational Optimization and Applications, Vol. 62, No. 1, pages 1–321, 2015. DOI: 10.1007/s10589-015-9776-y
- Special issue *Model Reduction of Parametrized Systems* (with M. Ohlberger, T. Patera, G. Rozza, D.C. Sorensen, and K. Urban), Advances in Computational Mathematics, Vol. 41, Issue 5, pages 955–1389, 2015.
- *Numerical Algebra, Matrix Theory, Differential-Algebraic Equations and Control Theory: Festschrift in Honor of Volker Mehrmann* (with M. Bollhöfer, D. Kressner, Ch. Mehl, and T. Stykel), Springer International Publishing, 2015. ISBN: 978-3-319-15259-2 (hardcover), 978-3-319-15260-8 (eBook).
- *Model Reduction and Approximation for Complex Systems* (with A. Cohen, M. Ohlberger, and K. Willcox), SIAM Publications, Philadelphia, PA, 2017.
- *System Reduction for Nanoscale IC Design*, Mathematics in Industry, Vol. 20, Springer-Verlag, 2017, ISBN: 978-3-319-07235-7 (hardcover), 978-3-319-07236-4 (eBook).

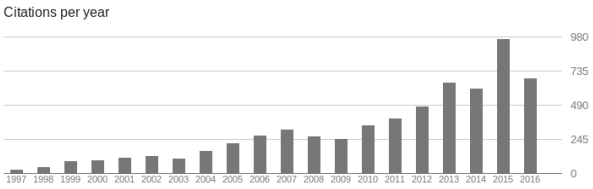
Articles and technical reports

A complete list of the more than 400 published articles in journals and proceedings, book chapters and technical reports can be found at

http://www.mpi-magdeburg.mpg.de/mpcsc/benner/publications.php.

My Google scholar profile lists the following information:

	Citation indices	
	All	Since 2011
Citations	6364	3786
h-index	40	28
i10-index	154	108



Software

I am co-author of several software packages, including SLICOT (Subroutine Library In COntrol Theory)[1], HAPACK (HAmiltonian eigensolver PACKage), PLiC/PLiCMR/PLiCOC (Parallel Library in Control/Model Reduction/Optimal Control), the MATLAB® Toolbox MESS (Matrix Equation Sparse Solver)[2] . . . A complete list can be found at http://www.mpi-magdeburg.mpg.de/mpcsc/benner/software.php.

[1] See http://www.slicot.org.
[2] See http://www.mpi-magdeburg.mpg.de/mpcsc/software/mess.php.

Talks at conferences

Selected talks since 2001 can be found at

http://www.mpi-magdeburg.mpg.de/mpcsc/benner/talks.php,

including, in particular, invited and plenary talks at workshops and conferences.

Invited lectures at universities and research institutes

May 1996	University of Kansas, Lawrence (USA)
November 1996	Universidad Politécnica de Valencia, Valencia (Spain)
February 1998	University of Würzburg (Germany)
May 1998	Rice University, Houston (USA)
June 1999	University of Calgary (Canada)
August 1999	University of Kansas, Lawrence (USA)
January 2000	Technical University of Munich (Germany)
February 2000	Università degli Studi di Modena e Reggio Emilia, Modena (Italy)
July 2000	Technical University of Dresden (Germany)
July 2001	Technical University of Braunschweig (Germany)
July 2001	Lawrence Berkeley National Laboratory, Berkeley (USA)
November 2001	Technical University of Hamburg-Harburg (Germany)
Dezember 2001	Aachen University of Technology (RWTH Aachen, Germany)
January 2002	Technical University of Berlin (Germany)
February 2002	Chemnitz University of Technology (Germany)
July 2002	University of Rostock (Germany)
September 2002	University of Freiburg/Institute for Microsystems Technoloy (Germany)
January 2003	University of Leipzig (Germany)
January 2004	Chemnitz University of Technology/Institute for Physics (Germany)
February 2004	Technical University of Hamburg-Harburg (Germany)
October 2004	University of Hagen (Germany)
Juni 2005	Infineon Technologies, Munich (Germany)
March 2006	Courant Institute, New York University (USA)
June 2006	Technical University of Dresden (Germany)
November 2006	Universidad Jaime I de Castellón (Spanien)
November 2006	Technical University of Ilmenau (Germany)
December 2006	RWTH Aachen (Germany)
March 2007	J.J. Strossmeyer University, Osijek (Croatia)
October 2007	University of Oxford (GB)
October 2007	MIT, Cambridge (USA)
November 2007	Virginia Tech, Blacksburg (USA)
November 2007	University of Kansas, Lawrence (USA)

January 2008	Universität Bielefeld (Germany)
April 2008	Université Paul Sabatier, Toulouse (France)
November 2008	Universidad Carlos III de Madrid (Spain)
November 2008	Chemnitz University of Technology (Germany) – Dies Academicus
December 2008	Technical University of Hamburg-Harburg (Germany)
December 2008	Max Planck Institute Magdeburg (Germany)
March 2009	Rice University, Houston (USA)
June 2009	University of Trier (Germany)
February 2010	Christian-Albrechts-Universität zu Kiel (Germany)
May 2010	Otto-von-Guericke Universität Magdeburg (Germany)
June 2010	Université du Littoral Côte d'Opale, Calais (France)
December 2010	University of Bonn (Germany)
January 2011	Université du Littoral Côte d'Opale, Calais (France)
February 2011	Research Center "Dynamical Systems", Magdeburg (Germany)
April 2011	University of Stuttgart (Germany)
November 2011	Martin-Luther-University Halle-Wittenberg (Germany)
November 2011	University of Hamburg (Germany)
October 2012	TU Berlin (Germany)
November 2012	University of Konstanz (Germany)
April 2013	Courant Institute, New York University (USA)
July 2013	University of Marburg (Germany)
October 2013	University of Bayreuth (Germany)
December 2013	Fraunhofer ITWM Kaiserslautern (Germany)
February 2014	University of California at Davis (USA)
May 2014	RWTH Aachen University (Germany)
October 2014	TU Berlin (Germany)
September 2014	Heidelberg Laureate Forum (Germany)
October 2014	J.J. Strossmeyer University, Osijek (Croatia)
June 2015	University of Innsbruck (Austria)
April 2015	MPI for Mathematics in the Sciences, Leipzig (Germany)
August 2015	Shanghai University (P.R. China)
February 2016	University of Warwick (UK)
November 2016	Universität zu Köln (Germany)

Research visits

June/July 1994	(5 weeks)	University of Kansas, Lawrence (USA)
February 1995	(1 week)	Deutsches Zentrum für Luft- und Raumfahrt (DLR), Oberpfaffenhofen (Germany)
July 1995	(1 week)	University of Reading (GB)
February 1996	(1 week)	University of Reading (GB)
April/May 1996	(5 weeks)	University of Kansas, Lawrence (USA)
May/June 1996	(3 weeks)	University of California at Santa Barbara (USA)
November 1996	(1 week)	Universidad Politécnica de Valencia (Spain)
February 1998	(1 week)	Chemnitz University of Technology (Germany)
March 1998	(1 week)	Universidad Politécnica de Valencia (Spain)
May 1998	(1 week)	Rice University, Houston (USA)
May/June 1998	(1 week)	Northern Illinois University, DeKalb (USA)
December 1998	(1 week)	Universidad Politécnica de Valencia, Valencia (Spain)
March 1999	(1 week)	Universidad Jaime I de Castellón (Spain)
March 1999	(1 week)	Universidad Politécnica de Valencia (Spain)
June 1999	(1 week)	University of Calgary (Canada)
August 1999	(4 weeks)	University of Kansas, Lawrence (USA)
October 1999	(1 week)	Universidad Jaime I de Castellón (Spain)
January 2000	(2 weeks)	Chemnitz University of Technology (Germany)
February 2000	(2 weeks)	Università degli Studi di Modena e Reggio Emilia, Modena (Italy)
May 2000	(1 week)	Technical University of Munich (Germany)
July 2000	(1 week)	Chemnitz University of Technology (Germany)
October 2000	(1 week)	University of Kansas, Lawrence (USA)
November 2000	(1 week)	Universidad Jaime I de Castellón (Spain)
March–April 2001	(2 weeks)	University of Kansas, Lawrence (USA)
July 2001	(1 week)	Lawrence Berkeley National Laboratory, Berkeley (USA)
July 2001	(2 weeks)	University of Kansas, Lawrence (USA)
August 2002	(1 week)	Technical University of Munich (Germany)
September 2004	(1 week)	Universidad Jaime I de Castellón (Spain)
February–March 2006	(3 weeks)	Courant Institute, New York University (USA)
November 2006	(1 week)	Universidad Jaime I de Castellón (Spain)
March 2007	(1 weeks)	J.J. Strossmeyer University, Osijek (Croatia)
August 2007	(2 weeks)	Escuela Politécnica Nacional, Quito (Ecuador)
October 2007	(1 week)	University of Oxford (GB)
October–November 2007	(4 weeks)	MIT/Virginia Tech/University of Kansas (USA)
April–May 2008	(1 week)	Université Paul Sabatier, Toulouse (France)
November 2008	(1 week)	Universidad Jaime I de Castellón (Spain)
February 2009	(1 week)	Virginia Tech, Blacksburg (USA)
March 2009	(1 week)	Rice University, Houston (USA)
January 2011	(2 weeks)	Université du Littoral Côte d'Opale, Calais (France)
April 2013	(3 weeks)	Courant Institute, New York University (USA)
January–February 2014	(3 weeks)	Lawrence Berkeley National Lab (USA)
August 2015	(2 weeks)	Shanghai University (P.R. China)
October 2015	(1 week)	Virginia Tech, Blacksburg (USA)

Funded Projects

1. *Title:* MathEnergy — Mathematical Key Technologies for Energy Networks.
   Funded by: BMWi (Federal Ministry for Economic Affairs and Energy).
   Partner: Fraunhofer SCAI/ITWM, TU Berlin, HU Berlin, TU Dotmund, FAU Erlangen, Venios GmbH, PSI AG.
   Duration: 10/2016 – 02/2021.

2. *Title:* Structure-Preserving Model Reduction for Dissipative Mechanical Systems.
   Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation), Special Priority Program 1897 $Calm$, $Smooth$ and $Smart$.
   Partner: U Hamburg (Prof. Dr. T. Reis), TU Berlin (Dr. M. Voigt).
   Duration: 10/2016 – 09/2019.

3. *Title:* Energy-aware High Performance Computing with Applications in Control Theory.
   Funded by: BMBF (German Federal Ministry of Education and Research, program $Scientific$-$Technology\ Cooperation\ LatAm$).
   Partner: Universidad de la República, Montevideo (Prof. Dr. P. Ezzatti).
   Duration: 01/2015 – 12/2016.

4. *Title:* MINLP for Optimized Damping.
   Funded by: DAAD (German Academic Exchange Service), Projektbezogenen Personenaustauschs (PPP) with Croatia.
   Partner: Josip Juraj Strossmayer University Osijek (Prof. Dr. N. Truhar).
   Duration: 01/2015 – 12/2016.

5. *Title:* European Model Reduction Network (EU-MORNET).
   Funded by: COST (European Cooperation in Science and Technology).
   Partner: researchers in model order reduction from 23 countries.
   Duration: 06/2014 – 04/2018.

6. *Title:* Nanoelectronic Coupled Problems Solutions (nanoCOPS).
   Funded by: EU (FP7), research program "Information and Communication Technologies" (ICT).
   Partner: 7 universities from AT, BE, DE, CZ; 4 companies from BE, FR, NL.
   Duration: 11/2013 – 10/2016.

7. *Title:* Optimale Dämpfung vibrierender Systeme.
   Funded by: Zeidler-Forschungs-Stiftung.
   Duration: 10/2013 – 09/2015.

8. *Title:* Optimal Damping of Vibrating Systems.
   Funded by: DAAD (German Academic Exchange Service), Projektbezogenen Personenaustauschs (PPP) with Croatia.
   Partner: Josip Juraj Strossmayer University Osijek (Prof. Dr. N. Truhar).
   Duration: 01/2013 – 12/2014.

9. *Title:* Nonlinear Model Order Reduction for Navier-Stokes Equations Using a QBDAE Approach.
   Funded by: Robert BOSCH GmbH.
   Duration: 01/2012 – 12/2014.

10. *Title:* Multivariate Interpolation Methods for Parametric Model Reduction.
    Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation).

Partner: Jacobs University Bremen (Prof. Dr. A.C. Antoulas).
Duration: 01/2012 – 09/2014.

11. *Title:* Model Order Reduction for Thermo-Elastic Assembly Group Models.
Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation), project A6 within DFG Transregio SFB 96 *Thermo-Energetic Design of Machine Tools*.
Partner: TU Chemnitz, RWTH Aachen, TU Dresden.
Duration: 07/2011 – 06/2015, 07/2015 – 06/2019.

12. *Title:* Model Reduction for fast Simulation of new Semiconductor Structures in Nano- and Microsystems-Technology.
Funded by: BMBF (German Federal Ministry of Education and Research, program *Mathematics for Innovation in Industry and Services*).
Partners: TU Berlin/MATHEON, TU Braunschweig/Institute *Computational Mathematics*, University of Hamburg/Department Mathematics, University of Darmstadt/TEMF, Fraunhofer-ITWM Kaiserslautern, Infineon Technologies AG Neubiberg, Computer Simulation Technology AG Darmstadt, MunEDA GmbH Munich, X-FAB Semiconductor Foundries AG, Erfurt.
Duration: 10/2010 – 03/2014.
Note: Network coordinator.

13. *Title:* Modern Model Reduction Methods for Elastic Components in the Simulation of Flexible Multi-body Systems.
Funded by: Forschungsvereinigung Verbrennungskraftmaschinen e.V.
Partners: University of Stuttgart/Institute of Engineering and Computational Mechanics, University of Kassel/Lehrstuhl für Maschinenelemente und Tribologie.
Duration: 02/2010 – 12/2010.

14. *Title:* Simulation of the Glyphosate Aerial Spray Drift at the Ecuador-Colombia Border.
Funded by: SENACYT (Ecuadorian National Organization of Science), Escuela Politécnica Nacional, Quito, Ecuador.
Partners: Escuela Politécnica Nacional, Quito, Ecuador/Department of Mathematics. *Duration:* 06/2009 – 05/2012.

15. *Title:* System Reduction for IC Design in Nano-Electronics.
Funded by: BMBF (German Federal Ministry of Education and Research, program *Mathematics for Innovation in Industry and Services*).
Partners: TU Berlin/MATHEON, TU Braunschweig/Institute *Computational Mathematics*, University of Hamburg/Department Mathematics, Fraunhofer-ITWM Kaiserslautern, NEC Europe Ltd. Sankt Augustin, Qimonda AG Neubiberg, Infineon Technologies AG Neubiberg.
Duration: 07/2007 – 12/2010.
Note: Network coordinator.

16. *Title:* Operational Model Order Reduction for Nanoscale IC Electronics.
Funded by: EU (Marie Curie Host Fellowships for the Transfer of Knowledge (ToK) Industry-Academia Partnership Scheme).
Partner: NXP/Philips Eindhoven, TU Eindhoven, Universiteit Antwerpen.
Duration: 02/2007 – 01/2010.

17. *Title:* Integrated Simulation of the System "Machine Tool – Actuation – Stock Removal Process" based on Model Order Reduction of the Structural FEM Model.

Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation).
Partners: Technical University of Munich/Institute for Machine Tools and Industrial Management (iwb), TU Braunschweig/Institute *Computational Mathematics*.
Duration: 01/2008 – 06/2009.

18. *Title:* Optimal Control-Based Feedback Stabilization for Multi-Field Flow Problems.
Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation), Special Priority Program 1253 *Optimization with Partial Differential Equations*.
Partner: Friedrich-Alexander-Universität Erlangen-Nürnberg/Institute for Applied Mathematics (Prof. Dr. E. Bänsch).
Duration: 10/2006 – 09/2012.

19. *Title:* Numerical algorithms for generalized eigenvalue problems of even structure with application in robust control of descriptor systems.
Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation).
Partner: TU Berlin/Institute for Mathematics (Prof. Dr. V. Mehrmann).
Duration: 09/2006 – 01/2010.

20. *Title:* Automatic, Parameter-Preserving Model Reduction for Applications in Microsystems Technology.
Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation).
Partner: University of Freiburg/Institute for Microsystems Technology (Prof. Dr. J. Korvink).
Duration: 1/2008 – 12/2009.

21. *Title:* Numerical Solution of Optimal Control Problems with Instationary Diffusion-Convection and Diffusion-Reaction Equations.
Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation).
Duration: 01/2006 – 02/2010.

22. *Title:* Implementation of Structure-Preserving Algorithms for Symplectic and Palindromic Matrix Pencils.
Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation).
Duration: 07/2009 (research visit of Dr. Sima (Bucharest) in Chemnitz).

23. *Title:* Using Hamiltonian Structure in System Norm Computations.
Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation).
Duration: 07/2008 (research visit of Dr. Sima (Bucharest) in Chemnitz).

24. *Title:* Modeling and optimal control for chemical-mechanical planarization.
Funded by and Partner: AMD Saxony LLC & Co. KG, Dresden.
Duration: 12/2006 – 01/2008.

25. *Title:* Parallel Algorithms for Large-Scale Sparse Algebraic Riccati Equations and Applications in Control .
Funded by: DAAD (German Academic Exchange Service), program Acciónes Integradas Hispano-Alemanas.
Partner: Universidad Jaime I de Castellón (Prof. Dr. E. Quintana-Ortí).
Duration: 01/2006 – 12/2007.

26. *Title:* Matrix Equation Solvers Based on the Matrix Sign Function.
    Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation).
    Duration: 07/2007 (research visit of Dr. Sima (Bucharest) in Chemnitz).

27. *Title:* Virtual Input-Output-Models for Dimension Reduction of the Simulation of Powergrid Models.
    Funded by and Partner: Infineon Technologies AG/Qimonda AG, München.
    Duration: 04/2006 – 09/2006.

28. *Title:* Numerical Algorithms for Matrix Equations and Structured Eigenvalue Problems.
    Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation).
    Duration: 11/2005 – 12/2005 (research visit of Dr. Sima (Bucharest) in Chemnitz).

29. *Title:* Parallel numerical solution of optimal control problems with instationary diffusion-convection-reaction equations .
    Funded by: Deutsche Forschungsgemeinschaft (German Research Foundation), within Research Unit 393 "Parallel Numerical Simulation for Physics and Continuum Mechanics" at TU Chemnitz.)
    Duration: 04/2004 – 12/2005.

30. *Title:* Computation of Torsional Vibrations for Drive Belts in Combustion Engines.
    Funded by and Partner: Ingenieursgesellschaft Auto und Verkehr (IAV GmbH), Chemnitz.
    Duration: 04/2004 – 09/2004.

31. *Funded by: Deutsche Forschungsgemeinschaft* (German Research Foundation).
    Title: Numerical methods for robust control.
    Partners: Universität Bremen, DLR Oberpfaffenhofen, TU Berlin.
    Duration: 11/2000 – 10/2003.

32. *Funded by:* EU Brite/EURAM Programme (thematic network).
    Title: NICONET (Numerics in Control Network) – Network for Development and Evaluation of Numerically Reliable Software in Control Engineering and its Implementation in Production Technologies.

    Partners: 10 universities, 2 non-academic research institutes, 5 companies from 7 European countries.
    Duration: 01/1998 – 06/2002.

Miscellaneous

Refereeing

- European Research Council (ERC)
- *Deutsche Forschungsgemeinschaft (DFG)* (German Research Foundation)
- *Deutscher Akademischer Austauschdienst (DAAD)* (German Academic Exchange Service)
- *Volkswagenstiftung* (Volkswagen Foundation)
- Alexander von Humboldt-Foundation
- Grant Agency of the Academy of Sciences of the Czech Republic
- Technology Foundation STW, The Netherlands
- Research Foundation Flanders (FWO), Belgium
- Research Council of KU Leuven, Belgium
- National Council of Science, Croatia
- MITACS, Canada
- Science Foundation Ireland
- TüBITAK, Turkey
- Mathematical Reviews
- SIAM Books
- *Mathematical Journals:* SIAM Review; SIAM Journal on Matrix Analysis and Applications; SIAM Journal on Control and Optimization; SIAM Journal on Scientific Computing; SIAM Journal on Optimization; Multiscale Modeling and Simulation; Linear Algebra and its Applications; Electronic Journal of Linear Algebra; Numerical Linear Algebra with Applications; Numerische Mathematik; IMA Journal of Numerical Analysis; BIT Numerical Mathematics; Computing; Advances in Computational Mathematics; Applied Numerical Mathematics; Electronic Transactions on Numerical Analysis; Numerical Algorithms; Applied Numerical Analysis & Computational Mathematics; Journal of Computational and Applied Mathematics; Journal of Computational Science; Zeitschrift für Angewandte Mathematik und Mechanik; Mathematical and Computer Modelling of Dynamical Systems; Mathematics of Control, Signals, and Systems; ESAIM: Control, Optimisation and Calculus of Variations; Computational Optimization and Applications; Applied Mathematics Letters; Applied Mathematics and Optimization; Journal of Mathematical Analysis and Applications; Rocky Mountain Journal of Mathematics; Japan Journal of Industrial and Applied Mathematics; ANZIAM Journal; Iranian Journal for Numerical Analysis and Optimization; Journal of Inequalities and Applications; International Journal of Applied Mathematics and Computer Science; International Journal of Computer Mathematics; Journal of Parallel and Distributed Computing; International Journal for Uncertainty Quantification.
- *Science Journals:* Journal of Computational Physics.
- *Engineering Journals:* International Journal for Numerical Methods in Engineering; Computer Methods in Applied Mechanics and Engineering; IEEE Control Systems Magazine; IEEE Transactions on Automatic Control; IET Control Theory & Applications; Systems & Control Letters; Automatica; International Journal of Control;

Journal of the Franklin Institute; European Journal of Control; International Journal of System Sciences; Circuits, Systems, and Signal Processing; Controle & Automação; International Journal of Automation and Control; Systems Science and Control Engineering; International Journal of Modelling and Simulation; Journal of Advanced Research; Journal of Zhejiang University SCIENCE; Sadhana — Academy Proceedings in Engineering Science.

- Miscellaneous Conference Proceedings, in particular regularly IEEE CDC, IEEE MSC (formerly CCA/CACSD), American Control Conference, ENUMATH, MTNS, ECC, IFIP TC7.

Membership in Scientific Organisations

- *Deutsche Mathematiker-Vereinigung (DMV)* (German Mathematical Society)
- *Gesellschaft für angewandte Mathematik und Mechanik (GAMM)* (International Association for Applied Mathematics and Mechanics).
  - GAMM Activity Group "Applied and Numerical Linear Algebra" (chair 01/2009–03/2013).
  - GAMM Activity Group "Dynamical Systems and Control Theory".
  - GAMM Activity Group "Optimization with Partial Differential Equations".
  - GAMM Activity Group "Computational Science and Engineering".
  - GAMM Activity Group "Uncertainty Quntification".
- Society for Industrial and Applied Mathematics (SIAM).
  - SIAM Activity Group on "Linear Algebra".
  - SIAM Activity Group on "Computational Science and Engineering".
- European Mathematical Society (EMS), council member 2012–2020.
- GMA Activity Group 1.30 "Modeling, Identification and Simulation in Automation Technology".
- NICONET e.V. (society for developing control and systems software, in particular SLICOT[3]; chair since 07/2006).

Awards, stipends, etc.

- *Springorum-Denkmünze* of RWTH Aachen for excellent diploma thesis.
- Ph.D. scholarship of the state Saxonia, 01–11/1994.
- DAAD-fellowship USA for visiting the University of Kansas in Lawrence, Kansas, and the University of California at Santa Barbara, California, 04–06/1996.
- Distinguished Professor at the School of Mechatronics Engineering and Automation, Shanghai University, 2015.

[3] See http://www.niconet-ev.info/.