CURRICULUM VITAE
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Arizona State University,
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Nationality: German and US
married to Charlotte Armbruster, 2 children

Education:
Zeppelin Gymnasium, Stuttgart, West Germany 1965 - 1973
University of Tübingen, Tübingen, West Germany 1975 - 1980

Degrees:
Abitur 1973
Diplom in physics 1980
Ph. D. in physics 1984 (summa cum laude)
Habilitation in Mathematical Physics 1990

Present Status:
Professor with tenure at the School of Mathematical and Statistical Sciences at Arizona State University

Previous Employments:
Research Assistant at the University of Tübingen supported by the Stiftung Volkswagenwerk from April 1982 to March 1985.
Hochschulassistent at the University of Tübingen from April 1985 to December 1989.
Postdoctoral Research Assistant at the Mathematical Sciences Institute and at the Department for Theoretical and Applied Mechanics at Cornell University from September 1986 to August 1988.
Associate Professor at Arizona State University from 1/1990 to 6/1992

Full Professor at Arizona State University since June 1992
Visiting Professor, Muroran Institute of Technology, Japan March 2002
Visiting Professor at the University of Potsdam, Germany Fall 2002
Visiting Professor at the Eindhoven University of Technology, 2003 and 2004
Interim Chair of the Department of Mathematics and Statistic at Arizona State University, 2005-2008
Part-time Professor at the Department of Mechanical Engineering at the Eindhoven University of Technology (Netherlands) 2006- 2011
Visiting Professor, Department of Mathematics, University of Mannheim, Germany, Fall 2016
Associate Director for Graduate Programs, 7/2017 -

Research interests:
Theory of dynamical systems, bifurcation theory, chaos, symmetries in dynamical systems, finite dimensional attractors in nonlinear PDEs, applications to nonlinear problems in physics and biology: nonlinear optics, turbulence, solid state physics, reaction diffusion problems; dynamics and functionality of networks; Complexity Theory; industrial mathematics; Operations Research: supply chain dynamics and scheduling problems

Teaching experience
Graduate courses on Computer Algebra in dynamical systems (Tübingen and Cornell), differential equations, nonlinear dynamics and chaos (Tübingen and ASU), information theory and chaos (Tübingen), population dynamics and game theory (ASU). Undergraduate math modeling project courses in collaboration with INTEL and Lockheed Martin, Maricopa Dep. of Public Health, Arizona DPS crime lab. Standard undergraduate courses in Mathematics (ASU). Organization of seminars and supervising research for theses of graduate students at ASU. Developed a 1 year seminar/course on Preparing Future Mathematics Faculty. Developed a Curriculum for the introductory ODE course taught in a Computer lab. Together with Eric Kostelich I have written a textbook on that subject which was published by Addison Wesley in fall 1996.
Graduate level course on *Mathematical Methods of Complexity* (ASU, U. of Mannheim)

Recent Service
Associate Director for Graduate Programs, 7/2017 -
Interim Director of the Center for Social Complexity and Dynamics, 1/2012-6/2012

Director of the Applied Math Ph.D program 2008- 2009
Steering committee member ASU Center for Social Dynamics and Complexity 2008-2016
Steering committee member for the "Bio-inspired Logistics" grant of the Daimler -Benz Foundation 2007- 2009
Faculty Senator 2003-2005
Member of the Chair Search Committee, 2004-2005
Focus Group leader for the ASU Responsive Ph.D. Initiative, 2002
Member of the Graduate Council to the Dean of the Graduate College 2001-2004
Associate Chair, Director for Graduate Studies, Fall 2001, 1997 - 1999
Member of the Personnel Committee 2001-2002, 94-95
Acting Department Chair Spring 2000
Member of the Preparing Future Faculty Steering Committee, 1998- 2005

Publications

1. D.Armbruster, G.Dangelmayr: Singularities in phonon focusing due to nolinear dispersion, Z.Krist. 162 (1), 236 (1983)

2. G.Dangelmayr, D.Armbruster: Classification of Z(2)-equivariant imperfect bifurcations with corank two, Proc. Lond. Math. Soc. 46 (3), 517 (1983)

3. D.Armbruster, G.Dangelmayr: Topological singularities and phonon focusing, Z.Phys. B 52, 87 (1983)

4. D.Armbruster: An organizing center for optical bistability and selfpulsing, Z.Phys. B 53, 157 (1983)

5. D.Armbruster, G.Dangelmayr, W.Güttinger: Nonlinear phonon focusing,in Phonon Scattering in Condensed Matter, Editors W. Eisenmenger et al. p. 75 Springer 1984

6. D.Armbruster: Bifurcation geometry of optical bistability and selfpulsing, in Optical Bistability 2, Editors Ch.M.Bowden et al. p. 173 Plenum 1984

7. D.Armbruster, G.Dangelmayr: Structurally stable bifurcations in optical bistability, in Nonequilibrium Cooperative Phenomena in Physics and Related Fields, Editor M.G.Velarde p.137 Plenum 1984

8. D.Armbruster, G.Dangelmayr, W.Güttinger: Imperfection sensitivity of interacting Hopf- and steady-state bifurcations and their classification, Physica 16D, 99 (1985)

9. D.Armbruster, G.Dangelmayr: Structurally stable transitions in optical tristability, Il Nuovo Cimento 85B (2), 125 (1985)

10. G.Dangelmayr, D.Armbruster, M.Neveling: A codimension three bifurcation for the laser with saturable absorber, Z.Phys. B. 59, 365 (1985)

11. D.Armbruster: Bifurcation theory and Computer Algebra: An initial approach, in Proceedings of EUROCAL 85 Vol. 2 Editor B. Caviness, Springer L.N.Comp.Sci. 204, p. 126 (1985)

12. D.Armbruster, H.Kredel: Constructing universal unfoldings using Gröbner bases, J. of Symbolic Computation 2, 383 (1986)

13. G.Dangelmayr, M.Neveling, D.Armbruster: Structurally stable phase portraits for the five-dimensional Lorenz equations, Z.Phys. B. 64, 491 (1986)

14. G.Dangelmayr, D.Armbruster : Steady state mode interactions in the presence of O(2)-symmetry and in non-flux boundary value problems, in Multiparameter Bifurcation Theory, Editors M.Golubitsky, J.Guckenheimer, AMS Contemp. Math. 56, 53 (1986)

15. D.Armbruster, G.Dangelmayr: Corank two bifurcations for the Brusselator with non-flux boundary conditions, Dynamics and Stability of Systems 1 (3), 187 (1986)

16. D.Armbruster, M.Neveling: The butterfly singularity in double-diffusive convection, J. Non-Equilib. Thermodyn. 12, 313 (1987)

17. D.Armbruster, G.Dangelmayr: Coupled stationary bifurcations in non-flux boundary value problems, Math. Proc. Camb. Phil. Soc. 101, 167 (1987)

18. D.Armbruster: O(2)-symmetric bifurcation theory for convection rolls, Physica 27D, 433 (1987)

19. D.Armbruster: Computer Algebra programs for dynamical systems theory, in The Physics of Structure Formation,
Editors W.Güttinger, G.Dangelmayr, p. 417 Springer (1987)

20. D.Armbruster, J.Guckenheimer, Ph.Holmes: Heteroclinic cycles and modulated travelling waves in systems with O(2) symmetry, Physica 29D, 257 (1988)

21. W.Zimmermann, D.Armbruster, L.Kramer, W.Kuang: The effect of spatial modulations on Codimension-2 bifurcations, Europhys. Lett.6 (6), 505 (1988)

22. D.Armbruster, J.Guckenheimer, Ph.Holmes: Kuramoto-Sivashinsky dynamics on the center-unstable manifold, SIAM J. of Applied Math. 49 (3), 676 (1989)

23. D.Armbruster: Persistent heteroclinic orbits, in: "The Connection Between Infinite Dimensional and Finite Dimensional Dynamical Systems", eds: B.Nicolaenko et al, AMS Contemp. Math. 99, 93-103 (1989)

24. D.Armbruster, J.Guckenheimer, S.Kim: Chaotic dynamics in systems with square symmetry, Physics Letters A 140, 416 (1989)

25. D.Armbruster: More on structurally stable H-orbits, in: Proceedings of the BTNA, Xian P.R.China, Eds: Li Kaitai et al (1989)

26. D.Armbruster, G.Dangelmayr: Circuit induced oscillations of SNDC semiconductors, Physics Letters A 138, 46 (1989)

27. D.Armbruster, P.Chossat: Heteroclinic orbits in a spherically invariant system, Physica D 50, 155-176 (1991)

28. P.Chossat, D.Armbruster: Structurally stable heteroclinic cycles in a system with O(3)-symmetry, in "Singularity Theory and its Applications", Warwick 1989, Part II, eds: M.Roberts, I. Stewart, Springer Verlag 38-62 (1991)

29. D.Armbruster: Codimension 2 bifurcation in binary convection with square symmetry, in: Proceedings of the NATO ASI Streitberg (1989) eds. F.Busse, L.Kramer

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32. M.Kirby, D.Armbruster, W.Güttinger: An approach for the analysis of spacially localized oscillations, International Series of Numerical Math. 97, Birkhäuser Verlag, 1991, p. 183

33. M.Kirby D.Armbruster: Reconstructing phase space for PDE simulations, ZAMP 43, p. 999-1022 (1992)

34. D.Armbruster, R.Heiland, E.Kostelich, B.Nicolaenko: Phase-space analysis of bursting behavior in Kolmogorov flow, Physica D 58, p. 392-401 (1992)

35. D.Armbruster, A.Mahalov: On the explicit symmetry breaking in the Taylor-Couette problem, Physics Letters A 167 p. 251-254 (1992)

36. D.Armbruster, E.Ihrig: Topological constraints for explicit symmetry breaking, Lectures in Applied Mathematics 29, p37-47 (1993)

37. D.Armbruster: Analyzing spatio-temporal complexity, in: 1st European Nonlinear Oscillator Conference, eds: E. Kreuzer, G. Schmidt, Akademie Verlag, 1993

38. D.Armbruster, R.Heiland, E.Kostelich: KLTOOL: a tool to analyze spatio-temporal complexity, Chaos **4** (2) p.421-424, (1994)

39. E.Kostelich, D.Armbruster: The ODE project at Arizona State University, in: Proceedings of the 6th International Conference on Technology in Collegiate Mathematics, 1994

40. D.Armbruster, B.Nicolaenko, N.Smaoui, P.Chossat: Analyzing bifurcations in the Kolmogorov flow equations, in: "Dynamics, Bifurcations and Symmetries", P.Chossat, ed. NATO ASI, Cargese 1993, Kluwer (1994)

41. D.Armbruster, E.Stone, R.Heiland: Towards analyzing the dynamics of flames, Fields Institute Communications 5, p. 1-17 (1996)

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43. A.Palacios, D.Armbruster, E.Kostelich, E.Stone: Analyzing the dynamics of cellular flames, Physica D **96**, p. 132-161, 1996

44. S. Wang, P. Crouch, D. Armbruster: Bifurcation analysis of oscillations in electric power systems, Proceedings of the 35th Conference on Decision and Control, Kobe Japan, 1996

45. D.Armbruster: The (almost) complete dynamics of the FitzHugh Nagumo equations, in: "Nonlinear Dynamics", ed. A. Guran, World Scientific 1997, p. 89-102

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51. Dieter Armbruster, Pascal Chossat: Remarks on multi-frequency oscillations in symmetrically coupled oscillators, Physics Letters A, **254**, p. 269-274, (1999)

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53. Ying-Cheng Lai, Dieter Armbruster and Eric J. Kostelich: Intermittency in chaotic rotations, Phys. Rev. E **62**(1), R29-R32 (2000)

54. Ying-Cheng Lai, Dieter Armbruster and Eric J. Kostelich: Reply to "Comment on Intermittency in chaotic rotations", Phys. Rev. E 64, 058204(1-3) (2001)

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57. Dieter Armbruster: PFMF at Arizona State University, Focus **21**(1), p 6-7, (2001)

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82. Dominique Perdaen, Dieter Armbruster, Karl Kemp, and Erjen Lefeber, Controlling a re-entrant manufacturing line via the push-pull point, International Journal of Production Research, Volume 46, Issue 16 August 2008 , pages 4521 - 4536

83. Yun Kang, Dieter Armbruster and Yang Kuang: Dynamics of a plant-herbivore model. Journal of Biological Dynamics, **2**(2), 89-101, 2008

84. M.P.M. Hendriks, D. Armbruster, M. Laumanns, E. Lefeber, J.T. Udding, Strategic terminal allocation and time scheduling of cyclically arriving container vessels, Proceedings of the 18th Triennial Conference of the International Federation of Operational Research Societies (IFORS), Sandton, South Africa, 14, 2008.

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90. D. Armbruster, S. Göttlich and M. Herty: A scalar conservation law with discontinuous flux for supply chains with finite buffers, SIAM J. Appl. Math. **71** No. 4, pp. 1070- 1087 (2011)

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92. Yun Kang, Dieter Armbruster: Noise and seasonal effects on the dynamics of plant-herbivore models with monotone plant growth functions, International Journal of Biomathematics, **4**(3), p 255 - 274, (2011)

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97. Wen-Xu Wang, Ying-Cheng Lai, and Dieter Armbruster: Cascading failures and the emergence of cooperation in evolutionary-game based models of social and economical networks, Chaos **21**, 033112 (2011)

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102. Dieter Armbruster, Jasper Fonteijn, Matt Wienke: Modeling production planning and transient clearing functions, Logist. Res. DOI 10.1007/s12159-012-0087-8 (2012).
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105. J.-Emeterio Navarro-Barrientos, Dieter Armbruster, Hongmin Li, Morgan Dempsey, Karl G. Kempf: Towards Automated Extraction of Expert System Rules from Sales Data for the Semiconductor Market, in I. Batyrshin and M. Gonzlez Mendoza (Eds.): Mexican International Conference on Artificial Intelligence - MICAI 2012, Part II, Lecture Notes in Artificial Intelligence LNAI 7630, Springer (2013), pp. 421 - 432

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Books:

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2. E.Kostelich, D.Armbruster: Introductory Differential Equations, From Linearity to Chaos, Addison Wesley (1996)

3. Pascal Chossat, Dieter Armbruster, Iuliana Oprea eds.: *Dynamo and Dynamics, a mathematical challenge*, Kluwer 2001

4. Dieter Armbruster, Alexander Mikhailov, Kunihiko Kaneko (eds): Networks of Interacting Machines, World Scientific, 2005,

5. D. Armbruster, K. Kempf (Eds.): Decision Policies for Production Systems, Springer-Verlag, 2012

Title of Ph.D. Thesis (1984):
On the bifurcation geometry of structurally stable physical systems (in German), thesis advisor W. Güttinger, referees M.Dal Cin , R. Thom

Title of Habilitation Thesis (1990):
Nonlinear Dynamics and Bifurcation with Symmetry: New Routes to Chaotic Systems (in German), reports by F. Busse, J. Guckenheimer and W. Güttinger

Software:
KLTOOL: A program for analyzing spatio-temporal data, developed by R. Heiland, D.Armbruster and E.Kostelich, Arizona State University 1993

Grants awarded

Postdoctoral Research Associate at the Mathematical Sciences Institute, Cornell University, 1986 - 1988

Research Grant from the "Deutsche Forschungsgemeinschaft" (DFG), 1986 - 1988

Co-investigator for the University Research Initiative on "Spatio-Temporal Complexity and Large Scale Structures in Problems of Continuum Mechanics" funded through the Air Force Office for Scientific Research (B. Nicolaenko PI), 1989

Co-principal investigator for the proposal "Low dimensional dynamical characterization of partial-differential equations" funded through the NSF computational mathematics program (with E. Kostelich PI, and B.Nicolaenko Co-PI), 1991

Co-principal investigator for the proposal "Symbolic Computation and Differential Equations" funded through the NSF computational mathematics program (with B. Grossman, R. Larson, and P. Crouch), 1991

"Workshop on dynamics of structures in turbulence", workshop held on May 20 - May 25 1991 organized jointly with B. Nicolaenko, W. Saric and H. Reed funded by the ONR and AFOSR.

Principal investigator for the proposal "Bifurcation et evolution des dynamos convectives dans un domaine spherique" approved as a collaboration proposal with Pascal Chossat by the NSF and funded by the CNRS 1992

Co-director for the project "Computer laboratory classroom for undergraduate Mathematics curriculum" (J. Bustoz, director; M. Kawski and E. Kostelich, Co-directors) funded through NSF, 1992

Co-principal investigator for the proposal "From dynamical systems to coherent structures: Shadowing chaos within turbulence" funded through AFOSR (B.Nicolaenko PI, A. Eden and E. Kostelich Co-PI), 1993

Co-director for the project "Comp. Classroom Lab. - Calculus for everyone model for life sciences" (J. Bustoz, director; 5 Co-directors) funded through NSF, 1994

Co-principal investigator for the proposal "Characterizing the Dynamics of Spatio-Temporal Data", (with E. Kostelich, PI) funded through Department of Energy 1994.

Principal investigator for the proposal "Characterizing the Dynamics of Spatio-Temporal Data", (with E. Kostelich, Co-PI) funded through NSF 1995.

Principal investigator for the proposal "Spatio-Temporal Dynamics in Spherically Symmetric Systems", a collaboration with Pascal Chossat, funded through NATO 1995.

Principal investigator for a National Research Council's Collaboration in Basic Science and Engineering short term visiting grant 1997

Pi for "Spatio-Temporal Dynamics in Spherically Symmetric Systems", NATO travel grant 97 - 99

Co-Pi Modeling and Analysis of Semiconductor Manufacturing Supply Chains funded through the Manufacturing Institute ASU, 1999

Pi for "Preparing Future Faculty in Mathematics at ASU", grant awarded from AMS, 1999-2001

Co-Pi for "A modular, scalable approach to modeling and analysis of semiconductor manufacturing supply chains, NSF, 2000

Pi for "Dynamo and dynamics, a mathematical challenge: A workshop at the Institut d'Etudes Scientifiques de Cargese, Corsica (France), NSF, 2000

Pi for "Dynamics and Control in Semiconductor Manufacturing Lines", NSF, 2000

Co-Pi for grant on modeling and control of supply chains from Intel, 2001-2003.

Co-Pi for "Intermountain/Southwest Conference on Industrial and Interdisciplinary Mathematics", NSF, 2001-2004

Pi for "Simulations of Semiconductor Supply Chains", Intel Research Council, 2002.

Pi for "Dynamics of Production and Supply Networks", NSF 2002- 2005

Pi for "Simulations of Semiconductor Supply Chains", Intel Research Council, 2003- 2004

Co-Pi of a grant from the Klaus Tschira Foundation to run an international workshop on "Networks of Interacting Machines: Industrial Production Systems and Biological Cells".

Co-Pi of an EU grant to run a Thematic Institute on Information and material flows in complex networks, June 2005,

Pi for Learner-Centered Education Course Redesign Initiative (2006- 2009), College Algebra, Arizona Board of Regents.

Co-Pi for Emsw21-Mctp: Mentorship Through Research: A Model For An Emerging Urban American University, NSF 2005- 2010.

Co-Pi for "Multiscale Continuum Models For Large Production And Supply Networks", NSF 2006- 2009

Co-Pi for *Complex self-organizing networks of interacting machines: Principles of design, control, and functional optimization*, VW Stiftung 2007 - 2010.

Pi for an extension of *Complex self-organizing networks of interacting machines: Principles of design, control, and functional optimization*, Volkswagen Foundation, Total award: $ 204,257, Award period 2011 - 2014.

Co-Pi on Computational Science Training for Undergraduates in the Mathematical Sciences (CSUMS), NSF 2007- 2012,

Co-Pi for *Forecasting Inter-Generation Product Transitions*, Intel Research Council Total Award Amount: $80,000, Total Award Period Covered 10/01/2008 - 09/30/2011

Pi for *Agent-Based Simulations For Market Forecasting*, Intel Research Council, Total award: $ 147,472, Award period 4/1/2010- 6/1/2013.

Co-Pi for *Control, Design and Optimization of Complex Networked Systems*, NSF Total Award Amount: $310,000, Total Award Period Covered: 09/15/2010 - 08/31/2012

Co-Pi for *MCTP: Mathematics Mentoring Partnership Between Arizona State University and the Maricopa County Community College District* NSF-MPS-DMS Total Award Amount: $ 1,099,808.00 Total Award Period Covered: 7/12-6/17

Co-Pi for *Multiscale Modeling Of Division Of Labor In Social Insects*, NSF 2013- 2016, Total award $ 307,000.

Co-Pi for *Characterizing Spatio-Temporal Patterns of Swarms*, NSF 2015 - 2018, Total award $300,000

Advising

Chair/Co-chair for Ph. D. and Masters theses of R. Heiland (Masters 1992), Shen Wang (Ph.D. Electrical Engineering 1996), Gil-Jun Han (Ph.D. 1996), Maya Mincheva (Masters 1997), Ivonne Diaz-Rivera (Ph.D. 1997), Mark Nelson (Masters 1998), Paul Mayfield (Masters 2000), Dan Marthaler (Masters, 2000), Dan Marthaler (Ph.D, 2002), Tae-Chang Jo (Ph.D. 2002), Rama Chidambaram (Ph.D. 2003), Michael Lamarca (Ph.D 2008), Yun Kang (Ph.D. 2008), Dirk van Zwieten (Masters, TU Eindhoven, 2010), Erika Murguia-Blumenkranz (Ph.D. Industrial Engineering 2010), Moeed Haghnevis(Ph.D. Industrial Engineering 2013), Kevin Coltin (Masters, 2013), Jon Young (Ph.D. Applied Mathematics 2013), Alexander Elkholy (Masters, 2014), Andrea Thatcher (Ph.D Applied Mathematics 2015), Matthew Wienke (Ph.D Applied Mathematics 2015).

Workshops organized

Workshop on Synergetics. Joint meeting of the Institute for Information Sciences of the Universität Tübingen and the Institute for Theoretical Physics at the Universität Stuttgart, December 1989

Workshop on dynamics of structures in turbulence, May 1991, with B. Nicolaenko, W. Saric and H. Reed.

Member of the Organizing Committee for Dynamics Days 1993

Co-organizer of a symposium session for the 33rd Annual Technical Meeting of the Society of Engineering Science 1996

Member of the Organizing Committee for Dynamics Days 1997

Member of the Advisory Board for the Southwest Dynamical Systems Conference, 1997

Co-chair of the Organizing Committee for the Fifth SIAM Conference on Applications of Dynamical Systems, May 1999.

local organizer for the AMS/SIAM/MEU meeting on professional Masters degrees in Mathematics at ASU, November 1999.

Co-organizer for "Dynamo and dynamics, a mathematical challenge", France, 2000

Organizer for a Workshop on Transport in Supply Chains, Traffic and Biology, ASU January 2003

Co-organizer for "Intermountain/Southwest Conference on Industrial and Interdisciplinary Mathematics", Utah State University 2002, Colorado State University 2003, ASU 2004

Minisymposium organizer for SIAM Snowbird meetings, SIAM Industrial Mathematics Meeting, INFORMS, etc.

Co-organizer of a workshop on "Networks of Interacting Machines: Industrial Production Systems and Biological Cells", Berlin Germany, December 2003.

Program Co-Chair for SIAM Conference on Mathematics for Industry, Detroit, October 2005

Co-organizer of a Thematic Institute on *Information and material flows in complex networks*, Goldrain, June 2005

Organizer of "Dynamics and Control of Supply Chains", Einhoven University of Technology, June 2007

Co-organizer for a Satellite Conference to the European Conference on Complex Systems 2007 on "Logistics Networks", Dresden, October 2007

Co-organizer of the Sapporo Winter School: Networks of interacting machines, February 2009

Member of Organizing Committee for SIAM Conference on Mathematics for Industry, San Franscisco, October 2009

Managing the Hive, Center for Social Complexity and Dynamics, ASU, May 2011

Co-organizer of the Winter School: *An Introduction to Kinetic Models in the Emergence of Complex Behavior in Social and Economic Systems* February 18-21, 2013, (ICES) University of Texas at Austin

Co-organizer of the workshop: *Kinetic Theory for the Emergence of Complex Behavior in Social and Economic Systems* February 22-24, 2013, (CSDC) Arizona State University

Main organizer of the workshop: *Collective dynamics and model verification: Connecting kinetic modeling to data*, 2015, Arizona State University

Program committee, Conference on Complex Systems, 2015, CCS'15, Arizona State University

Co-organizer for the workshop *Fingerprints, swarms and epidemics: How mathematics and physics explain biological patterns* (in German) for the Studienstiftung des Deutschen Volkes, September 18 - 30, 2016, La Colle-sur-Loup, France.

Lead organizer for the workshop *Applying Optimization Techniques to Agricultural Problems*, NIMBIOS, U. of Tennessee, Knoxville, May 2017.

Some invited talks and research visits (last 10 years)

Colloquium, Department of Mathematics, University College London 3/2006

Colloquium, BIBA University of Bremen, Germany, 6/2006

EPT Workshop, Eindhoven University of Technology, 6/2006

Seminar, Intel Corporation, Chandler, 11/2006

Distinguished Speaker Series, School of Industrial and Systems Engineering, Georgia Tech, 10/2006

Workshop and Summer School "Mathematics for the science of complex systems", Warwick University, UK, 9/2006

Ladenburger Discourse 4/2007

"Simulation models for mesoscale systems: Between discrete event simulations and continuum approximations" Multi-scaled Mathematics in Defence Research and its Spin-offs, Lighthill Institute of Mathematical Sciences, London, 5/2007

"Controlling factory production", Colloquium, BIBA University of Bremen, Germany, 6/2007

"Complex production systems: from Biology to Semiconductor Fabs", Inaugural Lecture, TU Eindhoven, 6/2007

Workshop "Mathematical modeling of transport and production logistics", Bremen 1/2008

Ladenburger Discourse 2/2008

AIMS Conference on Dynamical Systems and Differential Equations, two presentations 5/2008

European Consortium For Mathematics in Industry, London 7/2008

AFOSR - Washington DC - Talk 3/2008

Dynamical Systems Seminar, UoA Tucson 11/2008

Planning Production and Inventories in the Extended Enterprise, NCSU, Industrial Engineering, 9/2008

Networks of interacting machines, Talk and Panel Discussion, Sapporo, 2/2009

Keynote speaker for 2nd International Conference on Dynamics in Logistics (LDIC 2009), Bremen, August 2009

Lecture in the workshop on *Dynamics of signal transduction and of gene-protein regulatory networks* at the Mathematical Biology Institute Ohio State University 11/2009

Colloquium at the Department of Information Systems, Production and Logistics Management, University of Innsbruck Austria, 09/2009

Symposium *Frontiers in Network Science*, Berlin, 09/2009

Colloquium at the Jacobs University Bremen, Germany May, 2010

Applied Math Seminar at the University of Kaiserslautern, May, 2010

Applied Math Seminar at the Technical University Dresden, June, 2010

Workshop *Stochastic models of manufacturing systems*, Eindhoven, June, 2010

Workshop *Emergence and design of robustness: general principles and applications to biological, social and industrial networks*, invited talk, Mallorca, 10/2010

ICERM Workshop: Novel Applications of Kinetic Theory and Computations, Brown University, October 2011

Stochastic Dynamics in Mathematics, Physics and Engineering, ZIF Bielefeld, Germany, November 2011

CDC 11 - Conference on Decision and Control, December 2011

Applied Math Colloquium, University of Arizona 2/2012

Seminar in Mathematics, U. of Texas at Austin 4/2012

INFORMS 2012 - Invited Tutorial, Phoenix, 10/2012

INFORMS 2012 - invited talk, Phoenix, 10/2012

International Symposium *Complex Network Analysis: From Graph Theory to Systems Biology* invited talk, Hall, Austria, 10/2012

Workshop *Kinetic Description of Social Dynamics: From Consensus to Flocking*, invited talk, U. of Maryland 11/2012

CDC 12 - Conference on Decision and Control, December 2012, invited talk

2013 SIAM Conference on Computational Science & Engineering, invited talk, Boston 2/2013

Colloquium in Mathematics, University of Waterloo, Canada 4/2013

INFORMS Analytics, invited talk, San Antonio 4/2013

Seminar at the Potsdam Institute for Climate Impact Research. February 2014

Special session on *Kinetic models for multi-agent systems modeling socio-economic behavior* at the 2014 AIMS conference in Madrid July 2014

Conference on *Kinetics, non standard diffusion and stochastics: emerging challenges in the sciences*, UT Austin, May 2014

34th National Conference for Operations Research and Industrial Engineering, Bursa, Turkey, June 2014

Symposium *Extreme Events: Modeling, Analysis, and Prediction*, October 2014 in Herrenhausen Palace, Hanover, Germany

Workshop *Modeling and Control in Social Dynamics* October 2014, Rutgers University, Camden

Special session on *Social Insects as Complex Systems* at the 7th International Symposium on Biomathematics and Ecology: Education and Research (BEER-2014), Claremont Colleges, October 2014.

Workshop *Kinetic and Related Equations*, Casa Mathematica Oaxaca, Mexico, 7/2015

Colloquium, Department of Mathematics, University of Montana, 5/2016

Seminar, Potsdam Institute for Climate Impact Research, 5/2016

Seminar, Kaneko Lab, University of Tokyo, Japan, 9/2016

Colloquium, Department of Mathematics, Jiao-Tong University Shanghai, PRC, 9/2016

2 Presentations in the Seminar of Mathematical Modeling and Scientific Computing, Department of Mathematics, University of Mannheim, Germany, 11/2016

Centre for Mathematical Social Science, Workshop, U. of Auckland, New Zealand, 2/2017

Applied Math Seminar, U. of Auckland, New Zealand, 2/2017

Workshop *Applying Optimization Techniques to Agricultural Problems* NIMBIOS, U. of Tennessee, Knoxville, May 2017

Workshop *Kinetic Equations: Modeling, Analysis and Numerics*, UT Austin, 9/2017