

Prof. Dr. Philipp Hövel

Lecturer (Gastprofessor)

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Personal information

Date of birth March 10, 1980
Place of birth Berlin
Nationality German
Marital status married (1 child)

Present affiliation

Technische Universität Berlin
Institut für Theoretische Physik, Sekr. EW 7-1
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Additional affiliation

Bernstein Center for Computational Neuroscience Berlin
Humboldt Universität zu Berlin
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Research interests

Nonlinear dynamics
Network science
Spreading processes (epidemics, contagion)
Neural, excitable systems, large-scale brain dynamics
Control on/of networks, controllability of networks
Dynamics on/of networks, network motifs, temporal networks
Control theory, stabilization by time-delayed feedback

Education

- 2017 **Theoretical Physics, Habilitation (*venia legendi*)**, Technische Universität Berlin, Germany.
Thesis title: Synchronization, desynchronization, and hybrid states: nonlinear dynamics on networks, Institut für Theoretische Physik.
- 2011 – 2013 **Physics/Network science, Postdoctoral researcher/Visiting scholar (*Deutscher Akademischer Austauschdienst, postdoctoral fellowship*)**, Northeastern University, USA.
Project title: Signatures of synchronization on dynamical networks, Host: Prof. Albert-László Barabási, PhD.
- 2004 – 2009 **Physics, Dr. rer. nat. (*summa cum laude*)**, Technische Universität Berlin, Germany.
Thesis title: Control of complex nonlinear systems with delay, Institut für Theoretische Physik, Advisor: Prof. Dr. Eckehard Schöll, PhD.
- 2000 – 2006 **Mathematics, Diplom**, Technische Universität Berlin, Germany.
Thesis title: Matrix models related to the quantum-Hall effect (*Ausarbeitung von Matrixmodellen im Zusammenhang mit dem Quanten-Hall-Effekt*), Institut für Mathematik, Supervisor: Prof. Dr. Ruedi Seiler.
- 1999 – 2004 **Physics, Diplom**, Technische Universität Berlin, Germany.
Thesis title: *Effects of chaos control and latency in time-delay feedback methods*, Institut für Theoretische Physik, Supervisor: Prof. Dr. Eckehard Schöll, PhD.

Shortlisted applications

- 2016 **Complex systems and networks, Faculty of Science, Department of Physics**, Technische Universität Dresden, Germany.
- 2016 **Applied mathematics, School of Mathematical Sciences**, University College Cork, Ireland.
- 2016 **Theoretical physics, Faculty of Physics**, Universität Duisburg-Essen, Germany.
- 2015 **Nonlinear dynamics in systems biology, Departments of Physics, Biology, and Bioengineering Sciences**, Vrije Universiteit Brussel, Belgium.

Research grants

- January 2018 – December 2018 **PPP-PROCOPE (travel grant), German Academic Exchange Service**, Title: Optimal strategies for control of disease spreading in temporal networks, in collaboration with *INSERM Paris* (France).
Total sum: 5,960.00 €
- October 2017 – June 2018 **Special measure to promote student assistants, Collaborative Research Center 910**, Title: Loosing control of coupled spreading dynamics, in collaboration with Dr. Fakhteh Ghanbarnejad.
Total sum: 4,520.25 €
- January 2017 – December 2018 **Basic module (*Deutsche Forschungsgemeinschaft, DFG*)**, Title: *Temporal fluctuations in functional networks of the human brain – Modeling brain transition between cognitive states*, in collaboration with BCCN Berlin and University of Pennsylvania,
Total sum: 177,200.00 €.
- January 2015 – December 2018 **Research project, Collaborative Research Center 910 (SFB 910)**, Project B10: Control of networks with time-varying topologies and applications to epidemiology.
Total sum: 360,800.00 €

- January 2016 – December 2017 **PPP-PROCOPE (travel grant)**, *German Academic Exchange Service*, Title: Strategies for control of disease spreading in temporal networks, in collaboration with *INSERM Paris* (France).
Total sum: 11,860.00 €
- January 2015 – December 2015 **PPP-IKYDA (travel grant)**, *German Academic Exchange Service (DAAD)*, Title: Chimera in dynamical networks of nonlinear systems (Prolongation), in collaboration with the National Center for Scientific Research *Demokritos* and University of Patras (Greece).
Total sum: 4,973.00 €
- February 2011 – May 2015 **Junior research group**, *Bernstein Center for Computational Neuroscience (BCCN Berlin)*, Title: Nonlinear dynamics and control in neuroscience, Hosted by Institut für Theoretische Physik, Technische Universität Berlin, Germany.
Total sum: 646,150.00 €
- April 2014 – December 2014 **Special measure for the promotion of young scientists**, *Collaborative Research Center 910*, Title: Chimera states in systems with time delay, in collaboration with Dr. Anna Zakharova (TU Berlin).
Total sum: 47,700.00 €
- January 2014 – December 2014 **Special measure for the promotion of young scientists**, *Collaborative Research Center 910*, Title: Control of networks with time-varying topologies and applications to epidemiology.
Total sum: 63,600.00 €
- January 2013 – December 2014 **PPP-IKYDA (travel grant)**, *German Academic Exchange Service (DAAD)*, Title: Chimera in dynamical networks of nonlinear systems, in collaboration with the National Center for Scientific Research *Demokritos* and University of Patras (Greece).
Total sum: 19,832.00 €
- July 2011 – June 2013 **Postdoctoral fellowship**, *German Academic Exchange Service (DAAD)*, Title: Signatures of synchronization on dynamical networks, in collaboration with Center for Complex Network Research, *Northeastern University, Boston (MA)*, USA.
Total sum: 88,000.00 €

Scholarships and awards

- July 2010 **Springer thesis award – Recognizing outstanding PhD research**, *Springer, Heidelberg, Germany*.
- May 2008 – August 2008 **Research Internships in Science and Engineering (RISE)**, *Deutscher Akademischer Austauschdienst*, Supervising an American undergraduate student - Sarang A. Shah (*Georgia Institute of Technology*) - during a four-months research internship.
- March 2007 – April 2007 **Short-term scholarship for PhD students**, *Deutscher Akademischer Austauschdienst*, Research visit at the group of Prof. Dr. Kazuyuki Aihara, *The University of Tokyo*, Japan.
- 2004 – 2005 **Scholarship for academic excellence**, *Bischöfliche Studienförderung Cusanuswerk*, (Mathematics).
- 2005 **Award for outstanding master's thesis (Physik-Studienpreis)**, *Wilhelm und Else Heraeus-Stiftung*.
- August 2002 – April 2003 **Scholarship**, *Fulbright Commission*, Research visit at the group of Prof. Dr. Joshua E. S. Socolar, *Duke University (NC)*, USA.

2001 – 2004 **Scholarship for academic excellence**, *Bischöfliche Studienförderung Cusanuswerk*, (Physics).

Professional experience

- since October 2017 **Lecturer (*Gastprofessor*)**, *Theoretical Physics*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
Main research fields: Empirical networks and neurodynamics
- May 2017 – October 2017 **Lecturer (*Gastdozent*)**, *Theoretical Physics*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
Main research fields: Complex systems and networks
- since January 2015 **Principal investigator**, *Project B10: Control of networks with time-varying topologies and applications to epidemiology*, Collaborative research center 910 (SFB910) hosted by Institut für Theoretische Physik, Technische Universität Berlin, Germany.
Main research fields: Network science, control theory, and epidemiology
- September 2015 – January 2017 **Part-time parental leave.**
- February 2011 – May 2015 **Junior research group leader (including PhD student supervision, *promotionsberechtigt*)**, *Projects A13 (Dynamics of inhomogeneous neural systems with nonlocal coupling) and B7 (Large-scale neural model for functional networks of the human cortex)*, Bernstein Center for Computational Neuroscience (BCCN Berlin), hosted by Institut für Theoretische Physik, Technische Universität Berlin, Germany.
Main research field: Nonlinear dynamics and control in neuroscience
- July 2011 – June 2013 **Postdoctoral researcher/Visiting scholar**, *Center for Complex Network Research*, Northeastern University, Boston (MA), USA, Group of Prof. Albert-László Barabási, PhD.
Main research field: Network science
- August 2010 – February 2011 **Acting managing director**, *Collaborative Research Center SFB910: Control of self-organizing nonlinear systems: Theoretical methods and concepts of application*, Technische Universität Berlin, Germany, Coordinator: Prof. Dr. Eckehard Schöll, PhD.
- October 2009 – February 2011 **Research associate**, *Institut für Theoretische Physik*, Technische Universität Berlin, Germany, Group of Prof. Dr. Eckehard Schöll, PhD.
Main research field: Dynamics of networks with delay
- April 2008 – October 2009 **Research assistant**, *Institut für Theoretische Physik*, Technische Universität Berlin, Germany, Group of Prof. Dr. Eckehard Schöll, PhD.
Main research field: Control of systems with delay
- October 2007 – March 2008 **Research assistant**, *Fritz-Haber-Institut of Max-Planck-Gesellschaft*, Berlin, Germany, Group of Prof. Dr. Matthias Scheffler.
Main research field: Time-delayed feedback control
- October 2004 – September 2007 **Research assistant**, *Institut für Theoretische Physik*, Technische Universität Berlin, Germany, Group of Prof. Dr. Eckehard Schöll, PhD.
Main research field: Control of nonlinear dynamics, modeling of quantum-dot lasers
- March 2004 – September 2004 **Student assistant**, *Institut für Theoretische Physik*, Technische Universität Berlin, Germany.
Tutorial and exercise lab: Theoretical Physics I (Classical mechanics)

Research visits

- July 2014 **University of Catania, Catania, Italy**, Group of Prof. Mattia Frasca, PhD.
Research field: Nonlinear dynamics – synchronization in coupled systems
- May 2014 **National Center for Scientific Research "Demokritos", Athens, Greece**, Group of Dr. Astero Provata.
Research field: Nonlinear dynamics – chimera states in neural systems
- December 2013 **National Center for Scientific Research "Demokritos", Athens, Greece**, Group of Dr. Astero Provata.
Research field: Nonlinear dynamics – chimera states
- August 2013 **Northeastern University, Boston (MA), USA**, Group of Prof. Albert-László Barabási, PhD.
Research field: Network science
- July 2013 **University of Maryland, College Park (MD), USA**, Group of Prof. Rajarshi Roy, PhD.
Research field: Nonlinear dynamics
- July 2011 – June 2013 **Northeastern University, Boston (MA), USA**, Group of Prof. Albert-László Barabási, PhD.
Research field: Network science
- September 2010 – October 2010 **The Pennsylvania State University, State College (PA), USA**, Group of Prof. Steven J. Schiff, MD, PhD.
Research field: Feedback control of spreading depolarizations in neural systems
- June 2010 **Russian Academy of Sciences, St. Petersburg, Russia**, Group of Prof. Dr. Alexander L. Fradkov.
Research field: Adaptive control, Teaching: e-learning for the improvement of teaching
- November 2009 **University of Bristol, Bristol, United Kingdom**, Groups of Dr. Yuliya N. Kyrychko and Dr. Konstantin B. Blyuss.
Research field: Synchronization in networks
- August 2009 **University of Bristol, Bristol, United Kingdom**, Groups of Dr. Yuliya N. Kyrychko and Dr. Konstantin B. Blyuss.
Research field: Network motifs of delay-coupled systems
- March 2007 – April 2007 **The University of Tokyo, Tokyo, Japan**, Group of Prof. Dr. Kazuyuki Aihara.
Research field: Control of coupled neural systems
- August 2002 – April 2003 **Duke University, Durham (NC), USA**, Group of Prof. Joshua E. S. Socolar, PhD.
Research field: Latency effects in time-delayed feedback control

Teaching

- Winter term 2017/2018 **Lecturer, Nonlinear Dynamics and Neuroscience**, Technische Universität Berlin, Germany, Part of Master program Physics and Research Training Group GRK1558.
- Summer term 2017 **Lecturer, Nonlinear Dynamics and Epidemiology**, Technische Universität Berlin, Germany, Part of Master program Physics and Research Training Group GRK1558.
- July 2013 – September 2016 **Project coordinator, 4 projects on e-teaching and remotely attended seminars**, Technische Universität Berlin, Germany, supported within the G-RISC framework (German-Russian Interdisciplinary Science Center) and Collaborative Research Center 910, acquisition of multimedia equipment and up to 2 student assistants per project.
<http://www.tu-berlin.de?g-risc>

- Summer term 2015 **Lecturer**, *Nonlinear Dynamics and Epidemiology*, Technische Universität Berlin, Germany, Part of Master program Physics and Research Training Group GRK1558.
http://www.tu-berlin.de/?nonlin_dyn_ss15
- Winter term 2014/2015 **Lecturer**, *Nonlinear Dynamics and Neuroscience*, Technische Universität Berlin, Germany, Part of Master program Physics and Research Training Group GRK1558.
http://www.tu-berlin.de/?nonlin_dyn_ws14
- Summer term 2014 **Lecturer**, *Nonlinear Dynamics and Control*, Technische Universität Berlin, Germany, Part of Master program Physics and Research Training Group GRK1558.
http://www.tu-berlin.de/?nonlin_dyn_ss14
- Winter term 2013/2014 **Lecturer**, *Mechanics*, Technische Universität Berlin, Germany, Mandatory part of Bachelor program Physics.
http://www.tu-berlin.de/?mechanik_ws13
- Summer term 2011 **Lecturer**, *Networks (with applications to neuroscience)*, Technische Universität Berlin, Germany, Part of Master program Physics and Research Training Group GRK1558, Master and PhD program (BCCN Berlin).
http://www.tu-berlin.de/?networks_ss11
- Winter term 2010/2011 **Lecturer**, *Dynamics on Networks*, Technische Universität Berlin, Germany, Part of Master program Physics and Research Training Group GRK1558.
http://www.tu-berlin.de/?networks_ws10
- Summer term 2010 **Lecturer**, *Nonlinear Dynamics and Control*, Technische Universität Berlin, Germany, Part of Master program Physics and Research Training Group GRK1558.
http://www.tu-berlin.de/?nonlin_dyn_ss10
- Summer term 2009 **Teaching assistant**, *Theoretical Physics IV (Statistics and thermodynamics)*, Technische Universität Berlin, Germany, Part of BSc program Physics.
- 2006 – 2009 **Project coordinator**, *Improving teaching (Offensive Wissen durch Lernen)*, Technische Universität Berlin, Germany, Visualisation of theoretical physics.
<http://www.tu-berlin.de?owl>
- Winter term 2008/2009 **Teaching assistant**, *Statistical Physics II*, Technische Universität Berlin, Germany, Part of graduate program Physics.
- Summer term 2008 **Teaching assistant**, *Theoretical Physics IIIa (Quantum mechanics)*, Technische Universität Berlin, Germany, Part of graduate program Applied Physics.
- Summer term 2007 **Teaching assistant**, *Theoretical Physics I (Classical mechanics)*, Technische Universität Berlin, Germany, Part of graduate program Physics.
- Winter term 2006/2007 **Teaching assistant**, *Theoretical Physics IIa (Electrodynamics and Optics)*, Technische Universität Berlin, Germany, Part of graduate program Applied Physics.
- Summer term 2006 **Teaching assistant**, *Theoretical Physics I (Classical mechanics)*, Technische Universität Berlin, Germany, Part of graduate program Physics.
- Winter term 2005/2006 **Teaching assistant**, *Introduction into Theoretical Physics II*, Technische Universität Berlin, Germany, Part of undergraduate program Physics.
- Summer term 2005 **Teaching assistant**, *Theoretical Physics IIIa (Quantum mechanics)*, Technische Universität Berlin, Germany, Part of graduate program Applied Physics.
- Winter term 2004/2005 **Teaching assistant**, *Introduction into Theoretical Physics II*, Technische Universität Berlin, Germany, Part of undergraduate program Physics.

Research seminars

- Winter term 2017/2018 **Complex systems and networks**
- Summer term 2017 **Spreading processes on complex networks**
- Winter term 2016/2017 **Control of complex systems and networks**
- Summer term 2016 **Synchronization patterns in complex networks: chimera states and beyond**, in cooperation with Saratov State University, Russia (working group of V. Anishchenko)
- Winter term 2015/2016 **Chimera states and applications**, in cooperation with Saratov State University, Russia (working group of V. Anishchenko)
- Summer term 2015 **Noise effects in dynamical systems**, in cooperation with St. Petersburg State University, Russia (working group of A. L. Fradkov)
- Winter term 2014/2015 **Applications of complex networks**, in cooperation with St. Petersburg State University, Russia (working group of A. L. Fradkov)
- Summer term 2014 **The role of symmetries in dynamical networks**, in cooperation with St. Petersburg State University, Russia (working group of A. L. Fradkov)
- Winter term 2013/2014 **Control of network dynamics**, in cooperation with St. Petersburg State University, Russia (working group of A. L. Fradkov)
- Summer term 2011 **Control of nonlinear stochastic systems**
- Winter term 2010/2011 **Complex networks and applications**
- Summer term 2010 **Nonlinear dynamics with delay**
- Winter term 2009/2010 **Delayed nonlinear systems**
- Summer term 2009 **Nonlinear dynamics of networks**
- Winter term 2008/2009 **Nonlinear dynamics in lasers**
- Summer term 2008 **Nonlinear dynamicals and control**
- Winter term 2007/2008 **Nonlinear dynamics in neural systems**
- Summer term 2007 **Nonlinear dynamics in neural systems**
- Winter term 2006/2007 **Nonlinear dynamics in lasers**
- Summer term 2006 **Nonlinear dynamics in lasers**
- Winter term 2005/2006 **Nonlinear dynamics: concepts of control and applications to neural systems and opto-electronics**

Summer term 2005 **Nonlinear dynamics and nanotechnology**

Winter term 2004/2005 **Pattern Formation in the presence of noise**

Supervision

- since 2017 **Armin Pournaki (BSc)**, *Synchronization patterns in modular neuronal networks: The C. elegans paradigm*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- since 2017 **Thomas Maertens (BSc)**, *Network-based analysis of neuronal activity*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- since 2017 **Felix Köster (MSc)**, *Synchronization in models of optical neurons*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- since 2017 **Okhuzkhan Raof (MSc)**, *Clustering in temporal networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- since 2017 **Philipp Loske (MSc)**, *Synchronization in functional networks of the human brain*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- since 2017 **Leon Merfort (MSc)**, *Influence of intrinsic frequency on metastability of brain functional networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- since 2016 **Kai Seegers (MSc)**, *Evolutionary spreading of multiple diseases in complex networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2017 **Philipp Jung (BSc)**, *Impact of geographic proximity on the vulnerability of livestock-trade networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2016–2017 **Frederik Wolf (MSc)**, *Dynamic communities on complex networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2016–2017 **Alexa Schlegel (MSc)**, *Temporal network analysis of honeybee interaction networks based on spatial proximity*, Department of Mathematics and Computer Science, Freie Universität Berlin.
- since 2016 **Philipp Lorenz (PhD)**, *Control of spreading processes on complex networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- since 2016 **Jorge Ruiz (PhD)**, *Complex network analysis of chemical communication in the human brain*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- since 2016 **Fabio Brandes (MSc)**, *A systematic analysis of measures to quantify spreading on a temporal network*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2016–2017 **Kristian Boroz (MSc)**, *Controlling epidemics in a hospital network*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2016–2017 **Pascal Blunk (MSc)**, *Containment strategies in networks of livestock trade*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- since 2015 **Jason Bassett (PhD)**, *Mitigation strategies for disease containment in networks with time-varying topologies*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.

- since 2015 **Andreas Koher (PhD)**, *Detection and surveillance of epidemics on networks with time-varying topologies*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2016 **Melissa Skarmeta (BSc)**, *Chimera states in time-varying networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2016 **Markus Galler (BSc)**, *Bifurcation analysis of coupled Morris-Lecar models*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2015–2016 **Niklas Affolter (MSc)**, *Temporal networks: reconciling empirical data and theory*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2015–2016 **Larissa Bauer (MSc)**, *Chimera states in epidemic models*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2015–2016 **Inia Steinbach (MSc)**, *Agent-based modeling of epidemics in networks of livestock trade*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2015–2016 **Felix Herrmann (MSc)**, *Epidemics on empirical networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2015–2016 **Frederik Schirdewahn (BSc)**, *Optimal surveillance for outbreak detection in livestock-trade networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2015–2016 **Alexander Schmidt (BSc)**, *Chimera states in two spatial dimensions*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2015 **Lukas Rösel (BSc)**, *Chimera states in ensembles of fractally coupled oscillators*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2014–2016 **Alexander Fengler (MSc)**, *Roles in a time-varying networks and their impact on epidemics*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2014–2015 **Nina Rank (BSc)**, *The role of structural connections in whole brain simulations of functional correlations*, Institut für Theoretische Physik, Technische Universität Berlin, Germany and Bernstein Center for Computational Neuroscience Berlin.
- 2014–2015 **Fabian Sternkopf (BSc)**, *Time-discrete and time-continuous models of bursting dynamics*, Institut für Theoretische Physik, Technische Universität Berlin, Germany and Bernstein Center for Computational Neuroscience Berlin.
- 2014–2015 **Seyma Bayrak (MSc)**, *Simulation of brain functional connectivity on empirical and randomized complex networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany and Bernstein Center for Computational Neuroscience Berlin.
- 2011–2014 **Judith Lehnert (PhD, co-supervision with E. Schöll)**, *Neural dynamics in delay-coupled complex networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2012–2014 **Thomas Isele (PhD, co-supervision with E. Schöll)**, *Excitation waves on complex networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2014 **Florian Fiebig (BSc)**, *Analysis of temporal networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2014 **Enrico Fengler (BSc)**, *Nonlocally coupled networks of nonidentical cosine maps*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2014 **Anne-Kathleen Malchow (BSc)**, *Nonlocally coupled networks of nonidentical oscillators*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.

- 2013 **Seyma Bayrak (MSc, lab rotation)**, *Effects of time-delays on neural dynamics on functional brain networks*, Institut für Theoretische Physik, Technische Universität Berlin, Germany and Bernstein Center for Computational Neuroscience Berlin.
- 2013 **Jean Pierre Bassange (BSc)**, *Neural dynamics on structural and functional networks*, Department of Physics, Freie Universität Berlin, Germany.
- 2011 **Bruno Riemenschneider (Physik-Diplom)**, *Oscillator networks with variable non-local coupling range*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2011 **Alexander Fengler (BSc)**, *Networks of integrate-and-fire neurons with partial reset*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2011 **Alexander Heesing (BSc)**, *Integrate-and-fire neurons with partial reset*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2010 **Judith Lehnert (Physik-Diplom)**, *Dynamics of neural networks with delay*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2009 **David Rosin (BSc)**, *Dynamic scenarios in two delay-coupled excitable systems*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2009 **Rico Buchholz (BSc)**, *Dynamics of two delay-coupled excitable systems using iterated maps*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2009 **Martin Heinrich (Physik-Diplom)**, *Synchronization in networks of nonlinear circuit elements*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2009 **Sebastian Brandstetter (Physik-Diplom)**, *Delayed feedback control of excitable systems under the influence of colored noise*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.
- 2007 **Thomas Dahms (Physik-Diplom)**, *Stabilization of fixed points in lasers by time-delayed feedback (Stabilisierung von Fixpunkten durch zeitverzögerte Rückkopplung in Lasern)*, Institut für Theoretische Physik, Technische Universität Berlin, Germany.

Memberships

Bernstein Association for Computational Neuroscience

Complex Systems Society

Fulbright Alumni Association

German Physical Society (*Deutsche Physikalische Gesellschaft*)

German Association of University Professors and Lecturers (*Deutscher Hochschulverband*)

International Physics and Control Society

Max-Planck Alumni Association

Network Science Society

TU Berlin Alumni Association

Reviewer

Acta Biotheoretica

Chaos

Communications in Nonlinear Science and Numerical Simulation
Discrete and Continuous Dynamical Systems B
Dynamics Systems
European Physics Journal B
International Journal of Chaos and Bifurcation
International Journal of Dynamics and Control
Journal of Mathematical Neuroscience
Journal of Nonlinear Science
Journal of Physics A
Journal of Sound and Vibration
Nature Communications
Nature Neuroscience
Nature Physics
New Journal of Physics
Nonlinear Dynamics
PeerJ
Physica D
Physical Review E
Physical Review Letters
Scientific Reports
SIAM Journal on Applied Dynamical Systems

Books

2. E. Schöll, S. H. L. Klapp, and P. Hövel (Eds.): *Control of self-organizing nonlinear systems* (Springer, Berlin, Germany), January 2016 (ISBN: 978-3-319-28028-8).
1. P. Hövel: *Control of complex nonlinear systems with delay*, Springer Theses – Recognizing Outstanding Ph.D. Research, (Springer, Heidelberg, Germany) October 2010 (ISBN: 978-3-642-14109-6).

Publications (submitted or in preparation)

65. P. Hövel, A. Viol, P. Loske, L. Merfort, and V. Vuksanović: *Synchronization in functional networks of the human brain*, submitted (2017).

Publications in peer-reviewed journals

64. L. Bauer, J. Bassett, P. Hövel, Y. N. Kyrychko, and K. N. Blyuss: *Chimera states in multi-strain epidemic models with temporary immunity*, *Chaos* **27**, 114317 (2017).
63. J. Shena, J. Hizanidis, P. Hövel, and G. P. Tsironis: *Multi-clustered chimeras in large semiconductor laser arrays with nonlocal interactions*, *Phys. Rev. E* **96**, 032215 (2017).
62. N. D. Tsigkri-DeSmedt, J. Hizanidis, E. Schöll, P. Hövel, and A. Provata: *Chimeras in leaky integrate-and-fire neural networks: Effects of reflecting connectivities*, *Eur. Phys. J. B* **90**, 139 (2017).

61. S. Grauwin, M. Szell, S. Sobolevsky, P. Hövel, F. Simini, M. Vanhoof, Z. Smoreda, A.-L. Barabási, and C. Ratti: *Identifying and modeling the structural discontinuities of human interactions*, *Sci. Rep.* **7** 46677 (2017).
60. A. Schmidt, T. Kasimatis, J. Hizanidis, A. Provata, and P. Hövel: *Chimera patterns in two-dimensional networks of coupled neurons*, *Phys. Rev. E* **95**, 032224 (2017).
59. Ş. Bayrak, P. Hövel, and V. Vuksanović: *Modeling functional connectivity on empirical and randomized structural brain networks*, *Differential Equations and Dynamical Systems* (2017) in print (available as <http://rdcu.be/p0qh>).
58. F. Iannelli, A. Koher, D. Brockmann, P. Hövel, and I. M. Sokolov: *Effective distances for epidemics spreading on complex networks*, *Phys. Rev. E* **95**, 012313 (2017).
57. H. H. K. Lentz, A. Koher, P. Hövel, J. Gethmann, T. Selhorst, and F. J. Conraths, *Livestock disease spread through animal movements: a static and temporal network analysis of pig trade*, *PLoS ONE* **11**, e0155196 (2016).
56. N. D. Tsigkri-DeSmedt, J. Hizanidis, P. Hövel, and A. Provata: *Multi-chimera states and transitions in the Leaky Integrate-and-Fire model with nonlocal and hierarchical connectivity*, *Eur. Phys. J. ST* **66**, 13 (2016).
55. A. Koher, H. H. K. Lentz, I. M. Sokolov, and P. Hövel: *Infections on temporal networks - a matrix based approach*, *PLoS ONE* **11**, e0151209 (2016).
54. V. Vuksanović and P. Hövel: *Role of structural inhomogeneities in resting-state brain dynamics*, *Cognitive Neurodynamics* **10**, 361 (2016).
53. T. Erneux, L. Weicker, L. Bauer, and P. Hövel: *The short time-delay limit of the self-coupled FitzHugh-Nagumo system*, *Phys. Rev. E* **93**, 022208 (2016).
52. T. Isele, J. Hizanidis, A. Provata, and P. Hövel: *Controlling chimera states: The influence of excitable units*, *Phys. Rev. E* **93**, 022217 (2016).
51. I. Omelchenko, A. Zakharova, P. Hövel, J. Siebert, and E. Schöll: *Nonlinearity of local dynamics promotes multi-chimeras*, *Chaos* **25**, 083104 (2015).
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4. P. Hövel, T. Saeb Gilani, and M. Dahlem: *Introduction to nonlinear dynamics in neuroscience* (Wiley) to appear in 2017.
3. A.-L. Barabási: *Network science*, available as pdf and ibook format on <http://barabasilab.neu.edu/networksciencebook/about.html> (2014), edited by P. Hövel.
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1. P. Hövel and E. Schöll: *e-modules to visualize theoretical physics (E-Module zur Visualisierung der Theoretischen Physik)*, in *Gender im Experiment - Gender in Experience*, Editors: J. Steinbach, B. Jansen-Schultz (Universitätsverlag der TU Berlin, 2009).

Scientific talks

- 12.9.2017 **Bernstein Conference 2017 - Satellite workshop *Topology and dynamic of neuronal networks as guidelines for memristive computing systems***, *Modeling functional connectivity on empirical and randomized brain networks (invited)*, Bernstein Center for Computational Neuroscience Göttingen, Germany, Organizers: H. Kohlstedt, M. Ziegler.
- 18.7.2017 **8th International Conference on Physics and Control**, *Controlling chimera states by local parameter modification (invited)*, University of Firenze, Florence, Italy, Organizers: R. Meucci, F. Marino.
- 23.6.2017 **Brain dynamics on Multiple Scales – Paradigms, their Relations, and Integrated Approaches**, *Influence of empirical and randomized brain networks on functional connectivity at rest*, Max-Planck Institute for the Physics of Complex Systems, Dresden, Germany, Organizers: P. Achermann, E. Olbrich, T. Wennekers.
- 18.5.2017 **Tech Seminar**, *Dynamics of Fashion Trends on Social Networks*, Zalando SE, Berlin, Germany, Organizer: C. Bauer, J. Siebert.
- 23.3.2017 **80th Spring Meeting of the Section Condensed Matter of Deutsche Physikalische Gesellschaft**, *Surveillance for outbreak detection in livestock-trade networks*, Technische Universität Dresden, Germany, Organizer: L. Schultz.
- 16.1.2017 **NetSci-X 2017**, *Infection dynamics on temporal networks: arrival-time distributions and source localization*, Tel Aviv, Israel, Organizer: Erez Shmueli, Baruch Barzel.

- 13.10.2016 **Dynamics of Delay Equations, Theory and Applications**, *Dynamics of multi-strain epidemic models with delay*, Berlin, Germany, Organizer: Matthias Wolfrum, Jan Sieber, and Serhiy Yanchuk.
- 26.7.2016 **Patterns of Dynamics 2016**, *Controlling chimera states by a block of excitable units*, Berlin, Germany, Organizer: Pavel Gurevich.
- 12.7.2016 **Complex Networks 2016**, *Controlling contagious processes on temporal networks via adaptive rewiring*, Marseille, France, Organizers: Alain Barrat and Ciro Cattuto.
- 6.6.2016 **Dynamics Days Europe 2016**, *Self-coupling in the FitzHugh-Nagumo model in the limit of short time-delays*, Corfu, Greece, Organizers: Constantinos Siettos and Dimitris Goussis.
- 29.4.2016 **Applied Nonlinear Mathematics Seminar (invited)**, *Chimera states in systems of coupled oscillators*, Bristol, UK, Organizers: Lucia Marucci and Filippo Simini.
- 8.3.2016 **80th Spring Meeting of the Section Condensed Matter of Deutsche Physikalische Gesellschaft**, *Controlling chimera states – The influence of excitable units*, Regensburg, Germany, Organizers: Dieter Weiss.
- 13.1.2016 **NetSci-X 2016**, *A Geometrical Approach to Infection Dynamics on Temporal Networks*, Wroclaw, Poland, Organizers: Przemysław Kazienko and Bolesław Szymański.
- 12.1.2016 **NetSci-X 2016**, *Recurrent epidemics and adaptive rewiring in temporal networks*, Wroclaw, Poland, Organizers: Przemysław Kazienko and Bolesław Szymański.
- 1.10.2015 **BrainDisC PhD Conference 2015 (invited)**, *Chimera states in systems of coupled neuronal oscillators*, Bernstein Center Freiburg, Germany, Organizers: Julia Gallinaro, Salvatore Fara, and Sebastian Spreizer.
- 2.6.2015 **International Workshop and Conference on Network Science (NetSci 2015, invited)**, *Structural controllability and control of temporal networks*, Satellite workshop: Controlling Complex Networks: When Control Theory Meets Network Science, Zaragoza, Spain, Organizers: Yang-Yu Liu, Xiaofan Wang, Travis E. Gibson, and Gang Yan.
- 1.6.2015 **International Workshop and Conference on Network Science (NetSci 2015, invited)**, *Control of cluster synchronization in delay-coupled oscillators by network adaptation*, Satellite workshop: Information, Self-Organizing Dynamics and Synchronization (ISODS) on Networks II, Zaragoza, Spain, Organizers: Dane Taylor and Per Sebastian Skardal.
- 14.5.2015 **Delay differential equations in physical sciences and engineering (invited)**, *Adaptive control of cluster synchronization by adjusting the network topology*, International workshop, Toronto, Canada, Organizers: Eckehard Schöll and Yuliya Kyrychko.
- 17.3.2015 **79th Spring Meeting of the Section Condensed Matter of Deutsche Physikalische Gesellschaft**, *Robustness of chimera states for coupled FitzHugh-Nagumo oscillators*, Technische Universität Berlin, Berlin, Germany, Organizer: E. Schöll.
- 24.11.2014 **Collective dynamics in coupled oscillator systems**, *Clustered chimera states in systems of type-I excitability*, WIAS Workshop, Weierstrass Institute for Applied Analysis and Stochastics and Freie Universität Berlin, Germany, Organizer: M. Wolfrum.
- 25.9.2014 **New Trends in Analysis and Control of Complex Networks**, *Speed-gradient control of cluster synchronization by adaptation of network topology*, Satellite at European Conference on Complex Systems 2014, IMT Institute for Advanced Studies Lucca, Organizer: M. Di Bernardo.

- 23.9.2014 **European Conference on Complex Systems 2014**, *Chimera states in neuronal systems*, IMT Institute for Advanced Studies Lucca, Organizer: G. Caldarelli.
- 24.7.2014 **Group seminar: Complex systems and applications (invited)**, *Chimera states in systems of nonlocally coupled oscillators: Part II – Experiments*, Department of Electrical, Electronics and Computer Engineering, University of Catania, Italy Organizer: M. Frasca.
- 22.7.2014 **Group seminar: Complex systems and applications (invited)**, *Chimera states in systems of nonlocally coupled oscillators: Part I – Theory*, Department of Electrical, Electronics and Computer Engineering, University of Catania, Italy, Organizer: M. Frasca.
- 2.5.2014 **Group seminar: Social data analysis and visualization (invited)**, *Analysis of mobile-phone data: temporal and spatial signatures of human behavior*, Department of Applied Mathematics and Computer Science, Technical University of Denmark, Copenhagen, Denmark, Organizer: S. Lehmann.
- 24.4.2014 **Symposium on Dynamics of brain networks (invited)**, *Remote synchronization and symmetry in interactions for the analysis of functional connectivity of distant cortical regions*, Collaborative Research Center 910, Germany, Organizer: K. Obermayer.
- 3.4.2014 **78th Spring Meeting of the Section Condensed Matter of Deutsche Physikalische Gesellschaft**, *Controllability of Temporal Networks*, Technische Universität Dresden, Germany, Organizer: L. Schultz.
- 12.3.2014 **6th Workshop on Complex Networks**, *Robustness of chimera states in a system of nonlocally coupled oscillators*, University of Bologna, Bologna, Italy, Organizer: A. Omicini.
- 28.1.2014 **Oberseminar Nonlinear Dynamics (invited)**, *Dynamics of two neural oscillators in the presence of heterogeneous coupling delays*, Weierstrass Institute for Applied Analysis and Stochastics and Freie Universität Berlin, Germany, Organizer: M. Wolfrum, B. Fiedler.
- 26.11.2013 **Colloquium of Complex Systems and Applications Group (invited)**, *Delayed coupling in networks of neural oscillators*, National Center for Scientific Research Demokritos, Athens, Greece, Organizer: A. Provata.
- 5.7.2013 **Colloquium on Complex and Biological Systems (invited)**, *Synchronization in networks with delay*, Potsdam University, Germany, Organizer: C. Beta, A. Pikovsky.
- 19.5.2013 **SIAM Conference on Applications of Dynamical Systems, Minisymposium Chimera States (invited)**, *The spectrum of Chimera states: From discrete maps to neural systems*, Snowbird, Utah, USA, Organizer: E. Schöll, Y. L. Maistrenko.
- 12.3.2013 **77th Spring Meeting of the Section Condensed Matter of Deutsche Physikalische Gesellschaft (invited)**, *Chimera states and the transition from spatial coherence to incoherence*, Universität Regensburg, Germany, Organizer: D. Weiss .
- 20.6.2012 **International Workshop and Conference on Network Science (NetSci 2012)**, *Synchronization in mobile-phone data*, Northwestern University, Evanston, USA, Organizers: B. Uzzi, N. Contractor, and A.-L. Barabási.
- 7.6.2012 **International Conference on Delayed Complex Systems (invited)**, *Synchronization of coupled neural oscillators with heterogeneous delays*, IFISC, Palma de Mallorca, Spain, Organizers: E. Schöll and I. Fischer.
- 28.3.2012 **76th Spring Meeting of the Section Condensed Matter of Deutsche Physikalische Gesellschaft**, *Rhythms in mobile-phone data*, Technische Universität Berlin, Berlin, Germany, Organizer: E. Schöll.

- 26.3.2012 **76th Spring Meeting of the Section Condensed Matter of *Deutsche Physikalische Gesellschaft***, *On various types of synchronization in networks of coupled neurons*, Technische Universität Berlin, Berlin, Germany, Organizer: E. Schöll.
- 28.2.2012 **March Meeting 2012**, *Temporal and spatial regularity of mobile-phone data*, American Physical Society, Boston, USA.
- 1.12.2011 **Bernstein Symposium (invited)**, *Networks and Nonlinear Dynamics in Neuroscience*, Bernstein Center for Computational Neuroscience, Berlin, Germany, Organizer: M. Brecht.
- 31.8.2011 **Workshop on Control of Self-Organizing Nonlinear Systems (invited)**, *Controllability and Networks*, Collaborative Research Center 910, Wittenberg, Germany, Organizer: J. Lehnert.
- 3.3.2011 **Group seminar (invited)**, *Synchronization in coupled neural oscillators: From few to many*, Ochanomizu University, Tokyo, Japan, Organizer: H. Kori.
- 31.1.2011 **Group seminar (invited)**, *The role of noise and coupling for neural oscillators*, Humboldt-Universität zu Berlin, Berlin, Germany, Organizer: L. Schimansky-Geier.
- 15.10.2010 **Center for Complex Network Research (invited)**, *Nonlinear Dynamics and Networks: Delay and Synchronization*, Northeastern University, Boston (MA), USA, Organizer: A. L. Barabási.
- 6.10.2010 **Center for Neural Engineering Group Meeting (invited)**, *Neural oscillators and their control from the perspective of nonlinear dynamics*, The Pennsylvania State University, State College, USA, Organizer: S. J. Schiff.
- 9.9.2010 **30th Dynamics Days Europe**, *On synchronization analysis of networks with delay*, University of Bristol, Bristol, United Kingdom, Organizer: Y. Kyrychko, J. Hogan, A. Champneys, M. Jeffrey, K. Walker.
- 6.7.2010 **International workshop: Nonlinear dynamics on networks (invited)**, *Cooperative dynamics in coupled FitzHugh-Nagumo systems*, National Academy of Sciences of Ukraine, Kiev, Ukraine, Organizer: Y. L. Maistrenko, A. Pikovsky, V. Maistrenko.
- 24.6.2009 **CHAOS 09, Second IFAC meeting related to analysis and control of chaotic systems (invited)**, *Time-delayed feedback control of delay-coupled neurosystems and lasers*, Queen Mary University of London, United Kingdom, Organizer: H. Huijberts.
- 24.3.2009 **73th Spring Meeting of the Section Condensed Matter of *Deutsche Physikalische Gesellschaft***, *Coupling effects of time-delayed feedback for the synchronization of neural dynamics*, Technische Universität Dresden, Germany, Organizer: L. Schultz.
- 19.11.2008 **Complex dynamics in large coupled systems**, *Feedback dependent stochastic synchronization of neural dynamics*, Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany, Organizers: M. Wolfrum, S. Yanchuk, B. Fiedler, and Y. L. Maistrenko.
- 9.10.2008 **Dynamics Days Berlin-Brandenburg**, *Control of synchronization in coupled neural systems by time-delayed feedback*, Universität Potsdam, Potsdam, Germany, Organizers: A. Pikovsky, M. Abel, and U. Schwarz.
- 28.8.2008 **28th Dynamics Days Europe**, *Control of synchronization in neural networks by time-delayed feedback*, Delft University of Technology, Delft, Netherlands, Organizer: D. Lenstra.

- 5.5.2008 **Bio-inspired Complex Networks in Science and Technology**, *Synchronization of coupled neurons and extended time-delayed feedback*, Max-Planck-Institut für die Physik komplexer Systeme, Dresden, Germany, Organizers: S. Boccaletti, T. Gross, and J. Kurths.
- 25.2.2008 **72th Spring Meeting of the Section Condensed Matter of Deutsche Physikalische Gesellschaft**, *Control of neural dynamics by extended time-delayed feedback*, Technische Universität Berlin, Berlin, Germany, Organizer: E. Schöll.
- 12.9.2007 **19th International Conference on Noise and Fluctuations**, *Synchronization of noise-induced oscillations by time-delayed feedback control*, Tokyo, Japan, Organizer: M. Tacano.
- 6.9.2007 **3rd International Conference Physics and Control**, *Stabilization of fixed points by extended time-delayed feedback control*, Universität Potsdam, Potsdam, Germany, Organizer: J. Kurths.
- 11.7.2007 **27th Dynamics Days Europe**, *Stabilization of unstable steady states by extended time-delayed feedback*, Loughborough University/University of Nottingham, Loughborough, United Kingdom, Organizers: M. Groves, J. Terry, M. Fromhold, and G. Tanner.
- 12.3.2007 **ERATO Aihara Complexity Modelling Project (invited)**, *Time-delayed feedback control: steady states, periodic orbits, and neural dynamics*, The University of Tokyo, Tokyo, Japan, Organizer: K. Aihara.
- 28.3.2006 **70th Spring Meeting of the Section Condensed Matter of Deutsche Physikalische Gesellschaft**, *Time-delayed feedback control with variable phase-dependent coupling*, Technische Universität Dresden, Germany, Organizer: L. Schultz.
- 5.10.2005 **360th WE-Heraeus Seminar Nonlinear Dynamics of Complex Continua**, *Time-delay autosynchronisation of chaotic systems with latency and low-pass filtering*, Universität Bayreuth, Bayreuth, Germany, Organizer: I. Rehberg and W. Zimmermann.
- 25.8.2005 **2nd International Conference Physics and Control**, *Control of Unstable Steady States by Time-Delayed Feedback Methods*, St. Petersburg, Russia, Organizer: A. Fradkov.
- 7.3.2005 **69th Spring Meeting of the Section Condensed Matter of Deutsche Physikalische Gesellschaft**, *Stabilization of unstable steady states by time-delayed feedback methods*, Technische Universität Berlin, Germany, Organizer: M. Schwoerer.
- 8.3.2004 **68th Spring Meeting of the Section Condensed Matter of Deutsche Physikalische Gesellschaft**, *Latency effects in time-delayed feedback control of chaos*, Regensburg, Germany, Organizer: D. Weiss.

Nonscientific talks

- 7.11.2013 **Day of teaching (Tag der Lehre, E-Learning-Tag)**, *e-Module zur Visualisierung der Theoretischen Physik*, Technische Universität Berlin, Germany, Organizer: (Zentraleinrichtung Wissenschaftliche Weiterbildung und Kooperation).
- 4.10.2013 **German Russian Interdisciplinary Science Center (G-RISC) Conference "Crossing Borders"**, *E-teaching and remotely attended seminars: a live demonstration*, St. Petersburg State University, St. Petersburg, Russia, Organizer: G-RISC.
- 28.10.2010 **Day of teaching (Tag der Lehre)**, *Interactive physics*, Technische Universität Berlin, Germany, Organizer: J. Steinbach (President of TU Berlin).

- 11.6.2010 **German Russian Interdisciplinary Science Center**, *Visualizations of physical theories and methods of e-learning for the improvement of teaching*, Russian Academy of Sciences, St. Petersburg, Russia, Organizer: A. L. Fradkov.
- 6.6.2010 **German Russian Interdisciplinary Science Center**, *Visualizations of nonlinear dynamics and tools for e-teaching*, Russian Academy of Sciences, St. Petersburg, Russia, Organizer: A. L. Fradkov.
- 16.–18.2.2010 **Ferienakademie VII: Auf der Suche nach der Einheit der Natur. Wissenschaftstheoretische Fragen aus der Physik (Enrichment Student Seminar, invited)**, *Ein Streifzug durch die Physik (A physical journey)*, Bischöfliche Studienförderung Cusanuswerk, Organizer: A. Weil.

Administrative services

- since 2011 **Steering Committee (Leitungsgremium)**, Bernstein Center for Computational Neuroscience Berlin.
- 2015 – 2017 **Member of Institute Board (Institutsrat)**, Institut für Theoretische Physik, Technische Universität Berlin, Berlin, Germany.
- 2012 – 2013 **Selection committee (Berufungskommission)**, *Modelling of Cognitive Processes (Modellierung kognitiver Prozesse)*, Fakultät IV, Technische Universität Berlin, Berlin, Germany.
- 2011 **Selection Committee Brains for Brains award 2011 (Young Researchers' Computational Neuroscience Award)**, Bernstein Association for Computational Neuroscience.
- 2008 **Organizing committee**, *Fakultätstag Physik 2008*, Technische Universität Berlin, Berlin, Germany.
- 2007 **Organizing committee**, *Fakultätstag Physik 2007*, Technische Universität Berlin, Berlin, Germany.
- 2005 – 2009 **Member of Institute Board (Institutsrat)**, Institut für Theoretische Physik, Technische Universität Berlin, Berlin, Germany.
- 2005 – 2006 **Student committee**, *Erhalt des Jahrestreffens*, Bischöfliche Studienförderung Cusanuswerk, Germany.
- 2004 – 2005 **Student board (Vorstand der Studierenden)**, Bischöfliche Studienförderung Cusanuswerk, Germany.

Organization of conferences and workshops

- 2018 **NetSci 2018**, *Chair of Satellite Symposia*, Paris, France, <http://www.netsci2018.org>.
- 2018 **82th Spring Meeting of the Section Condensed Matter of Deutsche Physikalische Gesellschaft**, *Chair of Focus Session: "Physics of Contagion Processes - From Infection Dynamics on Complex Networks to Complex Social Contagion"*, Berlin, Germany, (<http://berlin18.dpg-tagungen.de>).
- 2018 **9th Workshop on Complex Networks (CompleNet 2018)**, *Program committee*, Boston, USA, <http://www.complenet.weebly.com>.
- 2017 **6th International Conference on Complex Networks and Their Applications**, *Program chair*, Lyon, France, <http://www.complexnetworks.org>.

- 2017 **Workshop on Control of Self-Organizing Nonlinear Systems**, *Organizing committee*, Wittenberg, Germany, (<http://www.tu-berlin.de?wittenberg17>).
- 2017 **NetSci-X 2017**, *Program chair*, Tel-Aviv, Israel, <http://www.netscix2017.com>.
- 2017 **8th Workshop on Complex Networks (CompleNet 2017)**, *Program committee*, Dubrovnik, Croatia.
- 2016 **Bernstein Conference on Computational Neuroscience**, *Chair of workshops*, Berlin, Germany.
- 2016 **International Conference on Control of Self-Organizing Nonlinear Systems**, *Program committee*, Heringsdorf, Germany.
- 2016 **7th Workshop on Complex Networks (CompleNet 2016)**, *Program committee*, Wroclaw, Poland.
- 2015 **Workshop on Control of Self-Organizing Nonlinear Systems**, *Chair*, Wittenberg, Germany, (<http://www.tu-berlin.de?wittenberg15>).
- 2015 **The 4th IEEE International Congress on Big Data (BigDataCongress 2015)**, *Program committee*, New York City, NY, USA, (<http://www.ieeebigdata.org/2015/>).
- 2015 **6th Workshop on Complex Networks (CompleNet 2015)**, *Program committee*, New York City, NY, USA, (http://complenet.org/CompleNet_2015).
- 2015 **International School and Conference on Network Science (NetSci-X 2015)**, *Program committee*, Recife, Brazil, (<http://www.netsci-x2015.net>).
- 2014 **International Conference on Control of Self-Organizing Nonlinear Systems**, *Program chair*, Warnemünde, Germany, (<http://www.tu-berlin.de?csons14>).
- 2013 **Dynamics Days Berlin Brandenburg 2013**, *Conference chair*, Berlin, Germany, (<http://www.itp.tu-berlin.de?ddaysbb13>).
- 2013 **1st BRICS Countries & 11th Brazilian Congress on Computational Intelligence (BRICS-CCI & CBIC 2013)**, *Program committee*, Recife, Brazil, (<http://brics-cci.org/>).
- 2012 – 2013 **International School and Conference on Network Science (NetSci 2013)**, *Chair of workshops*, Copenhagen, Denmark, (<http://netsci2013.net>).
- 2007 – 2008 **72th Spring Meeting of the Section Condensed Matter of Deutsche Physikalische Gesellschaft**, *responsible for infrastructure (A/V equipment, ceremonial act), coordination of 100 student assistants*, Berlin, Germany, (<http://berlin08.dpg-tagungen.de>).
- 2006 **Welcome meeting**, *Fulbright-Alumni e.V.*, Berlin, Germany.
- 2005 **PowWow: Where continents meet**, *Fulbright-Alumni e.V.*, Berlin, Germany.
- 2005 **Dynamics Days Europe XXV**, *local support of organizing committee*, Berlin, Germany.
- 2004 **Student conference (Physics)**, *Determinism (Determinismus)*, Bischöfliche Studienförderung Cusanuswerk, Germany.
- 2003 **Student conference (Physics)**, *Cold atoms (Kalte Atome)*, Bischöfliche Studienförderung Cusanuswerk, Germany.

Other activities

- since 2000 Umpire of women's and men's leagues for field and indoor hockey, more than 150 appointments in the national league (*Bundesliga*).

- 2009 – 2011 Umpire at international matches (field hockey): European championship (sub18) (Nivelles, Belgium: July 2009), 4-Nations-Tournaments (Seville, Spain: June 2009; Mannheim, Germany, April 2009).
- 1998 – 2003 Student exchange program between *Koyamadai Senior High School* in Tokyo and Canisius-Kolleg Berlin (1998/9: participant, 2000/1: Organizer of German program, 2002/3: Group leader in Germany and Japan).