

Curriculum Vitae

Prof. Dr. Martina Hentschel

Technische Universität Chemnitz, Germany
Faculty of Natural Sciences
Theoretical Physics of complex dynamical systems
<https://www.tu-chemnitz.de/physik/TPKDS/de/index.php>



Education

University

- 1998 – 2001 PhD student, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, chair: Prof. Dr. Klaus Richter;
degree: Dr. rer. nat. (PhD); grade: „magna cum laude”.
Thesis title: “Mesoscopic wave phenomena in electronic and optical ring structures”;
Supervision: Prof. Dr. Klaus Richter, Prof. Dr. Peter Fulde.
- 1990 – 1997 Study of Physics, Technische Universität Dresden, Germany;
degree: „Diplomphysiker“ (Master in Physics); grade: "mit Auszeichnung (with distinction)".
Title of thesis: “Diphoton production in heavy ion collisions”;
Supervision: Prof. Dr. Burkhard Kämpfer, Prof. Dr. Gerhard Soff.
Secondary subject: geophysics.
- 1993 – 1994 Study of Physics at Imperial College London, tutor: Prof. Tom Kibble;
degree: Imperial College International Diploma (ICID).

School

- 1986 – 1990 Speziialschule mathematisch-naturwissenschaftlich-technischer Richtung „Martin Anderson Nexö“ Dresden (High School for Maths and Science)
Abitur in June 1990, grade: 1,0.
- 1978 – 1986 2. Polytechnische Oberschule „Herbert Bochow“ Dresden (Elementary and Middle School).

Professional Experience

- 2020 – present Professorship for “Theoretical Physics of complex dynamical systems”, Technische Universität Chemnitz, Germany, Faculty of Natural Sciences.
- 2012 – 2020 Professorship for Theoretical Physics, Technische Universität Ilmenau, Germany, Faculty of Mathematics and Natural Sciences.
- Apr – May 2018 Visiting researcher at ENS de Lyon and INSA Lyon, France.
- 2006 – 2012 Head of the Emmy-Noether Group “Many-body phenomena in mesoscopic Systems” at the Max Planck Institute for the Physics of Complex Systems, Dresden, Germany; fully funded by the Emmy-Noether Programme of the German Research Foundation (DFG), extended to 2018 due to parental leaves.

- 2004 – 2006 Scientific Assistant (C1), Institute for Theoretical Physics, Universität Regensburg, Germany, chair: Prof. Dr. Milena Grifoni; student supervision; teaching assistant; proposal and publication writing.
- Oct – Dec 2005 Visiting Researcher at ATR Wave Engineering Laboratories, Kyoto, Japan, head of group: Dr. Takahisa Harayama.
- 2002 – 2004 Postdoctoral Associate, Duke University, Durham, USA, Institute of Physics, Nanophysics Group, chair: Prof. Harold Baranger; with a Feodor-Lynen Fellowship of the Humboldt Foundation.
- 2001 – 2002 Postdoctoral Researcher, Max Planck Institute for Physics of Complex System, Dresden, Germany, head of group: Dr. Henning Schomerus.
- 1998 – 2001 Graduate research, Max Planck Institute for Physics of Complex System, Dresden, Germany, head of group: Prof. Dr. Klaus Richter.
- Mar – May 2000 Visiting Research Assistant, Department of Applied Physics, Yale University, New Haven, USA, chair: Prof. Doug Stone.
- 1997 – 1998 Research Assistant, Technische Universität Dresden, Germany, Institute for Materials Science, chair: Prof. Dr. Wolfgang Pompe.
- 1994 – 1997 Student Researcher, Technische Universität Dresden, Germany, in the Theoretical Nuclear Physics Group, chair: Prof. Dr. Gerhard Soff.

Breaks:

2009/10, 2010/11, 2012/13 for maternal/parental leaves after birth of three children.

Research Area

Modelling and simulation of complex dynamical systems on the micrometerscale:

- mesoscopic physics in optical and electronic systems including graphene
- composite optical systems and lasers, nonlinear dynamics, quantum chaos in open systems
- ray-wave correspondence and phase-space analysis of mesoscopic systems
- interference effects leading to geometric and topological phases, decoherence mechanisms
- electronic transport and many-body effects in mesoscopic systems

Publications and Invited Talks

- 75+ Research articles in refereed journals (including 1 Nature Comm. and 7 PRL; 9 publications with more than 100 citations), 2 Review articles (including one Scholarpedia article), 5 Book chapters, 10 Refereed proceedings
- 30+ Invited talks on international conferences, 50+ invited seminar and colloquium talks

Awards and fellowships

- 2011 Hertha-Sponer Prize of the German Physical Society (DPG) *for her outstanding theoretical work on mesoscopic electronic and optical systems, in particular optical microcavities*

2016	Scientific Equipment grant of the German Research Foundation (DFG) and the Free State of Thuringia
2006 - 2012	Emmy-Noether group of the German Research Foundation (DFG)
2008 - 2010	Fellowship in the “Fast Track” Program of the Robert Bosch Foundation (Mentoring, Seminar program)
2002 - 2004	Feodor-Lynen Fellowship of the Alexander von Humboldt Foundation (Department of Physics, Duke University, USA)
2002 - 2004	Research Fellowship of the DFG, not accepted in favor of Lynen above
1993 and 2000	Fellowships of the German Academic Exchange Service (DAAD) (Language Course at University of Illinois at Urbana-Champaign, USA and Student researcher at Yale University, USA)
1991 - 1997	Scholarship of the Foundation “Studienstiftung des deutschen Volkes” (Study of Physics at TU Dresden and IC London)

Engagement and extracurricular activities (selected):

2020 –	Library Commission, member, TU Chemnitz
2020 –	Chair of the Hertha-Sponer Prize Committee of the German Physical Society (DPG).
2017 – 2020	Member of the Hertha-Sponer Prize Committee of the German Physical Society (DPG).
2019 –	Initiator and Organizer of Women-in-physics Lunches at the spring meetings of the German Physical Society (DPG).
2018 –	Initiator of the Network “Physikdozentinnen” within the German Physical Society (DPG).
2015 – 2020	Deputy to the director of the Institute of Physics at TU Ilmenau
2015 – 2017	Chief Responsibility for acquisition of new High Performance Compute (HPC) Cluster for TU Ilmenau (purchased 3/2017, 580.000 €).
2013 – 2014	Head of search committee “Professorship for Technical Physics”, Technische Universität Ilmenau.
2016 – 2018	Board Member of the Fast Track Program (Robert Bosch Foundation).
2017	Chief scientific and local organizer of the 21 st Deutsche Physikerinnentagung (21 st German Women in Physics Meeting) of the German Physical Society (DPG) with 150 Participants at TU Ilmenau.

- 2015 – Founder of the Academia Net Club Saxony and Thuringia with regular meetings.
- 2008 – Co-organizer of 10 international conferences and workshops, five with more than 100 participants.
- 2002 – Referee of the Journals of Physical Review, of the EPS and OSA; Guest Editor of the Journal of Optics (2012).

Memberships:

- since 1996 Member of the German Physical Society (DPG).
- since 2010 Member of AcademiaNet.
- since 2017 Member of the European Optical Society/Gesellschaft für angewandte Optik.

Personal skills:

teaching

> 15 years of experience in teaching lectures, courses and reading classes in theoretical and computational physics, mesoscopic systems, and nanoscience at University of Regensburg, TU Dresden, TU Ilmenau, and TU Chemnitz; participation in didactic courses for university lecturers.

supervision

- > 20 Bachelor and Master students
- > 8 PhD students
- > 10 Postdocs

management

Participation in trainings for group management and team building.

languages:

- English proficient in speaking and writing.
- Russian translator certificate (SKA III, 1993).
- French/Spanish solid foundation.

software:

programming in C++, mathematica, matlab, gnuplot

Hobbies and private interests:

- Mountaineering Aconcagua (6962m), Cotopaxi (5897m), Summer and Winter climbs of various peaks in the alps.
- Diving since 1994 on the Masters level, 6th place in the German Masters Championships 2018.