

Resumé



Contact

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Personal informationen

date of birth: 30 July 1971
place of birth: Dresden
nationality: german
family status: married,
two children

Languages

- *English:* fluent
- *Russian:* can read and speak
- *French:* can read
- *Spanish:* can read and speak
- *German:* mother tongue

Competences

- mathematical physics, numerical and analytical methods, coherent diffraction imaging, developmental biology, AI, engineering
- several programming languages
- academic teaching, research, research supervision

Memberships

- Deutsche Physikalische Gesellschaft
- International Astronomical Union
- Bündnis 90/Die Grünen

Positions

as of 01/2020 IAV GmbH (full time)

data scientist and subject matter expert AI; testing of advanced driver assistance systems (ADAS) for Porsche AG, research in localisation and AI based improvement of ADAS

11/2008-9/2019 Karlsruher Institut für Technologie (full time)

staff scientist and group leader; research in theory of coherent diffraction imaging, live-cell X-ray phase-contrast microtomography and low-temperature photon physics at Institute for Photon Science and Synchrotron Radiation, teaching of theoretical optics, supervision of Master and PhD students, administrative activity

8/2016-9/2016 Institut Nonlineaire de Nice, CNRS (full time)

visiting directeur de la recherche;
research on Quantum Field Theory and Cosmology

3/2007 – 9/2008 Universität Karlsruhe (full time)

Postdoctoral fellow at Institut für Theoretische Physik; research and teaching activities in Quantum Field Theory, Cosmology, and Astrophysics

3/2006 – 2/2007 Universität Heidelberg (full time)

Postdoctoral fellow at Institut für Theoretische Physik; research and teaching in Quantum Field Theory, Cosmology, Astrophysics, and Statistical Physics

10/2004 – 12/2005 Universität Frankfurt (full time)

Postdoctoral fellow at Institut für Theoretische Physik; research and teaching in Quantum Field Theory

as of 07/2004 Universität Heidelberg

Privatdozent at Institut für Theoretische Physik; advanced lectures in Quantum Field Theory and Cosmology (full-day, week-long block courses twice a year), supervision of 15 thesis projects and research in Yang-Mills theory, cosmology, and astrophysics

10/2002 – 9/2004 Universität Heidelberg (full time)

Postdoctoral fellow at Institut für Theoretische Physik; research and teaching in Quantum Field Theory and phenomenology of Strong Interactions

1/2001 – 9/2002 Heiseberg-Institut, MPI München (full time)

Postdoctoral fellow; research in Quantum Field Theory and Cosmology

1/2000 – 12/2000 University of Minnesota (full time)

Postdoctoral fellow at Theoretical Physics Institute; research in Quantum Field Theory, Cosmology, and phenomenology of Strong Interactions, funded by Deutscher Akademischer Austauschdienst

Resumé

3rd party funding

grants of DAAD und DFG; externally funded research stays (University of Cape Town 1998, UC Santa Barbara 2005, SUNY at Stony Brook 2008), visiting professorship in Quantum Field Theory (Inst. Nonlineaire de Nice) funded by CNRS 2016

Author

> 130 publications in peer-reviewed journals; Book `The Thermodynamics of Quantum Yang-Mills Theorie´ (World Scientific 2012,2016)

Referee

J. Phys. A, Eur. Phys. J. C, J. High Energy Phys., Annals of Physics (referee award 2014), Prog. Nucl. Part. Phys., Annalen d. Physik, Mathematical Reviews,, Austrian Science Fonds, Netherlands Organisation for Scientific Research, Alexander-v.-Humboldt-Stiftung, J. Appl. Optics, PloSOne, OpticsExpress, SpringerPlus, European Commission (COST), Advanced Photon Source (Argonne National Laboratory), European Physics Letters, Optica, Foundations of Physics, Nucl. Inst. and Methods in Physics Research A, Scientific Reports, Appl. Phys. Letters, Phys. Rev. Lett., Appl. Phys. Exp., Phys. Rev. A, Universe, Entropy, Optics Letters, Modern Physics Letters A, Nature Comm. Biology, Dynamics, Symmetry, Class. Quant. Grav.

Scientific team work

supervision of 50 Bachelor/Diploma/Master and two PhD theses; scientific team leader, data analysis team leader, many invited talks at international conferences and workshops

Award

Lessingmedal in Gold (1988)

Education

Habilitation

7/2004 Universität Heidelberg

topic in Strong Interactions (quark-hadron duality and nonlocalities)

Doctorate

11/1999 Universität Tübingen („Magna cum laude“)

topic in Strong Interactions, four-month research stays at University of Cape Town, one month in Paris at ENS

University studies

10/1994 – 03/1997 Universität Heidelberg

Theoretical Physics

03/1997 Diplom („Sehr gut“)

Diploma thesis at Universität Heidelberg in Quantum Field Theory

09/1993 – 08/1994 Lakehead University, Ontario

Physics und Mathematics, Exchange programme between Baden-Württemberg and Ontario

08/1994 Bachelor of Science

cumulative course work at Lakehead University, Ontario

03/1993, 08/1994 Vordiplome Physik, Mathematik

equivalent to Bachelor degrees, Universität Heidelberg

10/1991-08/1994 Universität Heidelberg

Physics

Schooling

1988 – 1990 Abitur, Dresden

Erweiterte Oberschule ``Pestalozzi´´, with distinction

1978 – 1988 Polytechnical education, Dresden

Polytechnische Oberschule ``Edmund Fink´´, participation in several mathematics olympiads, with distinction

1979 – 1990 State Music School, Dresden

Plectrum and concert guitar including music theory Civil service (substitute for service in armed forces)

09/1990 – 08/1991 Community Hospital, Dresden Neustadt

Operating room and surgical station

Bad Bergzabern, 5 April 2026

