

# Resumé



## Contact

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## Personal informationen

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

## Languages

- English: fluent
- Russian: school knowledge
- French: basic knowledge
- Spanish: basic knowledge
- German: mother tongue

## Competences

- mathematical physics, numerical and analytical methods in Quantum Field Theory, Cosmology, Astrophysics, and coherent diffraction imaging
- several programming languages
- academic teaching and communication, research, research supervision

## Membership

Deutsche Physikalische  
Gesellschaft

## Positions

### as of 11/2008 **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 duties

### 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 11 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 **Werner-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); successful co-proposer  
of COST MP1207 - *Enhanced X-  
ray Tomographic Reconstruction*,  
visiting professorship in Quantum  
Field Theory (Inst. Nonlineaire de  
Nice) funded by CNRS 2016

## Author

> 70 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., Mathematical Reviews,  
International Scholarly Research  
Network, Austrian Science Fonds,  
Netherlands Organisation for  
Scientific Research, Flanders  
Research Organization, 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, Nuclear Inst.  
and Methods in Physics Research A,  
Scientific Reports, Appl. Phys. Lett.,  
Phys. Rev. Lett., Phys. Rev. A,  
Physica Medica

## Scientific team work

supervision of 12 Diploma and one  
PhD theses; team leader involving  
Northwestern U, Argonne National  
Lab, KIT, many invited talks at  
international conferences and  
workshops

## Organization of scientific meetings

organizer of symposium  
'Analysis of Quantum Field Theories  
I,II' within ICNAAM in 2011, 2012),  
co-organizer 5th, 4th Winter  
Workshop on Nonperturbative QFT,  
Institut Nonlineaire de Nice (CNRS,  
2015, 2017)

## 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 stay at University of  
Cape Town

### 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

### School

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

Karlsruhe, 7 September 2017

