

Curriculum Vitae

1. Personal Details:

Name: **Priv.-Doz. Dr. Axel Pelster**
Birth: 12/05/1966 in Backnang, Germany
Nationality: German
Family status: married, 3 children
Official position: Scientific Collaborator
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2. Professional History:

08/1986–07/1992: Physics Studies at University of Stuttgart
02/1987–06/1992: Scholarship of German National Scholarship Foundation
08/1992–02/1996: PhD student (BAT IIA/2), University of Stuttgart
04/1996–02/2004: Postdoc (BAT IIA) and Assistent (C1), Free University of Berlin
01/2004: Habilitation and Private Lecturer, Free University of Berlin
Research stays: Washington University in St. Louis (2001)
Massachusetts Institute of Technology in Cambridge (2002)
02/2004–09/2008: Main Scientific Assistent (C2), University Duisburg-Essen
10/2008–09/2009: Visiting Professor, Free University of Berlin
10/2009–07/2010: Visiting Professor, University of Potsdam
08/2010–03/2011: Main Scientific Assistent (C2), University Duisburg-Essen
04/2011–09/2011: Visiting Professor, University of Bielefeld
10/2011: Main Scientific Assistent (C2), University Duisburg-Essen
11/2011–03/2012: Fellow at Hanse Institute of Advanced Studies, Delmenhorst
04/2012–09/2012: Scientific Collaborator, Technical University of Kaiserslautern
10/2012–02/2013: Fellow at Hanse Institute of Advanced Studies, Delmenhorst
01/2013: Adjunct Professor of ICRANET Faculty
03/2013–03/2016: Scientific Collaborator (TV-L 13), Technical University of Kaiserslautern
since 04/2016: permanent Scientific Collaborator (TV-L 13), Technical University of Kaiserslautern
04/2018: Habilitation and Private Lecturer, Technical University of Kaiserslautern

3. Research Fields:

- **Ultracold quantum gases:** dirty bosons, dipolar quantum gases, bosons in optical lattices, rotating BECs, boson-fermion mixtures, spinor Bose and Fermi gases, photon Bose-Einstein condensate, anyonic quantum statistics, hybrid atom-optomechanical systems, quantum gases on curved manifolds
- **Nonlinear dynamical systems:** synergetics, time delays, retinotopic projections, Markov processes
- **Quantum field theory:** path and functional integrals, recursive graphical construction of Feynman diagrams, variational perturbation theory, critical phenomena, renormalization-group theory
- **General relativity:** anholonomic space-time transformations, gravity with torsion, Bose stars