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CALIFORNIA INSTITUTE OF TECHNOLOGY
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1200 E California Blvd
Pasadena, CA 91125**Education**

University of Hamburg, Germany	Physics	Ph.D., 1992
University of Hamburg, Germany	Physics	Diploma thesis, 1985
University of Paderborn, Germany	Physics	Prediploma, 1981

Professional Experience

2012-present	Scientific consultant, Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany. Computation and evaluation of nuclear resonant spectra of magnetic nano-materials.
2008-present	Visiting associate faculty, Division of Geophysical and Planetary Sciences, California Institute of Technology. Inelastic x-ray scattering methods in Earth science.
2010-2011	Senior Technologist (staff), Jet Propulsion Laboratory. Development and implementation of concepts for in-situ instruments on planetary surfaces in alignment with present and future NASA missions.
2009-2010	Senior Physicist (staff), Argonne National Laboratory. Development and application of nuclear resonant scattering techniques, inelastic x-ray scattering techniques, synchrotron instrumentation and methods. Mentor to junior scientific staff.
2004-2007	Group Leader, Argonne National Laboratory. Head of Inelastic X-ray and Nuclear Resonant Scattering group at the Advanced Photon Source.
2003-2010	Adjunct Professor, Department of Geology, University of Illinois at Urbana-Champaign.
1999-2009	Physicist (staff), Argonne National Laboratory. Development and application of nuclear resonant scattering techniques, inelastic x-ray scattering techniques, synchrotron instrumentation and methods.
1994-1999	Assistant Physicist (staff), Argonne National Laboratory. Development and application of nuclear resonant scattering techniques, synchrotron instrumentation, and methods.
1993-1994	Visiting Scientist, Argonne National Laboratory. Development of nuclear resonant scattering techniques. Development and implementation of synchrotron instrumentation and methods.
1992	Visiting Scientist, European Synchrotron Radiation Facility. Implementation of my evaluation software for nuclear resonant scattering data.
1992	Visiting Scientist, Argonne National Laboratory. Development of nuclear resonant scattering techniques.
1985-1993	Research Associate, University of Hamburg. Research on nuclear resonant scattering.

Recent Accomplishments

- Development of evaluation software for nuclear resonant studies of magnetic thin-films for MPI Halle.
- As part of a JPL/Caltech *in situ* geochronology project, developed high vacuum Laser ablation system for static detection and isotope analysis of noble gases such as He, Ne, Ar.
- Developed calibration software for the NGIS imaging spectrometer project.

Prior Major Accomplishments

- Discovered and developed nuclear resonant inelastic x-ray scattering (NRIXS) technique.
- Developed and distributed comprehensive computer code to evaluate nuclear resonant scattering spectra.
- Lead the nuclear resonant scattering program at beam line 3-ID of the Advanced Photon Source.
- Developed, designed, and constructed a world-wide unique high temperature and pressure experimental setup at beam line 3-ID.
- Oversaw design and construction of the inelastic scattering beam line 30-ID of the Advanced Photon Source.

Postdoctoral supervision

A. Alatas (2002-2005), G. Bortel (1997-1999), M.Y. Hu (1999-2001), S. Kharlamova (2005-2008), C. L'abbé (2000-2002), M. Lerche (2005-2007), B. Leu (2006-2010), A. Said (2005-2008), T.S. Toellner (1996-1998), H. Yavas (2007-2010).

Graduate student supervision

L. Gao (2008-2010), P.M. Hession (1996-1998), M.Y. Hu (1994-1999), C.N. Kodituwakku (2004-2007), J.P. Sutter (1995-2000), T.S. Toellner (1993-1996), H. Yavas (2002-2007), Y. Xiao (2004-2007).

Synergetic Activities

- Develop novel nuclear resonant scattering (NRS) and inelastic x-ray scattering (IXS) techniques.
- Promote NRS and IXS through community outreach in conferences, workshops etc.
- Initiate and support novel applications of NRS and IXS, e.g., in biology, geology, nanoscience.
- Train young scientists in use and benefits of synchrotron techniques.
- Supervise operation of public NRS and IXS beam lines at the Advanced Photon Source.
- Committee member of the Department of Energy's Lehman review of the NSLS-II project, Brookhaven National Laboratory, in June 2009, February 2010, November 2010, June 2011, and April 2012.
- Committee member of the Department of Energy's Lehman review of the NEXT project, Brookhaven National Laboratory, in September 2012.
- Representative of Argonne National Laboratory for the "Consortium for Materials Properties Research in Earth Sciences (COMPRES)" from 2003 until 2010.
- Chair of the Technical Advisory Committee for the High-pressure beamline (HP-CAT) at the Advanced Photon Source from 2007.

Awards

- Pacesetter Award, 1997, Argonne National Laboratory.
- Director's Award, 1998, Argonne National Laboratory.
- Medal for Distinguished Performance, 2004, The University of Chicago.

Membership in Professional Societies

- American Physical Society
- American Association for the Advancement of Science
- American Geophysical Union
- Geochemical Society
- High Pressure Science Society of America