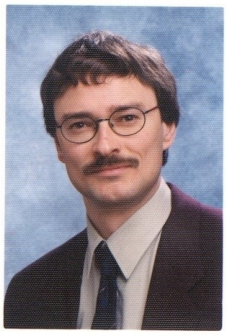
UNIVERSITÄT BAYREUTH

Faculty of Mathematics, Physics and Computer Science / Department of Physics
Chair of Experimental Physics IV
Prof. Dr. Jürgen Köhler



Curriculum Vitae

Job History

October 2002	Call to a Full Professorship at the University of Linz, (A)
Since Sept. 2000	Professor (C4) at the University of Bayreuth
April 2000	Call to a Full Professorship, University of Bayreuth
Febr. 1999 - Aug. 2000	Professor (C3) at the 'Ludwig-Maximilians-Universität', Munich
March 1998	Call to an Associate Professorship, LMU Munich
Sept. 1990 - Jan. 1999	Post-doctoral fellow at the 'Centre for the Study of Excited States of Molecules' at the University of Leiden, The Netherlands
Oct. 1987 - Aug. 1990	Research associate (Solid State Physics) at the 'Heinrich-Heine-Universität', Düsseldorf
June 1986 - Sept. 1987	Community service at the Institute for Medical Statistics and Biomathematics of the Medical institutions at the 'Heinrich-Heine-Universität', Düsseldorf

Education

October 1997	Granting Habilitation by Mathematics and Natural Sciences Faculty of the ‚Heinrich-Heine Universität' at Düsseldorf for experimental physics
Oktober 1997	Habilitation at the 'Heinrich-Heine'-Universität, Düsseldorf, in Experimental Physics
November 1990	Dissertation with Prof. D. Schmid at the University of Düsseldorf
Oct. 1987 - Aug. 1990	Research associate (Solid State Physics) at the 'Heinrich-Heine-Universität', Düsseldorf
April 1986	Diploma in Physics with Prof. D. Schmid at the University of Düsseldorf
1979 - 1986	Study of Physics at the 'Heinrich-Heine'-Universität', Düsseldorf
May 1979	Qualification for university admission (Allgemeine Hochschulreife) at the 'Alexander-von-Humboldt-Gymnasium', Neuss

Awards and other responsibilities

- Panels

since 2010	Speaker of the DFG Research Training Unit (GRK 1640) "Photophysik synthetischer und biologischer multichromophorer Systeme"
2006 - 2007	Member of the Board "Zukunft Bayern 2020" of the Bavarian State Government
2005 - 2009	Executive director of the Physical Institute of the University of Bayreuth
2002 - 2004	Member of the Faculty Council of the Faculty of Mathematics, Physics and Computer Science of the University of Bayreuth
2002 - 2004	Member of the Senate of the University of Bayreuth
2001 - 2007	Member of the Scientific Advisory Board of the Bavarian Science Foundation

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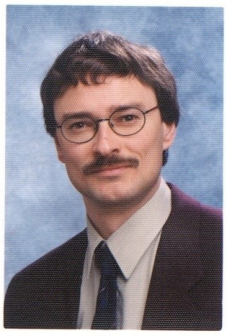


2001 - 2007	Member of the Scientific-Technical-Advisory Board of the Bavarian State Government

- Membership

Since 1988	Member of the 'Deutschen Physikalischen Gesellschaft (DPG); Association of Molecular Physics

- Awards

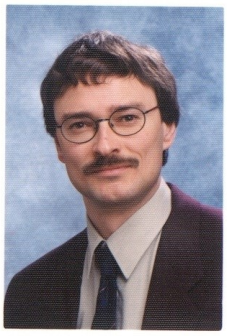
Since 2011	Adjunct Professor at the Ma Chung University, Malang, Indonesia
November 1997	'Richard Heynen – und Emmy Heynen Prize' by the Society of Friends and Promoters of the 'Heinrich-Heine-Universität' Düsseldorf
August 1997	Grant 'Heisenbergstipendium' of the German Science Foundation (DFG)
March 1996	Gustav-Hertz-Prize of the German Physical Society (DPG)
April 1995	Grant 'Habilitationsstipendium' of the German Science Foundation (DFG)
November 1994	C.J. Kok Prize of the University of Leiden, The Netherlands
July 1991	Best Dissertation of the year of the ,Heinrich-Heine-Universität' Düsseldorf

Research Focus

- **Methoden:** optische Einzelmolekülspektroskopie unter kryogenen und ambienten Bedingungen; Einzelmolekül "FRET", TIR, FCS; (Raumtemperatur) AFM Experimente;
- **Systeme:** Pigment-Protein Komplexe; konjugierte Polymere; supramolekulare Komplexe; Multichromophore Systeme
  Fragestellungen: Energie-Transfer Prozesse; Protein Dynamik; Selbstaggregation; Struktur-Funktionszusammenhänge; elektronische Struktur der Anregungszustände von (Bio-) Makromolekülen

Publications

1. **M. Pärs, C.C. Hofmann, K. Willinger, P. Bauer, M. Thelakkat, J. Köhler**
   An Organic Optical Transistor Operated under Ambient Conditions
   Ang. Chem. Int. Ed. **50** (2011) 11405-11408, DOI: 10.1002/anie.201104193
2. **M.F. Richter, J. Baier, J.Southall, R.J. Cogdell, S. Oellerich and J. Köhler**
   Refinement of the X-Ray Structure of the RC-LH1 Core Complex from Rhodopseudomonas palustris by Single-Molecule Spectroscopy
   Proc. Natl. Acad. Sci. **104** (2007) 20280-20284



3. **R. J. Cogdell, A. Gall and J. Köhler**
*The architecture and function of the light-harvesting apparatus of purple bacteria: from single molecules to **in vivo** membranes*
Q. Rev. Biophysics **39** (2006) 227-324

4. **E. Lang, A. Sorokin, M. Drechsler, Y.V. Malyukin and J. Köhler**
Optical Spectroscopy on Individual amphi-PIC J-Aggregates
Nano Letters **5** (2005) 2635-2640

5. **C. Hofmann, H. Michel, M. van Heel and J. Köhler**
Multivariate Analysis of Single-Molecule Spectra: Surpassing Spectral Diffusion
Phys. Rev. Lett. **94** (2005) 195501-1-195501-4

6. **C. Hofmann, T.J. Aartsma, H. Michel and J. Köhler**
Direct Observation of Tiers in the Energy Landscape of a Chomoprotein: A Single-Molecule Study
Proc. Natl. Acad. Sci. **100** (2003) 15534-15538

7. **C. Hofmann, M. Ketelaars, M. Matsushita, H. Michel, T.J. Aartsma and J. Köhler**
Single molecule study of the electronic couplings in a circular array of molecules: Light Harvesting 2 complex from Rhodospirillum molischianum
Phys. Rev. Lett. **90** (2003) 013004-1-013004-4

8. **A.M. van Oijen, M. Ketelaars, J. Köhler, T.J. Aartsma and J. Schmidt,**
Unraveling the Electronic Structure of Individual Photosynthetic Pigment-Protein Complexes.
Science **285** (1999) 400-402
(for comment see: M. Orrit, *Coherent Excitation in the Antenna Complex,* Science **285** (1999) 349-350

9. **J. Köhler, A.C.J. Brouwer, E.J.J. Groenen and J. Schmidt,**
Single Molecule Paramagnetic Resonance Spectroscopy: Hyperfinesplitting owing to a Single Nucleus.
Science **268** (1995) 1457-1460

10. **J. Köhler, J.A.J.M. Disselhorst, M.C.J.M. Donckers, E.J.J. Groenen, J. Schmidt and W.E. Moerner,**
Magnetic Resonance of a Single Molecular Spin.
Nature **363** (1993) 242-243
(for comment see: R.J. Silbey, *ESR on a Single Molecule,* Nature **363** (1993) 214-215)

Contact

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