

Achim Wixforth

Date of birth: May 26, 1956
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Academic education

1977-1984: Studies of physics at the University of Hamburg, Germany
June 1984: Diploma in physics, University of Hamburg
May 1987: Ph. D. in experimental physics, University of Hamburg

Academic career

1989-1990: Res. Asst. Engineer, Univ. of California, Santa Barbara, USA
1990-1994: Research Asst. LMU Munich, Germany
April 1994: Habilitation, LMU Munich, Germany
1994-2001: 'Privatdozent' at LMU Munich, Germany
2000-2005: Board (CTO), Advalytix AG, Brunnthal
2001-2002: apl. Professor of physics, LMU Munich, Germany
Since 5/2002: Professor (C4/W3) for Experimental Physics
Institute of Physics, Universität Augsburg
2006/2007: Dean of Studies (Dept. of Mathematics and Natural Sciences)
2008/2009: Vice Dean of the Dept. of Mathematics and Natural Sciences
2009-2011: Dean of the Dept. of Mathematics and Natural Sciences

Scientific visits

1989-1990: UC Santa Barbara, Dept. Electr. Engineering
1992, 1994: UC Santa Barbara, Dept. Electr. Engineering
2006-2007: UC Santa Barbara, Calif. Nanoscience Institute CNSI

Scientific interests

Surface acoustic waves, low temperature transport, FTIR spectroscopy, (Dynamical) lateral superlattice on semiconductor nanostructures, Carbon nanotubes, (semiconductor) nanocrystals, Novel materials and material combinations for electronical, optical, and mechanical applications, Microfluidic systems, biochips, lab-on-a-chip, Biophysics of membranes

Scientific awards

1994: Call from the University of Hamburg (declined)
1998: Walter-Schottky Prize, DPG, Germany
2001: Bavarian Innovation Award finalist
2002: Small Business Award Bavaria
2003: BioTrends Award
2006: ALA Innovation Award finalist
2006: Member, German Excellence Initiative NIM
2010: Board, German Excellence Initiative NIM
2011: C. B. Sawyer Memorial Award (IEEE)

Memberships

German Physical Society (DPG); American Physical Society (APS); IEEE

Reviewer

Phys. Rev A, B, D, E, Phys. Rev. Letters, Appl. Phys. Lett., Journal of Applied Physics, Biophysical Journal, ChemPhysChem, Science, Nature, Solid State Commun., Thin Solid Films, ...

Project related, selected publications (10 most important during last 5 years)

1. Z. v. Guttenberg, A. Rathgeber, S. Keller, J. O. Rädler, A. Wixforth, M. Kostur, M. Schindler, P. Talkner. Flow Profiling of a Surface Acoustic Wave Nanopump. *Physical Review E* 70, 056311 (2004)
2. J. Krauss, J. P. Kotthaus, A. Wixforth, M. Hanson, D. C. Driscoll, A. C. Gossard, D. Schuh, M. Bichler. Capture and Release of Photonic Images in a Quantum Well. *Appl. Phys. Lett.* 85, Issue 24, 5830-5832 (2004)
3. T. Smorodin, U. Beierlein, J. Ebbecke, A. Wixforth. Surface Acoustic Wave Enhanced Alignment of Thiolated Carbon Nanotubes on Gold Electrodes. *Small* 12, 1188 (2005)
4. Z. v. Guttenberg, H. Mueller, H. Habermueller, A. Geisbauer, J. Pipper, J. Felbel, M. Kielpinski, J. Scriba, A. Wixforth. Planar Chip Device for PCR and Hybridization with Surface Acoustic Wave Pump. *Lab Chip*, 5, 308–31 (2005)
5. C. Bödefeld, J. Ebbecke, J. Toivonen, M. Sopanen, H. Lipsanen, A. Wixforth. Experimental Investigation towards a Periodically Pumped Single-Photon Source. *Physical Review B* 74 035407 (2006)
6. A. Alexander-Katz, M. F. Schneider, S. W. Schneider, A. Wixforth, R. R. Netz. Shear-Flow Induced Unfolding of Polymeric Globules. *Phys. Rev. Lett.* 97, 138101 (2006)
7. F. W. Beil, R. H. Blick, A. Wixforth, W. Wegscheider, D. Schuh, M. Bichler. Observation of Single-Defect Relaxation in a Freely Suspended Nano Resonator. *Europhys. Lett.*, 76 (6), 1207–1213 (2006)
8. S. W. Schneider, S. Nuschele, A. Wixforth, C. Gorzelanny, A. Alexander-Katz, R. R. Netz, M. F. Schneider. Shear-Induced Unfolding Triggers Adhesion of Von Willebrand Factor Fibers. *PNAS* 104 (19): 7899-7903 (Apr 2007)
9. F. W. Beil, A. Wixforth, W. Wegscheider, D. Schuh, M. Bichler, R. H. Blick. Shock Waves in Nanomechanical Resonators. *Phys. Rev. Lett.* 100, 026801 (2007)
10. T. Frommelt, M. Kostur, M. Wenzel-Schäfer, P. Talkner, P. Hänggi, A. Wixforth. Microfluidic Mixing via Acoustically Driven Chaotic Advection. *Phys. Rev. Lett.* 100, 034502 (Jan 2008)