Curriculum Vitae

Prof. Dr.-Ing. Horst Hahn

Personal Information

* August 10, 1952 in Saarbrücken

Institut für Nanotechnologie
Karlsruher Institut für Technologie
Kaiserstraße 12, 76128 Karlsruhe, Germany

☏ (+49) 0721 6082-6350 🖷 (+49) 0721 6082 6368

Horst.hahn@kit.edu

Scientific Vita

1978	Diploma, Universität des Saarlandes Saarbrücken
1978-1982	Research Assistant Dept of Materials Science, Technische Universität Berlin
1982	PhD, Technische Universität Berlin
1982-1985	Postdoctoral Research Associate, Dept. of Materials Science Universität des Saarlandes, Saarbrücken
1985-1987	Research Associate, Materials Science Division, Argonne National Laboratory, USA
1987-1990	Research Assistant Professor, Dept of Materials Science and Engineering, University of Illinois at Urbana-Champaign, USA
1990-1992	Associate Professor of Materials Science (tenured), Rutgers-The State University of New Jersey, USA, Dept of Mechanics and Materials Science
1992-2004	Full Professor of Materials Science, Head of Thin Films Division, Technische Universität Darmstadt (TUD)
2004-present	Executive Director, Institute of Nanotechnology, KIT; Professor of Materials Science, TUD
Since 2005	Head of Joint Research Laboratory Nanomaterials at Institute of Materials Science, TUD
Since 2008	Head of Programme NANOMICRO: Science, Technology, System at KIT
Since 2011	Executive Founding Director of Helmholtz-Institute Ulm

Professional Activities

1994-1999	Associate Editor for Nanostructured Materials
1995-present	Reviewer of research projects for DFG, AvH, DFG SFBs277, Saarbrücken und 445, Duisburg
1995-present	Associate Editor for Materials Letters
1997-2001	Member of Scientific Advisory Board of Hahn-Meitner-Institute, Berlin
1999-2001	Chairman of Scientific Advisory Board of Hahn-Meitner-Institute, Berlin
2003-2006	Chairman of International Committee on Nanostructured Materials
2004-2008	Editor of Scripta Materialia
2004-2007	Member of Board of Section Nanotechnology, Dechema e.V., Frankfurt
2005-present	Member of Scientific Advisory Board of GKSS (National Laboratory)
2005-2007	Member of Board of Directors of Materials Research Society, Warrendale, PA, USA
2006-2010	Chairman of Scientific Advisory Board of Leibniz-Institut für Neue Materialien gem. GmbH, Saarbrücken
2007-present	Member of Advisory Board of CeNIDE-Center for Nanointegration, University of Duisburg-Essen

Areas of Expertise

- Nanostructured metals and ceramics and general nanostructures, i.e. clusters, nanoparticles thin films
- Synthesis processes and processing of nano-structured materials
- Stability and reliability of nanostructured materials

- Tailored and tuneable properties of nanostructures
- Functional properties of ceramics, i.e. electronic and ionic conductivity, and applications in printable electronics
- Energy materials, i.e. batteries and fuel cells

Awards and Honors

1982-1984	Fellowship for highly-qualified young scientists (24 month) from Fritz-Thyssen Foundation, Cologne
2004	Honorary Professor at University of Hyderabad, Physics Dept, Hyderabad, India
2005	Distinguished Professor of Indian Institute of Technology Madras, India (lifetime position)
2007	Guest Professor at Lanzhou University, Lanzhou China
2010	Elected member of Deutsche Akademie der Naturforscher Leopoldina, Halle
2010	Elected Member of European Academy of Sciences
2010	Fellow of the Materials Research Society (MRS), Pittsburgh, PA USA
2010/11	Guest Professor "Physics of nanostructured materials", Department of Physics, University of Vienna, Austria
2012	Heyn-Denkmünze, Dt. Gesellschaft für Metallkunde

International Cooperations

Prof. Dr. Robert Averback, University of Illinois at Urbana-Champaign, USA: Metastable alloy formation by high-pressure torsion

Prof. Dr. Pulickel Ajayan, Rice University, Houston, TX, USa: Carbon-nanostructures

Prof. Dr. Chandrahas Bansal, University of Hyderabad, India: Tuneable nanomaterials

Prof. Dr. Subbu Bhattacharya, IIT Madras, Chennai, India: Nanopowders for energy applications

Prof. Dr. Anatoli Sidorenko, Institute of Electronic Engineering, Ind. Technologies AS REM, Kishinev, Moldavien: Functional thin films

Publications and Patents

Total number of publications: > 300

Total number of refereed publications: > 200

Total number of patents: 13

List of five most important publications

R.W. Siegel, S. Ramasamy, H. Hahn, Z.Q. Li, T. Lu, and R. Gronsky, *Synthesis, Characterization, and Properties of Nanophase TiO_2.* Journal of Materials Research, 1988. **3**(6): p. 1367-1372.

H. Hahn, J. Logas, and R.S. Averback, *Sintering Characteristics of Nanocrystalline TiO_2.* Journal of Materials Research, 1990. **5**(3): p. 609-614.

R. Schmechel, M. Kennedy, H. von Seggern, H. Winkler, M. Kolbe, R.A. Fischer, X.M. Li, A. Benker, M. Winterer, and H. Hahn, *Luminescence properties of nanocrystalline Y_2O_3 : Eu^{3+} in different host materials.* Journal of Applied Physics, 2001. **89**(3): p. 1679-1686.

H. Hahn and K.A. Padmanabhan, *A model for the deformation of nanocrystalline materials.* Philosophical Magazine B-Physics of Condensed Matter Statistical Mechanics Electronic Optical and Magnetic Properties, 1997. **76**(4): p. 559-571.

P. Mondal, A. Klein, W. Jaegermann, H. Hahn, *Enhanced Specific Grain Boundary Conductivity in Nanocrystalline Y_2O_2-Stabilized Zirconia.* Solid State Ionics 1999. **118**: p. 331-339.