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**Prof. Dr.  
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## Personal data

- Date of birth        March 30, 1956
- Place of birth      Auritz (Saxony)
- Nationality        German
- Gender              Male

## Profile

- Physicist (Dr. rer. nat.)
- Research: materials science and engineering, metallic materials, ceramic materials and glasses, composites, materials characterization, microstructure analysis, solid state physics, micro- and nanoelectronics technology and materials
- Reliability physics and engineering, process and quality control
- Management (responsibility for budget and staff)
- Project management, research and innovation management
- Planning and start-up of new divisions/departments in enterprises and institutes
- Development of European strategies for research, development and innovation

## Strengths

- Strategic thinking, strategy development
- Target-oriented thinking (strategic and operative tasks)
- Project management, research and innovation management
- Conceptual skills to define new structures and cooperation networks
- Formation and development of partnerships between industry and universities/non-university research institutes
- Analytical problem solving
- Networking within R&D&I (national and international)
- Basic research and development, technology transfer

## **Work Experience and Scientific Career**

- Jan 14 – today      Department Head Microelectronic Materials and Nanoanalysis at Fraunhofer Institute for Ceramic Technologies and Systems, Dresden, Head of the Steering Committee of the Dresden Fraunhofer Cluster Nanoanalysis
- Aug 09 – Dec 13      Department Head Nanoanalysis and Testing at Fraunhofer Institute for Nondestructive Testing, Dresden, Head of the Steering Committee of the Dresden Fraunhofer Cluster Nanoanalysis
- April 97 – July 09      Sr. Manager of the Center for Complex Analysis at AMD Saxony LLC & Co. KG/GLOBALFOUNDRIES Fab One LLC & Co. KG, Dresden, 9 months working stay at AMD Inc. in Austin/TX and Sunnyvale/CA (US)
- Oct 92 – March 97      Section Manager Metal Physics in the Development Department at Airbus GmbH, Bremen
- Feb 89 – Sep 92      Assistant Professor for Inorganic Nonmetallic Materials at Technical University Bergakademie, Freiberg
- Mar 85 – Jan 89      Head of the X-Ray Diffraction Analysis Lab and Project Lead in the Metal Physics Department at the Research Institute of Non-Ferrous Metals, Freiberg
- Sep 79 – Feb 85      Research Associate in the Division of Metal- and X-Ray Physics at Technical University Dresden, 6 months post-graduate research at the Synchrotron Radiation Center of the Institute of Nuclear Physics in Novosibirsk (Russia)

## **Education**

- Nov 79 – Apr 81      Military service
- Sep 74 – Aug 79      Studies in physics at University of Technology Dresden, specializing in experimental solid state physics
- Sep 70 – Aug 74      Post-graduated secondary school in Bautzen
- Sep 62 – Aug 70      Polytechnic secondary school in Bautzen

## **Academic Graduations**

- Nov 88      Habilitation, Dr. rer. nat. habil. at TU Dresden  
“Metal-physical process in microelectronic wire-bonding of integrated circuits”
- Feb 85      Graduation, Dr. rer. nat. (“magna cum laude”) at TU Dresden  
“X-ray spectroscopic investigations of the microscopic atomic and magnetic structure of Heusler alloys and metallic glasses”
- Aug 79      Diploma degree in solid state physics (“very good”) at TU Dresden  
“Determination of bend radius and reflectivity of curved spectrometer-crystals”

## **Scientific Achievements & Recognitions**

h-index: 26, ca. 200 publications in peer-reviewed journals, > 3700 citations (Google Scholar)

44 issued patents/patent disclosures (published applications in DEPATISnet); 1 co-founded start-up

Adjunct Professor for Nanomaterials at Brandenburg University of Technology Cottbus, from 2006

Adjunct Professor for Nanoanalysis at Technical University Dresden, from 2012

Affiliated Professor at Warsaw University, from 2015

EU Distinguished Lecturer at Technical University Wroclaw, Poland, 2010 (Nanoscale functional materials)

Visiting Professor at Technical University Warsaw, Poland, 2013 - 2014 (Advanced nanoscale materials)

Visiting Professor at Aix Marseille University, France, 2017 (Nanoscale materials characterization)

Distinguished Research Professor at Hankou University Wuhan, China, from 2017

Honorary Member of the Federation of European Materials Societies (FEMS), from 2017

Co-organizer of ESF Young Researcher's group "ENano" at TU Dresden, 2011 - 2014

## **Membership in Organizations**

MRS, DGM, VDI, AWT

## **Selected Scientific Activities**

Executive Member of the Federation of the European Materials Societies (FEMS) 2008 - 2015, Vice President 2010/2011, President 2012/2013, Immediate Past President 2014/2015, Past President and Corresponding Executive Member since 2016, Honorary Member since 2017

Member of the Managing Board of the European Alliance for Materials (A4M), Brussels, Belgium, since 2013

Member of the Steering Committee of The European Platform on Advanced Materials and Technologies (EUMAT), Brussels, Belgium, since 2013

Member of the Scientific Advisory Board of the Institute of Lightweight Construction and Hybrid Systems at University Paderborn, Germany, since 2013

Member of the Scientific Area Committee “Information technologies and microelectronics” of the DRESDEN concept consortium, Dresden, Germany, since 2014

Member of the Emerging Research Materials Working Group of the International Technology Roadmap for Semiconductors ITRS 2.0 Roadmap Committee, IEEE, since 2015

Member of the External Advisory Board of CENIMAT/I3N Lisbon, Portugal, since 2015

Board member of the Cool Silicon e. V., Dresden, Germany, since 2015

Operational Management Board member of the European Materials Characterization Council, since 2016

Member of the Board of Directors of the Materials Research Society (MRS), since 2018

Member of the Senate of the European Materials Research Society (E-MRS), since 2018

Board member of Deutsche Gesellschaft für Materialkunde (DGM), 2003 - 2007

Head of the DGM Technical Committee “Materials for Electronic Applications”, 2004 - 2009

Member of the Commission Microelectronics and Nanoelectronics of the State of Saxony (KOMINAS), 2009 - 2011

Member of the SEMI 3D Stacked Integrated Circuit (3DS-IC) Committee, Inspection and Metrology Task Force, 2011 - 2015

Head of the Scientific Advisory Board of the European Society of Thin Films (EFDS), 2010 - 2015

Scientific Coordinator of the Dresden Center for Nanoanalysis at TU Dresden, 2012 - 2015

Member of the Governing Board of the Center of Advanced Materials and Technologies, Warsaw, Poland, 2014 - 2016

Member of Scientific Advisory Boards (DESY Hamburg for Synchrotron Radiation 1991 - 1993, SEMATECH/ISMI for Physical Analysis and Metrology 1998 - 2008, Hahn-Meitner-Institut Berlin 2003 - 2008, Forschungszentrum Dresden-Rossendorf 2005 - 2010, Helmholtz Zentrum Berlin 2008 - 2011)

Chair of international conferences (IEEE IITC MAM 2011, Int. FCMN 2015, Int. Workshop on Stress Induced Phenomena in Metallization 2005, 2010, 2016, Int. Workshop on Stress in 3D ICs using TSVs 2010, 2011, Dresden Nanoanalysis Symposium 2013 - 2018)

Member of the Scientific Committee of international conferences (IEEE IEDM, IEEE IITC, EUROMAT, ESREF, IPFA, MAM, FCMN, SCD, NanoFair, CNM)

Reviewer for BMBF, DFG, AIF, Helmholtz and others, since 2000, and Reviewer for several Journals, e.g. Applied Physics Letters, Journal of Applied Physics, International Journal of Materials Research, Advanced Engineering Materials, Progress in Materials Science, Advanced Materials Interfaces, Journal of Microscopy, Microelectronic Engineering

## **Personal Details**

Languages            German (native), English (fluently), French (basics), Russian (basics),  
Polish (basics)

Activities            Member of Lions Club International since 1993  
Member of Lions Club Radebeul (President 2001/2002)

Cultural and technical history (coinage), music (classic and jazz)  
Jogging, bicycling, skiing