

**Prof. h.c. Dr.-Ing. Joachim U. Knebel**

**Karlsruhe Institute of Technology (KIT)**

Head of Division 3

Division 3 – Mechanical and Electrical Engineering

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**CURRICULUM VITAE**

**December 19<sup>th</sup>, 2022**

**Academic Background and Education**

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|-----------------|---|
| 10/1983-01/1989 | Studies of Theoretical Mechanical Engineering, University of Karlsruhe (TH), now KIT  |
| 01/1993         | Ph.D. Thesis: "Experimental Studies in Turbulent Buoyant Jets in Sodium for Fast Reactors", Grade: 'Summa Cum Laude', University of Karlsruhe (TH), now KIT |
| 12/2013         | Professor Honoris Causa of St. Petersburg University, Faculty of Applied Mathematics and Control Processes  |

**Professional Career and Activities**

**Karlsruhe Institute of Technology (KIT)**

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|-------------------|---|
| 02/1989 – 01/1993 | Scientist at the Institute for Nuclear and Energy Technologies (IKET), former Kernforschungszentrum Karlsruhe (KfK), now KIT  |
| 12/1992           | Scholar of the German Academic Exchange Service (DAAD) at the University of Manchester UK on "Liquid Metal Flow Measurement Techniques"   |
| 02/1993 – 12/1996 | Head of Group "Long-term Containment Cooling" within European Pressurized Water Reactor (EPR) project, IKET   |
| 01/1997 – 04/1997 | Delegation to JAEA Tokai Japan, "Flow Instabilities in Boiling Water Reactors (experiment and theory)"  |
| 05/1997 – 04/2002 | Head of Group "Studies of Accelerator Driven Systems (ADS) for Transmutation of High Level Nuclear Waste", IKET   |
| 05/2002 – 09/2010 | Head of Nuclear Safety Research Programme (NUKLEAR), KIT  |
| 10/2007 – 05/2009 | Acting Head of Institute of Neutron Physics and Reactor Technology (INR), KIT   |
| 06/2009 – 11/2010 | Acting Head of Institute of Radiation Research (ISF), KIT   |
| 10/2010 – 12/2013 | Chief Science Officer (CSO-4), and Member of the Enlarged Executive Board, KIT<br>Responsibilities: Faculty of Electrical Engineering and Information Technology (ETIT), KIT Mobility Systems Center, 3 Helmholtz Programmes: 'Storage and Cross-linked Infrastructures', 'Fusion Research' and 'Nuclear Safety Research', 5 institutes: Institute for Pulsed Power and Microwave Technology (IHM), Institute for Nuclear and Energy Technologies (IKET), Institute for Nuclear Waste Disposal (INE), Institute for Neutron Physics and Reactor Technology (INR), and Institute for Technical Physics (ITEP). |

**Since 01/2014**

**Head of Division, Division 3 – Mechanical and Electrical Engineering**

Responsibilities: KIT-Faculty of Mechanical Engineering (MACH) and KIT-Faculty of Electrical Engineering and Information Technology (ETIT) and the corresponding 32 institutes, Helmholtz Research Field Energy and Helmholtz Programmes 'MTET: Materials and Technologies for the Energy Transition', 'FUSION: Nuclear Fusion' and 'NUSAFE: Nuclear Waste Management, Safety and Radiation Research'.

**Helmholtz Association**

|                   |   |
|-------------------|---|
| 07/1999 – 06/2002 | Coordinator of Helmholtz Strategy Fund project, “Innovative Technology for Radiotoxicity Reduction” No. 99/16 |
| 05/2002 – 12/2014 | Spokesperson of Helmholtz “Nuclear Waste Management and Safety” Programme                                     |
| Since 01/2015     | Co-Spokesperson of Helmholtz “Nuclear Waste Management and Safety” Programme                                  |
| 08/2003 – 07/2007 | Coordinator of Helmholtz Virtual Institute VI-VH-036 “Competence Preservation in Nuclear Technology”          |
| 09/2009 – 12/2014 | Member of the Governing Board of the Research Field “Energy” of the Helmholtz Association (HGF)               |
| 03/2011 – 03/2018 | Member of the Think Tank to the President of the Helmholtz Association (HGF)                                  |
| 07/2012 – 12/2020 | Spokesperson of the Helmholtz Cross-Programme Activity “Electromobility”                                      |
| 05/2015 – 12/2020 | Contact Person of the Helmholtz Initiative “Energy System 2050”   |
| Since 04/2020     | Member of the COVID19-Helmholtz-Campaign of the Research Field “Energy” of the Helmholtz Association          |

**EURATOM and European projects (selection)**

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|-------------------|---|
| 11/2001 – 12/2002 | European Coordinator of “MEGAwatt Pilot Experiment-TESTing (MEGAPIE TEST)” FP5 project  |
| 04/2005 – 10/2004 | Spokesperson of “TEchnical Support for TRAnsmutation (TESTRA)” FP5 cluster  |
| 04/2005 – 03/2010 | European Coordinator of “EUROpean Research Program for the TRAnsmutation of High Level Nuclear Waste in an Accelerator Driven System (EUROTRANS)” FP6 project (the largest EURATOM project in the 6th European Framework Programme) |
| 02/2008 – 07/2010 | Elected Member of Executive Committee, European Sustainable Nuclear Energy Technology Platform (SNETP)  |
| 06/2009 – 07/2010 | Acting Coordinator of EERA Joint Programme on Nuclear Materials (JPNM), European Energy Research Alliance (EERA)  |
| 11/2010 – 12/2013 | Member of the Consultative Committee for the Euratom Specific Research and Training Programme in the Field of Nuclear Energy - Fusion (CCE-FU)  |
| Since 11/2010     | German Contact Person for Joint Implementation of Broader Approach (BA) Activities in the field of Fusion Energy Research   |

**Other Duties and Honorary Functions**

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| Since 1993        | Author or co-author of more than 160 scientific publications<br><br>More than 110 invited papers, lectures at scientific conferences, public hearings and interviews, press events, specialist and project meetings in Europe, Russian Federation, Japan, Canada, USA, India, PR China, South Korea and Malaysia.<br>Organizer and co-organizer of conferences in the field of nuclear energy, nuclear waste transmutation and mobility systems. |
| 01/2001 – 12/2004 | Elected member of the Supervisory Board of Forschungszentrum Karlsruhe (FZK)   |
| 2004 – 2007       | Member of Energy Advisory Board, Jülich Research Center (FZJ)  |
| 05/2006 – 04/2012 | Member of Federal Executive Board, German Nuclear Society (KTG) – re-elected in 2009   |
| 2006 – 2012       | Member of the German Nuclear Committee (KTA)   |
| 2006 – 2011       | Member of Scientific Board, KIT-CEA Frederic Joliot – Otto Hahn Summer School  |
| 08/2006 – 12/2017 | Member of Editorial Board of Journal “Kerntechnik”   |
| 05/2007 – 12/2010 | Member of Administrative Council, German Atomic Forum (DAtF)   |
| 10/2007 – 03/2013 | CEO of Southwest German Research and Teaching Alliance Nuclear Technology  |
| 01/2008 – 12/2011 | Vice President of European Nuclear Society (ENS) - re-elected in 2010  |
| 06/2008 – 12/2014 | Chairperson of Steering Committee, International MEGAPIE Initiative  |
| Since 06/2008     | Member of the Working Group of the European Atomic Energy Society (EAES)   |
| 07/2008 – 06/2011 | Member of Scientific Advisory Board, Helmholtz-Centre Dresden-Rossendorf (HZDR)  |
| 09/2008 – 08/2016 | Member of the Board of Trustees, University of Applied Sciences, Karlsruhe – re-nominated in September 2012  |
| 05/2009           | Member of the OECD MYRRHA International Review Team (MIRT)   |
| 03/2010           | Member of the International Evaluation Panel “European Centres of Excellence” for the Ministry of Education, Youth and Sports of the Czech Republic  |

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|-------------------|--|
| 06/2010 – 05/2013 | Member of the Nuclear Science and Technology Peer Review Committee, Idaho National Laboratory (INL) USA; Chair in 2011   |
| 03/2011 – 04/2014 | Spokesperson of the Working Group on Fukushima, set up by the Federal Ministry of Education and Research (BMBF)  |
| <b>05/2011</b>    | <b>European Science-Culture-Award of the European Foundation for Culture PRO EUROPA</b> , awarded on May 17, 2011 in Berlin, for merits in "Partitioning & Transmutation Research"   |
| 01/2012 – 11/2012 | Member of the Board of the International Economic Forum Baden-Baden: "The Automobile of the Future"  |
| 05/2014 – 12/2017 | Spokesperson of the German Alliance for Competence in Nuclear Technology (KVKT)  |
| Since 10/2010     | Member of the German Fusion Development Agreement  |
| 10/2013-10/2021   | Member of the Project Council Wendelstein W7-X   |
| 09/2015           | Co-Founder of the international Initiative 'Affordable Energy for Humanity' (AE4H), <a href="http://ae4h.org">http://ae4h.org</a>  |
| Since 11/2015     | Member of the Jury Symposium „Energie-Campus“ of the Stiftung Energie & Klimaschutz Baden-Württemberg: <a href="https://www.energie-klimaschutz.de/projekte/energiecampus/">https://www.energie-klimaschutz.de/projekte/energiecampus/</a>   |
| Since 09/2016     | Representative of the KIT in the Board of Directors of the national Kopernikus project New Power Grid Structures for the Energy Transition (ENSURE), Phase I & II: <a href="https://www.kopernikus-projekte.de/en/projects/ensure">https://www.kopernikus-projekte.de/en/projects/ensure</a> |
| Since 12/2017     | Member of the Board of Directors of the German Renewable Energy Research Association (FVEE) and the Program Committee of the FVEE Annual Meeting: <a href="https://www.fvee.de/en/">https://www.fvee.de/en/</a>  |
| Since 2021        | Representative of KIT in the Coordination Group of the Research Alliance Karlsruhe (FPSKA) on Energy <a href="https://www.energie.kit.edu/fps-ka-energie.php">https://www.energie.kit.edu/fps-ka-energie.php</a>   |
| Since 10/2022     | Member of the Executive Committee (ExCo) of the European Energy Research Alliance (EERA) <a href="https://www.eera-set.eu/">https://www.eera-set.eu/</a>   |

### **Languages**

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| English  | Business fluent |
| French   | Very good       |
| Japanese | Basic knowledge |