

Dr.-Ing. Gunther F. Eggeler

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Dr.-Ing. Gunther Friedrich Eggeler

*Professor for Materials Science
Institute of Engineering Materials
Ruhr-Universität Bochum, IA1/126
D – 44 780 Bochum, Germany*



Positions Held

- *April 1995 - present*
Professor for Materials Science at the Ruhr-Universität Bochum, Germany
- *January 2008 – February 2008*
Brahm Prakash Visiting Professor at the Indian Institute of Science, Bangalore
- *January 2004 – March 2004*
Visiting Scholar at the Centro Atomico de Bariloche, Argentina
- *October 1999 - March 2000, October 2003 - December 2003, October - December 2008*
Visiting Scholar at The Ohio State University, Columbus, Ohio, USA
- *May 1990 - March 1995*
Research Associate at the Swiss Federal Institute of Technology in Lausanne, Switzerland
- *November 1992 - March 1995*
Lecturer for Materials at the Ecole d'Ingenieurs du Valais in Sion, Switzerland
- *January 1987 - March 1990*
Senior Principal Metallurgist at ERA Technology Ltd, England
- *March 1985 - December 1987*
Postdoc at the Swiss Federal Institute of Technology in Lausanne, Switzerland
- *November 1982 - February 1985*
Research Associate at the Friedrich-Alexander University in Erlangen, Germany
- *November 1979 - October 1982*
Graduate Student at the Friedrich-Alexander University in Erlangen, Germany

Education and Degrees

- August 1992 - *Habilitation at the Swiss Federal Institute of Technology in Lausanne, Group of Prof. Dr. B. Ilschner; Thesis: Assessment of Low Cycle Fatigue Activities in the European Research Program COST 50*
- February 1985 - *Dr.-Ing. Degree at the Friedrich-Alexander University in Erlangen, Germany, at the Chair for Corrosion and Surface Technology (Prof. Dr. H. Kaesche) - Group of Dr. W. Auer; Dr.-Ing.-Thesis (in German): Thermodynamics and Kinetics of the Reaction between Steel and Aluminium Melts*
- September 1980 - *Dipl.-Ing. Degree at the Friedrich-Alexander University in Erlangen, Germany, at the Chair for General Material Properties (Prof. Dr. B. Ilschner) - Group of Prof. Dr. W. Blum; Dipl.-Ing.-Thesis (in German): Response of the Dislocation Substructure to Stress Reduction during Creep of NaCl Single Crystals*
- Mai 1975 - *Abitur at the Ohm-Gymnasium in Erlangen, Germany*

Research Interests

- *Elementary deformation processes; High temperature materials*
- *Martensitic transformations; Shape memory alloys*
- *Transmission and scanning electron microscopy; Quantitative metallography*
- *High temperature solid state reactions, solidification processes and interaction of solids with gases and melts*
- *Modelling of deformation and transformation processes*

Experience - Ruhr-Universität Bochum (RUB)

- *Director of the Chair for Materials Science (since 1995); see: <http://www.werkstoffwissenschaft.de/>*
- *Speaker of the International Max Planck Research School on Surface and Interface Engineering in Advanced Materials (IMPRS SurMat)*
- *Director of a Collaborative Research Centre on Shape Memory Technology SFB 459, funded by the Deutsche Forschungsgemeinschaft, DFG (2000-2011)*
- *Director of a Collaborative Research Centre on Single Crystal Super Alloys SFB/Transregio 103 funded by the Deutsche Forschungsgemeinschaft, DFG (since 2012)*
- *Member of the Interdisciplinary Centre for Advanced Materials Simulation (ICAMS) at the Ruhr-Universität Bochum*
- *Teaching (core materials science classes): Thermodynamics and Kinetics, Mechanical Properties, Diffraction and TEM, Elements of Microstructure*
- *Supervision of Student Projects, Dipl.-Ing. and Dr.-Ing. Thesis*
- *Research projects on: Single crystal super alloys, aluminium matrix composites, tempered martensite ferritic steels, shape memory alloys, titanium aluminides, copper, thermodynamic, molecular dynamic and micromechanical modeling, transmission and scanning electron microscopy, shape memory polymers*

Experience – Industry (ERA Technology Ltd.)

- *Senior Principal Metallurgist and Group Leader of the Microstructural Integrity Group in the Engineering Metallurgy Department of ERA (7 staff, recruiting, resource management, appraisals, project costing, project management, technical project responsibility, ...)*
- *Responsible for organisation and scientific progress in two world wide multi client projects on remnant life analysis and plant life extension*
- *Project leader of three European research projects (2 BRITE/EURAM-projects and one COST-project)*
- *Industry funded R&D projects on material problems in steam and gas turbines*
- *Research projects on damage accumulation in critical high temperature components*
- *Marketing and business development*

International Experience

- *8 years in the French speaking part of Switzerland (Research Associate at the Ecole Polytechnique Fédérale de Lausanne)*
- *3 years in England (Senior Principal Metallurgist at ERA Technology Ltd, Leatherhead)*
- *8 months in the USA (Visiting Scholar at the Ohio State University, Columbus)*
- *Several extended research visits (one to four weeks) to Japan (Tohoku University, Sendai and National Institute for Materials Science, Tsukuba), the Czech Republic (Institute of Physics of Materials, Brno), the USA (University of California, Irvine and Oakridge National Laboratory, Oakridge), to Argentina (Centro Atomico de Bariloche), to China (Xi'an Polytechnical University, Jiaotong University Xian) and to India (Indian Institute of Science Bangalore and Indian Institute of Technology Madras)*
- *Regular Participation at International Research Conferences*
- *Many visits and good contacts to Universities and R&D Institutes all over the world*

Memberships

- *German Materials Society (Deutsche Gesellschaft für Materialkunde, DGM)*
- *German Physics Society (Deutsche Physikalische Gesellschaft, DPG)*
- *German Society for Electron Microscopy (Deutsche Gesellschaft für Elektronenmikroskopie)*
- *The Minerals, Metals and Materials Society (TMS)*
- *Materials Research Society (MRS)*
- *Member of the European Mechanics Society*
- *German Society of Metallurgical Engineering (Verein deutscher Eisenhüttenleute)*
- *Society of German University Professors (Deutscher Hochschulverband)*

Publications, Awards, Scientific Community

- *About 300 scientific publications and about the same number of presentations at conferences, symposia and seminars (several invited talks at international conferences).*
- *Buehler Award 1997 for the best article in Practical Metallography (together with Gundi Baumeister and Birgit Skrotzki; paper on: TEM investigation of laser treated surfaces in quasi crystal forming aluminium alloys)*
- *Tammann Medal 2005 from the Deutsche Gesellschaft für Materialkunde (DGM)*
- *Member of the North Rhine Westfalian Academy of Sciences, since April 2008*
- *Chairman and Elected Member of the International Scientific Committee of the International Conference of Strength of Metals and Alloys (ICSMA)*
- *Elected Member of the Advisory Board of the European Symposium on Martensitic Transformations (ESOMAT), from 2003-2006: Chairman of ESOMAT*
- *Elected member of the International Scientific Committee of the International Conference on Martensitic Transformations (ICOMAT)*
- *Max-Planck Fellow at the Max Planck Institut für Eisenforschung (MPIE) in Düsseldorf, since 2010*