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Current position

Professor of Strength of Materials and Materials Science, University of Stuttgart.

Education

Mathematics Department, University of Stuttgart, (1981)

Materials Science, Dr. rer. nat. University of Stuttgart, Germany (1988).

Research interests

Computational methods in applied sciences and engineering

Finite elements, analytical methods

Materials modelling on nano-, meso-, micro- and macromechanical scales as well as experiments to investigate microstructure/property-relationships in heterogeneous materials.

Career

Scientific Assistant, Max-Planck-Institute for Metals Research, Stuttgart, 1982-88

Representative Leader Group Electron Microscopy, Max-Planck-Institute for Metals Research, Stuttgart, 1988-89

Leader Group Structural Mechanics, Max-Planck-Institute for Metals Research, Stuttgart, 1991-94

Member of the Council of the Collaborative Research Center 381 "Characterization of Damage in Fiber Professor for Strength of Materials and Materials Science, 1994-today

Reinforced Composites using Non-Destructive Methods, 2004-today.

Honours and Awards

Guest professorship, University of Kyoto, Japan, 2004

Guest professorship, Science University of Tokyo, Japan, 1999

DAAD guest professorship, Academy of Sciences, Tomsk, Russia, 1997

Guest professorship, University of Tokyo, Japan, 1996

DFG-Research Fellowship, University of California, 1990-1991

Medal of the University of Tokyo, 1989

Max-Planck-Research Fellowship, 1989

JSPS-Research Fellowship, University of Tokyo, Japan, 1989-1990.

Professional activities

Editor/Editorial Boards:

International Journal of Computational Materials Science, since 03/2003 (Co-Editor)

Journal of Physical Mesomechanics, since 1998 (Editorial Board).

Community Services:

Organizer and Chairmen of 14 International Workshops on Computational Mechanics of Materials, since 1990

Chairmen/organizer/member of the organizing of more than 10 conferences, since 1988; e.g.:

Organizer Workshop Nanosimulation of Materials Properties, University of Stuttgart, 2004

Member Int. Organizing Committee Eurasia Symposium:, 2004, Yakutsk, Russia

Member of the Organizing Committee International Conference Computer-Aided Design of Advanced Materials and Technologies, Tomsk, Russia, 2003

Co-Organizer 6th Conference on Engineering Systems Design and Analysis, Technical University Istanbul, Turkey, 2002.

Member of the Int. Advisory Committee "Int. Workshop on Exp. and Comp. Mech. in Eng. and Mat. Behaviour", Urumqui, China, 1999

Member of the Organizing Committee, Workshop on Computer Aided Design of Functionally Graded Materials, Dresden, 1998

Co-ordinating director of the International Center of Mesomechanics, Tomsk, Russia, since 1997

Executive Member of the DGM-council on Computer Simulation, 1993-2003

External Supervisor, Tanaka Solid Junction Project, Exploratory Research for Advanced Technology (ERATO), Yokohama Kanzawa High Tech Center, Yokohama, Japan, 1993-1998.

University Services:

Chair of the examination committee engineering mechanics and technology management, since 2003

Member examination committee "vehicle and motor techniques" and "energy techniques", since 1999

Coordination Group Member Ceramic Council Karlsruhe-Stuttgart, 1996-98

Head of the working group Materials Science and Materials Technology, University of Stuttgart, 1996-98

Member of the study commission "mechanical engineering", since 1996

Member of the Committee of undergraduate student fellowships, since 1996

Examiner/supervisor/co-supervisor of more than 30 dissertations, since 1990

External examiner of Universities Oxford, Lille, Ecole Polytechnique Saclay, Karlsruhe, Dresden, Jena, Bochum, Freiberg since 1993.

Refereed papers and chapters in books

More than 300 papers and 3 book chapters.

Summary of journal publications

Journal	Impact factor	Number of papers
Computational Materials Science	1.2	66
Modelling and Simulation in Materials Science and Engineering	1.4	6
Acta Materialia	2.6	8
Other indexed journals		120
Other papers in refereed journals		120

Selected publications (max. 5)

S. Schmauder, U. Weber, "Modelling of Functionally Graded Materials by Numerical Homogenization", Arch. Appl. Mech. 71, pp. 182-192 (2001)

S. Schmauder, "Crack Growth in Multiphase Materials", Encyclopedia of Materials: Science and Technology, Elsevier Science Ltd., Amsterdam, The Netherlands, pp. 1735-1741 (2001)

S. Schmauder, "Computational Mechanics", Annual Rev. Mater. Res. 2002.32, pp. 437-465 (2002)

S. Schmauder, D. Uhlmann, G. Zies, "Experimental and numerical investigations of two material states of the material 15 NiCuMoNb (WB 36)", Computational Materials Science 25, pp. 174-192 (2002)

U. Weber, P. Deimel, D. Saraev, E. Sattler, S. Schmauder, E. Soppa, "Influence of hydrogen on the deformation behaviour of a ferritic fine-grained low alloy steel", Computational Materials Science 32, pp. 577-587 (2005).

Other relevant information

Presentations:

More than 170 invited oral presentations at conferences, workshops etc., since 1983

Referee:

Referee of the German-Israeli Foundation for Scientific Research and Development, Jerusalem, Israel, since 1999

Referee, Fonds for the Support of the Scientific Research, Austria, since 1997

Referee of the Academy of Sciences of the Czech Republic, 1994

Referee of the Saxonian Ministry of Science and Art, 1994

Referee of the German National Science Foundation DFG, since 1992

Referee of more than 10 Scientific journals, e.g.: Acta mater., Int. J. Solids & Structures, and Modelling and Simulation in Materials Science and Engineering

Chair:

Chair of the DGM-working group microstructural mechanics, 1994-97, and since 2004.