

BIOGRAPHICAL SKETCH

Dieter Wolf

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PROFESSIONAL PREPARATION

University of Stuttgart	Physics	MS	1969
Max-Planck-Institut für Metallforschung Advisor: A. Seeger	Materials Physics	Ph.D.	1973
Institut für Physik, University of Dortmund Advisor: O. Kanert	Habilitation		1979

PROFESSIONAL APPOINTMENTS

Argonne National Laboratory, Materials Science Division (10/77-Present)
Assistant (1977) to Senior Scientist (1986), Group Leader (1986-2002), Associate Director (2000-2002)

University of Utah, Department of Physics (9/74-9/77)
Assistant Professor

Institut für Physik, Max-Planck-Institut für Metallforschung, Stuttgart, Germany (2/72-8/74)
Staff Scientist

AWARDS and HONORS

Basic Energy Sciences (DOE) Award for Sustained Outstanding Research on *Computer Simulation of Interfacial Materials and Phenomena* (<http://www.msd.anl.gov/groups/im/awards/wolf.html>), 1997

Fellow, American Physical Society, 1994

Max-Planck Research Award (with Prof. Herbert Gleiter, Saarbrücken), 1993

University of Chicago Award for Distinguished Performance at Argonne National Laboratory, 1990

Visiting Professorships in Lausanne (1975), Dortmund (1979), Orsay (1992)

Fellow, Studienstiftung des Deutschen Volkes, 1966-1972

PROFESSIONAL SERVICE

Guest Editor, *Materials Research Society Bulletin: Special Issue on "Interfaces"*

Member of the Editorial Boards of *Interface Science*, *Modeling and Simulation in Materials Science*, *Journal of Computer-Aided Materials Design*, *Reviews on Advanced Materials Science*, *Journal of Multiscale Computational Engineering*

SYNERGISTIC ACTIVITIES

Co-director together with Richard LeSar, LANL, of the Computational Materials Science Network (CMSN) project on *Microstructural Effects on the Mechanics of Materials*. This "virtual-team" effort involves several leading U.S. University and National Laboratory scientists and is focused on the area of multiscale simulation of the mechanical properties of polycrystalline materials; see <http://www.msd.anl.gov/groups/im/cmsn/cmsn.html>.

PUBLICATIONS SUMMARY

One monograph, entitled "Spin Temperature and Nuclear Spin Relaxation in Matter", 1979 one book co-edited with S. Yip, MIT, entitled "Materials Interfaces", 1992; appr. 200 technical publications in refereed journals.

SELECTED SIGNIFICANT TECHNICAL PUBLICATIONS

Grain growth as case study for multiscale simulation of polycrystalline materials, D. Moldovan, D. Wolf, A. J. Haslam, S. R. Phillpot and V. Yamakov, invited manuscript to be published in *Phil. Mag. A* (Jan. 2003) .

Dislocation processes in the deformation of nanocrystalline aluminum by molecular-dynamics simulation, V. Yamakov, D. Wolf, S. R. Phillpot, A. K. Mukherjee and H. Gleiter, *Nature Materials* **1**, 1-4 (2002).

Atomic-level Simulation of Ferroelectricity in Perovskite Solid Solutions, M. Sepiarsky, S. R. Phillpot, D. Wolf, M. G. Stachiotti and R. L. Migoni, *Appl. Phys. Lett.* **76**, 3986-3988 (2000).

Exact Method for the Simulation of Coulombic Systems by Spherically Truncated, Pairwise 1/r Summation, D. Wolf, P. Keblinski, S. R. Phillpot and J. Eggebrecht, *J. Chem. Phys.* **110**, 8254-82 (1999).

Role of Bonding and Coordination in the Atomic Structure of Grain Boundaries of Diamond and Silicon, P. Keblinski, D. Wolf, S. R. Phillpot and H. Gleiter, *J. Mat. Res.* **13**, 2077-99 (1998).

On the Thermodynamic Stability of Amorphous Intergranular Films in Covalent Materials, P. Keblinski, S. R. Phillpot, D. Wolf and H. Gleiter, *J. Am. Ceram. Soc.* **80**, 717-732 (1997); see also *Phys. Rev. Lett.* **77**, 2965-2968 (1996).

A Structural Model for Grain Boundaries in Nanocrystalline Materials, S. R. Phillpot, D. Wolf and H. Gleiter, *Scripta Met. et Mat.* **33**, 1245-1251 (1995).

Should all Surfaces be Reconstructed? D. Wolf, *Phys. Rev. Letters* **70**, 627-630 (1993).

Tailored Elastic Behavior of Multilayers by Controlled Interface Structure, D. Wolf and J. A. Jaszczak, invited review article in *J. of Computer-Aided Materials Design* **1**, 111-148 (1993).

Reconstruction of NaCl Surfaces from a Dipolar Solution to the Madelung Problem, D. Wolf, *Phys. Rev. Letters* **68**, 3315-3318 (1992).

Thermodynamic Parallels Between Solid-State Amorphization and Melting, D. Wolf, P. R. Okamoto, S. Yip, J. F. Lutsko and M. Kluge, *J. Mat. Res.* **5**, 286-301 (1990).

How do Crystal Melt? S. R. Phillpot, S. Yip and D. Wolf, invited contribution to *Computers in Physics*, Vol. 3, pp. 20-31 (1989).

Structurally-Induced Supermodulus Effect in Superlattices, D. Wolf and J. F. Lutsko, *Phys. Rev. Letters* **60**, 1170-1173 (1988).