

Stefan K. Estreicher - BIOGRAPHY - January 2009

ACADEMIC AND RESEARCH POSITIONS

2000 –	Paul Whitfield Horn Professor , Texas Tech University
1996 – 2000	Professor , Physics Department, Texas Tech University
Fall 1995	Visiting Professor , Max-Planck Institute, Stuttgart
1991 – 1996	Associate Professor , Physics Department, Texas Tech University
1986 – 1991	Assistant Professor , Physics Department, Texas Tech University
1985 – 1986	Assistant Professor (non tenure-track), Physics and Elec. Engr., Rice University
1983 – 1985	Robert A. Welch Postdoctoral Fellow , Physics Department, Rice University
1982	Ph.D. in Physics, University of Zürich (Switzerland)
1978	M.S. in Physics, University of Geneva (Switzerland)

HONORS

2008	President's Book Award (<i>Wine: from Neolithic Times to the 21st Century</i> , Algora, NY 2006)
2006	Fellow , Institute of Physics (UK)
2001	Humboldt Research Award (Friedrich Wilhelm Bessel Prize)
2000	Paul Whitfield Horn Professor , Texas Tech University
1997	Fellow , American Physical Society

EXAMINER

External examiner , Ph.D. dissertation of Gianpietro MORAS, King's College London (UK, 2008)
External examiner , Ph.D. dissertation of James KERMODE, Univ. of Cambridge (UK, 2008)
External examiner , Ph.D. dissertation of Riccardo RURALI, Auton. Univ. of Barcelona (Spain, 2003)
Opponent , Ph.D. Dissertation of Juha LENTO, Helsinki Univ. of Technology (Finland, 2003)

SERVICE

Co-Chair , 24 th <i>Int. Conf. on Defects in Semiconductors</i> (Albuquerque NM, 2007)
Program Committee , 2006 <i>Gordon Research Conference on Defects in Semiconductors</i>
International Steering Committee , <i>Int. Conf. on Defects in Semiconductors</i> (2005 -)
International Advisory Committee , <i>Int. Conf. on Defects in Semiconductors</i> (2003 -)
Program Committee , <i>Gordon Research Conference on Defects in Semiconductors</i> (2004 and 2008)
Program Committee , 22 nd <i>Int. Conf. on Defects in Semiconductors</i> (Aarhus, Denmark, July, 2003)
Chair , <i>Gordon Research Conf. Point & Line Defects in Semiconductors</i> (Colby-Sawyer, 2002)
Vice-chair , <i>Gordon Research Conf. Point & Line Defects in Semiconductors</i> (Colby-Sawyer, 2002)
Editor , <i>The Science Corner</i> , popular scientific articles in <i>Lubbock Magazine</i> (monthly), 1998-2001
Elected member (1997-2001), Executive Committee, Texas Section, American Physical Society
Member , International Advisory Committee, NATO advanced research workshop <i>Early Stages of Oxygen Precipitation in Silicon</i> , 3/25-28, 1996, Exeter (UK)
Co-organizer (with E.E. Haller) of the Materials Physics Topical Group session on <i>Hydrogen in Crystalline Semiconductors</i> , March Meeting of the APS, 3/18-22, 1991, Cincinnati (OH).
Panel Member , <i>Fundamental Issues in Hydrogen-Defect Interactions</i> , sponsored by the Council Materials Science, US Department of Energy, 1/8-12, 1990, La Jolla (CA)

PLENARY, KEYNOTE, INVITED TALKS

25th **International Conference on Defects in Semiconductors** (St Petersburg, Russia, 7/05, *plenary*): *Non-equilibrium dynamics of impurities in semiconductors*

European Materials Research Society (Strasbourg, 6/09, *invited*):
Theory of Defects in Si and Ge: past, present and challenges

- 3rd South African Conference on Photonic Materials** (Mabula, 3/09, **keynote**):
Fundamental Interactions Involving Transition Metals in Silicon: First-Principles Theory
I will also give an evening lecture on the history of wine
- 18th NREL Workshop on c-Silicon Solar Cell Materials and Processes** (Vail CO, 8/08, **invited**):
Transition metals, hydrogen and passivation in Si solar cells
- European Materials Research Society** (Strasbourg, 5/08, **invited**):
Fundamental Interactions Involving Transition Metals in Silicon: First-Principles Theory
- Solar Focus Meeting** (Ochsenfurt, Germany, 3/08, **plenary**):
Transition Metals in Silicon
- XII GADEST 2007** (Erice, Sicily, 10/07, **evening lecture**):
Wine: From Neolithic Times to the 21st Century
- XII GADEST 2007** (Erice, Sicily, 10/07, **invited**):
The fundamental chemistry of iron in Si
- Symposium honoring Professor Sandy DasGupta** (Dept. of Chemistry, Texas Tech U., **invited**):
Defects in Semiconductors: a First-Principles Theoretical Approach
- 16th NREL Workshop on c-Si Solar Cell Materials and Processes** (Denver CO, 8/06, **invited**):
Fundamental interactions involving Fe in silicon
- International workshop: Hybrid Atomistic Methods for Materials and Biological Systems** CECAM, (Lyon, France, 7/06, **invited**): *Vibrational Dynamics for Impurities in Semiconductors*
- 10th International Conference on Muon Spin Rotation** (Oxford UK, 8/05, **plenary**):
Wine: the past 7,400 years
- 10th International Conference on Muon Spin Rotation** (Oxford UK, 8/05, **invited**):
Energetics of H and Mu in Semiconductors: theoretical predictions at finite temperatures
- 23rd International Conference on Defects in Semiconductors** (Awaji Island, Japan, 7/05, **invited**):
Predicting the energetics of defects at $T > 0K$
- 3rd International Conference on Computational Modeling and Simulation of Materials** (Acireale, Sicily, 5/04, **invited**): *Vibrational dynamics of defects in semiconductors*
- Fall Meeting of the Texas Section of the American Physics Society**, (TX, 10/03, **plenary**):
The forgotten entropies of defects in semiconductors
- 22nd International Conference on Defects in Semiconductors** (Aarhus, Denmark, 7/03, **tutorial**):
Theory of defects in semiconductors
- 31st Electronic Materials Symposium** (Santa Clara, CA, 4/03, **luncheon talk**):
Materials in the history of wine
- 1st International Workshop on Hydrogen in Materials and Vacuum Systems** (Jefferson Lab, Newport News, VA, 10/02, **invited**): *Dynamics of hydrogen in semiconductors*
- 12th Workshop on c-Si Solar Cell Materials and Processes** (Breckenridge, CO, 8/02, **invited**):
Microscopic properties of copper in silicon: theoretical predictions
- 31st Int. School on the Physics of Semiconductor Compounds** (Jaszowiec, Poland, 6/02, **invited**):
Hydrogen molecules in semiconductors: an angel in GaAs, a devil in Si
- Materials Research Society**, Symposium X (San Francisco, CA, 3/02, **invited**):
Materials in the history of wine
- 1st Workshop on defects in Si and SiGe** (Manchester, UK, 10/01, **opening talk**):
Dynamics of copper in Si

- 9th GADEST Conference** (Gettering And Defect Engineering in Semiconductor Technology) (Catania, Italy, 10/01, **invited**): *Cu-defect and Cu-impurity interactions in Si*
- 21st International Conference on Defects in Semiconductors** (Giessen, Germany, 7/01, **plenary**):
The fascinating dynamics of defects in silicon
- Gordon Research Conf. 'Materials Processes Far From Equilibrium'** (Meriden, NH, 7/ 01, **invited**):
Hydrogen-Defect Interactions in Silicon
- March Meeting of the American Physical Society** (Seattle, 3/01, **invited**):
Molecular-dynamics studies of hydrogen-defect interactions in Si
- 10th NREL Workshop on c-Silicon Solar Cell Materials and Processes** (Copper Mountain, CO, 8/00, **invited**): *Hydrogen, passivation and related issues*
- South African Institute of Physics** (Annual Meeting, Port Elizabeth, South Africa, 7/99, invited):
The Rich Chemistry of Copper in Silicon
- Winter School on Defects in Materials** (Port Elizabeth, South Africa, 7/99, **invited**):
Ab-Initio Theory of Defects in Silicon
- Workshop on Hydrogen Defects in Semiconductors** (Exeter, UK, 4/99, **invited**):
Hydrogen Interactions with Intrinsic Defects in Silicon
- 8th NREL Workshop: c-Si Solar Cell Materials & Processes** (Copper Mountain CO, 8/98, **invited**):
Recent Experimental and Theoretical Results for H₂ in Si (with M. Stavola).
- European Materials Research Society** (Strasbourg, 6/98, **invited**):
Hydrogen and Vacancy-Related Defects in Silicon
- 19th International Conference on Defects in Semiconductors** (Aveiro, Portugal 7/97, **invited**):
Molecular-Dynamics Simulations of Fundamental Defects in Silicon
- 33rd Workshop Punktdefekte**, Max-Planck Institute for Solid State Physics (Stuttgart, 6/97, **invited**):
Vacancy Aggregates in Silicon
- 6th NREL Workshop on the Role of Impurities and Defects in Silicon Device Processing** (Snowmass CO, 8/96, **invited**): *Passivation Processes in Silicon*
- 31st Workshop Punktdefekte**, Max-Planck Institute for Solid State Physics (Stuttgart, 6/96, **invited**):
Hydrogen-Oxygen Interactions in Silicon
- NATO Workshop Early Stages of Oxygen Precipitation in Silicon** (Exeter, UK, 3/96, **invited**):
Hydrogen-Oxygen Interactions in Silicon
- 188th ElectroChemical Society**, 'Wide Bandgap Semiconductors & Devices' (Chicago, 10/95, **invited**): *Hydrogen in Wide-Bandgap Semiconductors*
- Gordon Research Conf. 'Point and Line Defects in Semiconductors'** (Plymouth NH, 7/94, **invited**):
States and Diffusion Properties of Hydrogen: A View from Theory
- 3rd NREL Workshop on the Role of Impurities and Defects in Silicon Device Processing** (Vail CO, 8/93, **invited**): *Hydrogen Diffusion and Passivation Mechanisms*
- 6th International Conference on Muon Spin Rotation** (Maui HI, 6/93, **invited**):
Hydrogen in Semiconductors: The Roles of μ SR and Theory
- American Association for the Advancement of Science**, SWARM div. (Albuquerque NM, 5/93, **invited**): *Theoretical Aspects of Hydrogen in Semiconductors*
- Austin Molecular Design Meeting** (Austin TX, 12/92, **invited**):
Density Functional vs. Hartree-Fock: Comparison of Methods Applied to Defects in Semiconductors

2nd NREL Workshop on the Role of Impurities & Defects in Silicon Device Processing
(Breckenridge CO, 8/92, *invited*): *Fundamental Properties of Point Defects: the Role of Theory*

Materials Research Society, ;Advanced III-V Compound Semic. Growth, Processing, and Devices'
(Boston, MA 12/91, *invited*):

Theoretical Studies of Defects, Impurities, and Complexes in Compound Semiconductors

SEMINARS AND COLLOQUIA (1995-present)

- 2008** Ecole Polytechnique Fédérale, Lausanne (Switzerland), May
University of Dresden (Germany), department of Physics, June
Rossendorf Forschung Zentrum (Germany), June
King's College London (UK), July
MIT - Lab for Photovoltaics Research, August
- 2007** University of Zurich (Switzerland), department of Physics, May
Walter-Schottky Institute (TU Munich, Germany), May
Fraunhofer Inst. f. Solar Energy Systems, Freiburg (Germany), June
- 2006** University of Texas at Arlington, department of Physics, May
University Pierre et Marie Curie, Paris (France), May
Technical University Dresden (Germany), June
University of Aarhus (Denmark), June
King's College London (UK), June
- 2005** University of Exeter (UK), June
University of Yokohama (Japan), July
University of Texas at Arlington, department of Chemistry, September
- 2004** University of Rome La Sapienza (Italy), June
University of Bologna (Italy), June
University of Milano-Bicocca (Italy), June
Walter-Schottky Institute (TU Munich, Germany), June
Max-Planck Institute f. Mikrostrukturphysik – Halle (Germany), June
Technical University, Dresden (Germany), June
Technical University of Clausthal (Germany), June
University of Cambridge (UK), July
- 2003** Sandia Nat. Lab. (Albuquerque, NM), May
University of Bologna (Italy), June
Laboratorio MDM - INFM, Milano (Italy), June
Technical University, Dresden (Germany), June
Fraunhofer Inst. f. Solar Energy Systems, Freiburg (Germany), July
The Classical Society, Texas Tech University, September
University of Montreal (Canada), October
Ohio University (Athens, OH), October
- 2002** Texas Tech University, Physics Department, January
Texas Tech University, Department of Electrical Engineering, January
Lehigh University, Bethlehem, PA, March
University of California Berkeley, CA, April
University of Milano – Bicocca, May
Max-Planck Institute f. Mikrostrukturphysik, June
- 2001** University of Exeter (UK), June
Joint seminar: King's College and University College, London, June
University of Aarhus (Denmark), August

Fritz-Haber Institute, Berlin (Germany), October
Technical University, Berlin (Germany): lecture on deep levels in semiconductors, October
Max-Planck Institute for microstructure physics, Halle (Germany), November
Walter-Schottky Seminar, Technical University Munich (Germany), November
Centre National de Recherches Scientifiques, PHASE, Strasbourg (France), November
Forschungszentrum Rossendorf (Germany), November
University of Konstanz (Germany), December

2000 University of Texas at Arlington, February
University of Zürich (Switzerland), May
Max-Planck Institute for Microstructures, Halle (Germany), May
Technical University, Dresden (Germany), June,
UC Berkeley, (Departmental colloquium and two seminars), October

1999 Texas A&M University (College Station), October
University of Witwatersrand (Johannesburg, South Africa), Physics Department, June
University of Pretoria (South Africa), June
SEMATECH (Austin, TX), June

1998 University of Exeter (UK), June
King's College (London), June
University Aarhus (Denmark), June
University of Zürich (Switzerland), June

1997 MEMC (St. Louis, MO), March
Sandia Nat. Laboratories (Albuquerque, NM), May
Max-Planck Institute für Mikrostruktur, Halle (Germany), June
Physics Department, University of Göttingen, (Germany), June

1996 Edinburgh University (Scotland), March
University College (London), Physics Department, March
MEMC-Southwest (Sherman, TX), May

1995 Texas Instruments (Dallas TX), May
Max-Planck Institute for Solid State Physics, Stuttgart (Germany), June
University Aarhus (Denmark), September
Swiss Center for Scientific Computing (Manno, Switzerland), October
Fraunhofer Institute - Solar Energy, Freiburg (Germany), October
Centre National de Recherches Scientifiques, Strasbourg (France), October
Walter-Schottky Institute, Technical University München (Germany), November

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

Alexander von Humboldt Association of America (lifetime member)
American Association for the Advancement of Science
American Physical Society (fellow)
Institute of Physics, UK (fellow)
Materials Research Society
Sigma Pi Sigma Honor Society
Swiss Physical Society