

CURRICULUM VITAE

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Harry S. Mosher Professor and Professor, by courtesy, of Applied Physics
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Education

1975	B.S. Physics (Final Honors) B.S. Electrical Engineering (Final Honors) A.B. Mathematics (summa cum laude)	Washington University St. Louis, Missouri
1978	M.S. (Physics)	Cornell University Ithaca, New York
1982	Ph.D. (Physics)	Cornell University Ithaca, New York

Career Summary

2005-	Professor, by courtesy, of Applied Physics, Stanford University
2002-	Harry S. Mosher Professor of Chemistry, Stanford University
1998-2002	Professor of Chemistry, Stanford University
1995-1998	Distinguished Chair in Physical Chemistry, Department of Chemistry and Biochemistry, University of California, San Diego
1997-1998	Robert Burns Woodward Visiting Professor, Department of Chemistry, Harvard University
1989-1995	Research Staff Member and Project Leader , IBM Almaden Research Center, San Jose, California
1993-1994	Visiting Guest Professor, Laboratory for Physical Chemistry, ETH Zentrum (Swiss Federal Institute of Technology), Zürich, Switzerland
1988-1989	Manager, Laser-Materials Interactions, IBM Almaden Research Center, San Jose, California
1981-1988	Research Staff Member, IBM Almaden Research Center, San Jose, California
1975-1981	Graduate Research Assistant and NSF Graduate Fellow, Laboratory for Atomic and Solid State Physics, Cornell University, Ithaca, New York
1972-1975	Research Assistant, Department of Physics, Washington University, St. Louis, Missouri

Honors

Wolf Prize in Chemistry, 2008

Member, National Academy of Sciences, 2007
Fellow, American Association for the Advancement of Science, 2004
Geoffrey Frew Fellow, Australian Academy of Sciences, 2003
Harry Stone Mosher Professor of Chemistry, Stanford University, 2002
Fellow, American Academy of Arts and Sciences, 2001
Earle K. Plyler Prize for Molecular Spectroscopy, American Physical Society, 2001
Robert Burns Woodward Visiting Professor, Department of Chemistry, Harvard University, Winter 1997-1998
First holder of Distinguished Professorship in Physical Chemistry, Department of Chemistry and Biochemistry, University of California, San Diego, 1995-1998.
Visiting Guest Professor of Physical Chemistry, Swiss Federal Institute of Technology (ETH-Zürich), 1993-1994
IBM Outstanding Technical Achievement Award for Single-Molecule Detection and Spectroscopy, November 22, 1992
Fellow, American Physical Society, November 16, 1992
Fellow, Optical Society of America, May 28, 1992
Senior Member, IEEE, June 17, 1988
IBM Outstanding Technical Achievement Award (with R. M. Macfarlane and R. M. Shelby) for Photon-Gated Spectral Hole-Burning, July 11, 1988
National Winner of the Roger I. Wilkinson Outstanding Young Electrical Engineer Award for 1984, from the electrical engineering honorary society, Eta Kappa Nu, April 22, 1985

Lectureships

DuPont-Marshall Lecturer, Department of Chemistry, University of Pennsylvania, 2008
Herbert H. King Lecturer, Department of Chemistry, Kansas State University, 2006
Edwin Yunker Lecturer, Department of Physics, Oregon State University, 2006
A. R. Gordon Distinguished Lecturer, Department of Chemistry, University of Toronto, 2006
Lecturer, Summer School on Visualization, Manipulation, and Modeling of Single Biomolecules, ENS Paris, France, 2005
Geoffrey Frew Fellowship Lecturer, Australian Academy of Sciences (University of Queensland, Australian National University, Swinburne Institute of Technology, University of Melbourne), 2003
International Invited Lecturer (Basel, Berne, Lausanne, Geneva): Conference Universitaire de Suisse Occidentale du 3ème Cycle en Chimie, 2003
Moses Gomberg Lecturer, Department of Chemistry, University of Michigan, 2001
William Draper Harkins Lecturer, Department of Chemistry, University of Chicago, 2001
Guest Lecturer in Frontiers in Spectroscopy, Ohio State University, 1999
Arthur D. Little Lecturer, Department of Chemistry, Massachusetts Institute of Technology, 1995
Ehrenfest Colloquium Lecturer, University of Leiden, The Netherlands, March 1994
Samuel M. McElvain Lecturer, Department of Chemistry, University of Wisconsin, 1993

Patents

U. S. Patent 4,614,116: "Phase Sensitive Ultrasonic Modulation Method for the Detection of Strain-Sensitive Spectral Features", September 30, 1986.

U. S. Patent 5,064,264: "Photorefractive Materials", November 12, 1991.
U. S. Patent 5,361,148: "Apparatus for Photorefractive Two-Beam Coupling," November 1, 1994.
U. S. Patent 5,460,907: "Photorefractive Materials", October 24, 1995.
U. S. Patent 5,607,799: "Optical Photorefractive Article," March 4, 1997.
U. S. Patent 6,046,925: "Photochromic Fluorescent Proteins and Optical Memory Storage Devices Based on Fluorescent Proteins," April 4, 2000.
U. S. Patent 6,280,884: "Process for Photorefractive Index Grating Formation," August 28, 2001.
U. S. Patent 7,068,698 "Room-Temperature Source of Single Photons Based on a Single Molecule in a Condensed Matter Host," June 27, 2006.
Application: "Improved Homodyne Interferometer and Method of Sensing Material," March 12, 1999.
Application: "Fluorophore Compounds and Their Use in Biological Systems," June 8, 2003.
Application: "Method and Apparatus for Trapping Nanoscale Objects in Solution," July 14, 2004.

Professional Societies and Positions

Advisory Editor, *Chemical Physics Letters* 1998-
Advisory Editor, *ChemPhysChem* 2004-
Advisory Editor, *Single Molecules* 2000-2002

American Academy of Arts and Sciences
American Association for the Advancement of Science
American Chemical Society

Program Committee, Symposium on Optical Properties of Polymers, August 1996
Single-Molecule Symposium Organizer, Physical Chemistry Division, April 1997
Co-Editor, Special Issue of *Accounts of Chemical Research* on Single Molecules and Ions, December 1996

American Physical Society

Chair, Herbert P. Broida Prize Committee 2000
Member, Earle K. Plyler Prize Committee 2001

Symposium Organizer for Laser Science Topical Group, 1992 March Meeting
Symposium Organizer for Laser Science Topical Group, 1993 March Meeting

Institute of Electrical and Electronic Engineers, Lasers and Electro-Optics Society

Assistant Treasurer, 1988 Annual Meeting

Treasurer and Program Committee Member, 1989 Annual Meeting

Symposium Organizer, LEOS 1989 Annual Meeting on Optical Memory and Storage

Materials Research Society

National Academy of Sciences

Optical Society of America

Chair, Fundamental and Applied Spectroscopy Technical Group, 1992-1994

General Chair and Founder, OSA Topical Conference on Persistent Spectral Hole-Burning Science and Applications, 1991

Co-Editor, 2 Special Issues of *J. Opt. Soc. America B* on Persistent Spectral Hole-Burning

Advisory Chair and Program Committee Member, Topical Meeting on Spectral
Hole-Burning and Luminescence, 1993-1994
Assistant Chair, Fundamental and Applied Spectroscopy Technical Group,
1992
Society of Photo-Optical Instrumentation Engineers
Program Co-Chair, Symposium on Organic Photorefractive Materials, 1996, 1997, 1998
Program Committee, 1999-2003
Conference on Quantum Electronics and Laser Science
Program Committee, 1992 and 1993
Conference on Lasers and Electro-Optics
Program Committee, 1999
International Conference on Hole-Burning and Single-Molecule Spectroscopies
Program Committee, 1996, 1999, 2003
Gordon Research Conference on Single-Molecule Approaches to Biology,
Co-Vice Chair, 2008

Task Forces and Major University Committees

Chairman, IBM Task Force on Frequency Domain Optical Storage, 1984.
Physics and Mechanisms Member, IBM Task Force on Holographic Optical Storage, 1986.
Co-Chair, Systems and Applications, IBM Optical Storage Initiative, 1988.
Member, Appointments and Promotions Committee, Division of Humanities and Sciences,
Stanford University, 2002-2004.
Member, Nanoinitiative Committee, Stanford University, Winter 2006
Member, NSF Center for Probing the Nanoscale Executive Committee, Fall 2007
Member, Stanford University Health and Safety Committee, 2007-2008
Chair, Stanford University Health and Safety Committee, 2008-2009

Study Panels

Member, NSF SBIR Study Panel, September, 1996.
Member, NIH Bioengineering Symposium Panel on Imaging at the Molecular and Cellular
Levels, February 27-28, 1998.
Co-Chair, Toward Molecular Scale Devices Subgroup, NSF Integrating Themes Workshop
for Physical Chemists, September 18-20, 1998, Keystone, Colorado.
Member, NIH Review Panel, November 1999; September 2000.
Member, FAMOS Update Panel, National Research Council, 1999-2002.
Member, NIH-NIGMS Workshop on Single Molecule Detection and Manipulation, 2000
Member, NSF-Intelligence Community Workshop on Approaches to Combat Terrorism,
2002.
Subgroup Chair, NIH-NIDA Workshop on Emerging Technologies: Analysis of
Endogenous Biomaterials and Single-Molecule Studies, 2002.
Member, International Review Committee for the Institute of Atomic and Molecular
Sciences (IAMS) of Academia Sinica, Taiwan, 2003.
Member, NIH-BST Molecular Imaging Study Section, 2004.
Member, Pacific Northwest National Laboratory DOE-BES Review Panel, 2005.
Member, DOE Workshop on Single-Molecule Research in the New Millenium, 2005.

Member, Advisory Board, Institute of Atomic and Molecular Sciences (IAMS) of Academia
Sinica, Taiwan, 2005-
Session Chair: NIH Frontiers in Live Cell Imaging Conference, April 19-21, 2006
Member, NIH-NHGRI Study Section, July, 2006.