

Hai-Lung (H. L.) Dai - Curriculum Vitae

Office

Dean and Laura H. Carnell Professor, College of Science and Technology, Temple University
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Education

B.S. in Chemistry National Taiwan University, 1974
Ph.D. in Chemistry University of California, Berkeley, 1981, Thesis: "Multiphoton Dissociation and Thermal Unimolecular Reactions Induced by Infrared Lasers"; Advisor: Professor C. Bradley Moore.

Experience

Military Service, Second Lieutenant (ROTC), Materials Sciences Laboratory, Combined Services Force, Taiwan, ROC, 1975-1976.
Postdoctoral Fellow, Massachusetts Institute of Technology, with Professors Robert W. Field and James L. Kinsey, 1981-1984.
Assistant Professor, University of Pennsylvania, 1984-1989
Associate Professor, University of Pennsylvania, 1989-1992
Guest Professor, National Taiwan University, 1991-1992
Adjunct Professor, National Tsing-Hua University, 1991-1992
Professor, University of Pennsylvania, 1992 -2006
Chairman, Department of Chemistry, University of Pennsylvania, 1996-2002
Member, Pennsylvania State Board of Drug, Device, and Cosmetic, 2002-2006
Hirschmann - Makineni Professor of Chemistry, University of Pennsylvania, 2002-2006
Founding Director, Penn Science Teacher Institute, University of Pennsylvania, 2004-2006
Dean and Laura H. Carnell Chair Professor, College of Science and Technology, Temple University, 2007-
Senior Vice Provost for International Affairs, Temple University, 2009 -

Scholastic Honors

Camille and Henry Dreyfus Foundation Distinguished New Faculty Award, 1985
Young Faculty Award, Natural Sciences Association, University of Pennsylvania, 1987
Alfred P. Sloan Foundation Fellow, 1988-1990
Camille and Henry Dreyfus Foundation Teacher-Scholar Award, 1989
The 1990 Coblentz Award in Molecular Spectroscopy, Coblentz Society of Spectroscopy.
Morino Lectureship, the Morino Foundation and the University of Tokyo, Japan, 1992
Fellow, American Physical Society, elected 1992
Guest Professor, University of Science and Technology of China, 1994-
Alexander von Humboldt Research Award for Senior U.S. Scientists, 1994-
American Chemical Society, Philadelphia Section Award, 1995
John Simon Guggenheim Fellow, 2000
Molecular Science Lectureship, Institute of Chemistry, Chinese Academy of Science, 2001
Chair-Elect (2005) and Chair (2006), Division of Chemical Physics, American Physical Society
Visiting Chair Professor, National Sun Yat-Sen University, Taiwan, 2006
Ellis Lippincott Award in Spectroscopy, Optical Society of America, Society of Applied Spectroscopy, and Coblentz Society, 2006
Clearfield Lectureship, Department of Chemistry, Texas A&M University 2009
Distinguished Achievement Award (for research in molecular and surface sciences), US Chinese Institute of Engineers, New York, 2009
Fellow, American Chemical Society, elected 2010

Professional Activities (University of Pennsylvania)

University Judicial Committee, 1989-91.
University Graduate Council, 1993-95.

School of Arts and Science Planning and Priority Committee, 1994-97.
Search Committee for the Director of the Materials Research Laboratory (LRSM), 1994.
Executive Committee of Laboratory for Research on the Structure of Matter, 1994-96.
Physics Department Senior Faculty Search Committee, 1995
Chairman, Department of Chemistry, 1996-2002
School of Arts and Science Review Panel of the Physics Department, 1999
Faculty Advisor to the Master of Chemistry Education Program, 1999-2004
Provost Committee on Facility Planning, 2000
School of Arts and Science Committee on Academic Freedom, 2002-06
Chair, Search Committee for the Director of the Materials Research Laboratory (LRSM), 2003
Materials Science Research Facility Planning Committee, 2003
Director, Penn Science Teacher Institute, 2004-06.
Science Education Faculty Search Committee, Graduate School of Education, 2004
Committee on Continuing Graduate Education, School of Arts and Science, 2004-06
Hearing Boards for the Student Disciplinary System and the Code of Academic Integrity, 2005-06

Professional Activities (Temple University)

Dean, College of Science and Technology, 2007-
Search Committee for Senior Vice President of Research and Strategic Planning, 2007
Chair, Law School Dean Search Committee, 2007-08
University-wide Strategic Planning Steering Committee, 2007-08
University Budget Review Committee, 2008-
University-wide Middle States Academic Review Committee, 2008-
Chair, Presidential Task Force on Reorganizing Research and Graduate Education, 2009
Chair, American Council on Education's Internationalization Lab team at Temple U., 2009
Senior Vice Provost for International Affairs, 2009-
Institutional Advancement Steering Committee, 2010

Other Professional Activities

Present

Committee on Science and the Arts, the Franklin Institute of Philadelphia, 1991-
Associate Editor, Advanced Series in Physical Chemistry (World Scientific), 1992-
Advisor in Chemistry to World Scientific Publishing Co., 1997-
Board member, Monte Jade Science and Technology Association of Mid-Atlantic States, 2000-
Editorial board, Chinese Journal of Physical Chemistry (Beijing), 2001-
Editorial board, Chinese Journal of Chemical Physics (Hefei), 2002-
Fellow, Institute for Corean-American Studies, 2004-
Advisory Board, Institute of Atomic and Molecular Sciences, Academia Sinica (Taipei), 2002-
Advisory Board, Nat. Key Laboratory on Molecular Dynamics, Chinese Academy of Science, 2003-
Council of Environmental Deans and Directors, National Council for Science and the Environment, 2008-
Member, Commission on International Programs (CIP) Executive Committee, Association of Public and Land Grant Universities, 2010-

Past

Office of Naval Technology Postdoctoral Fellowship Review Panel, 1987
President, Philadelphia Chapter of Nat. Taiwan University Alumni Association, 1989
Co-chairman, Symposium on "Photochemistry in Thin Films", The International Society for Optical Engineering, Los Angeles, January 1989.
U.S. Observer at the 35th IUPAC General Assembly and the Commission on Molecular Structure and Spectroscopy, Sweden, August 1989.
Site Review Panel on the U.S. Department of Energy Combustion Dynamic Facility Proposal, Lawrence Berkeley National Laboratory, October 1989.

Guest Editor of *J. Optical Society of America*, special issue on "Molecular Spectroscopy and Dynamics by Stimulated Emission Pumping", September 1990.

Co-chairman, Division of Chemical Physics Symposium, American Physical Society Spring Meeting, Washington, D.C., 1991

Executive Council, Overseas Chinese Physical Association, 1990 -1992.

Chairman, Coblenz Award Selection Committee, Coblenz Society for the Advancement of Spectroscopy, 1992

Co-chairman, Symposium on "Laser Techniques for State-Selected and State-to-State Chemistry," Int. Society for Optical Engineering, Los Angeles, January, 1993.

Chairman, Symposium on "Laser Techniques for Surface Science", International Society for Optical Engineering, Los Angeles, January, 1994.

Co-editor, with Robert W. Field, of *Molecular Spectroscopy and Dynamics by Stimulated Emission Pumping*, Vol. 4 of Adv. Ser. Phys. Chem. (World Scientific, 1995).

Co-editor, with Wilson Ho, of *Laser Spectroscopy and Photochemistry on Metal Surfaces* Vol. 5 of Adv. Ser. Phys. Chem. (World Scientific, 1995)

Review Panel on the Chemical Physics Program of the Brookhaven National Laboratory, October, 1994.

Co-Chairman, Symposium on "Complexity at Interfaces", Am. Physical Society, San Jose, March, 1995.

Chairman, Symposium on "Laser Techniques for Surface Science II", International Society for Optical Engineering, San Diego, July, 1995.

Chairman, Symposium on "Laser-Surface Interactions", 1995 Opt. Soc. of Am. Ann. Meeting and Int. Laser Science XI Meeting, Portland, Oregon, September, 1995.

NSF Optics Topics Proposal Review Panel, March, 1996.

Bower Award and Franklin Medal Award Committee, the Franklin Institute, 1994-1996.

Co-Chairman, Symposium on "Time Resolved Fourier Transform Spectroscopy", Opt. Soc. of Am. Ann. Meeting and Int. Laser Science X Meeting, Rochester, Oct. 1996.

Faculty Opponent, Chalmers University, Department of Physics, Gorteborg, Sweden, October, 1996.

Am. Physical Society Fellow Selection Committee (Chem. Phys. Div.) 1996-98, chairman, 1998.

Advisory Committee, Gordon Conference on Molecular Electronic Spectroscopy, 1997.

Local Organizing Committee, 58th Physical Electronics Conference, Penn State Univ., June 1998

Co-chairman, Symposium on "Laser Techniques for Surface Science III", International Society for Optical Engineering, San Jose, Jan. 1998.

Local Organizing Committee, 58th Physical Electronics Conference, Penn State Univ., June 1998

Am. Chem. Soc. Phila. Sect. Award Committee, 1996-98.

NSF Materials Science Division Major Research Instrumentation Review Panel, May, 1999

Program committee, 8th International Workshop on Desorption Induced by Electronic Transitions (DIET8), Sept. 1999, Rutgers U.

Ministry of Education (Taiwan) University Research Excellence Projects Review Referee, 1999

Review Panel, US Department of Energy Basic Energy Science Review of the Pacific Northwest National Laboratory, Feb. 2000.

Program advisory committee, Gordon Conference on Electronic Spectroscopy and Dynamics, 2000

NSF Chemistry Research Instrumentation and Facilities Review Panel, Aug. 2000.

NSF Review Panel of ChemCars National Facility at Argonne National Laboratory, Oct. 2000

Chairman, Symposium on Photon and Electron Induced Surface Processes, the 2000 International Chemical Congress of Pacific Basin Societies.

Steering Committee of the Penn/Princeton/Rutgers Materials Summer School, 1995-2000

NSF Review Panel on Collaborative Research in Chemistry, May 2001

Director Search Committee, Inst. of Atomic and Molecular Sciences, Academia Sinica (Taipei), 2001

NSF Site Review Panel on Laboratory of Molecular Sciences at Cal Tech, Oct. 2001

Academic Advisory Committee, Inst. of Advanced Studies, Tsing-Hua U. Beijing, 1997-2002

Review Panel, Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China, 6/2002.

Co-Chair, Symposium on "Structure and Properties of Organic Thin Films", March Meeting of the American Physical Society, 2003.

External Review Panel, College of Science, National Sun Yet-Sen University, Taiwan, April, 2003.

Co-Chair, Symposium on Physical Chemistry of Interfaces and Nanotechnology, Soc. Int. Opt. Eng. Annual Meeting, San Diego, Aug. 2003
Chair, Symposium on Quantum Optics, CLEO/Pacific Rim, Taipei, 2003
Franklin Institute Bower Award Selection Committee, 2004
American Physical Society Information Technology Task Force, 2004
Department of Chemistry Advisory Board, Drexel University, 2004
National Academies Committee on Prospering in the Global Economy of the 21st Century, K-12 Education Focus Group member, Aug. 2005
Program Chair, Div. Chem. Phys., American Physical Society March Meeting, 2006
Visiting Chair Professor, National Sun Yat-Sen University, Taiwan, June 2006
Chair, Chemical Physics Symposium, Frontier of Physics Conference, Taipei, June 2006
Consultant, DuPont Marshall Laboratory, 1997-2006
Advisory Board, Journal of Physical Chemistry, American Chemical Society, 2004-2007
Chair (2006-07), Division of Chemical Physics, American Physical Society
Review panel of top universities in Taiwan, Ministry of Education, Taiwan, 2007-08
Chair, American Chemical Society Peter Debye Award Selection Committee, 2007 and 2008
Chair, Optical Society of America Lippincott Award Selection Committee, 2008
Review Panel, National Taiwan University Center for Excellence Programs, 2008
Co-Chair, Chemical Physics Symposia, International Conference on Frontiers of Physics, Lanzhou, China, Aug. 2009
Chair, Optical Society of America Lippincott Award Selection Committee, 2009

Research and Education Interests

Physical Chemistry, Chemical Physics, Surface Science, Nonlinear Optics, Materials Science, and Science Education: Laser and Spectroscopic Probe of Transient and Highly Excited Molecules. Energetic and Structural Factors Influencing Chemical Reactivity. Intra- and Inter-Molecular Energy Transfer. Photon and Electron Induced Reactions on Surfaces. Structure and Reactivity in Thin Molecular Films. Molecule-Surface Interactions in Colloidal and Biological Systems. Pre-College Science Education and High School Science Teacher Preparation.

Published ~155 articles and edited two books and five journal volumes as of 2009. Delivered more than 270 invited lectures/seminars in international/national meetings, research institutions and universities since 1984.

Research and education funding from National Science Foundation (Chemistry, Materials, and Education), US Department of Energy, Air Force Office of Scientific Research, NASA, and private foundations; accumulated total more than \$17 million received as PI since 1984. Current research support from National Science Foundation and Air Force Office of Scientific Research.