Biography and Curriculum Vitae

Neal F. Lane

Senior Fellow, Rice University's Baker Institute for Public Policy
Malcolm Gillis University Professor Emeritus
Professor of Physics and Astronomy Emeritus
http://www.ruf.rice.edu/~neal/index.htm
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Biography

Dr. Neal Lane is the Senior Fellow in Science and Technology Policy at Rice University's Baker Institute for Public Policy and holds the titles of Malcolm Gillis University Professor Emeritus and Professor of Physics and Astronomy Emeritus at Rice University.

Prior to returning to Rice University, Dr. Lane served in the Federal government during the Bill Clinton Administration as Assistant to the President for Science and Technology and Director of the White House Office of Science and Technology Policy, from August 1998 to January 2001, and as Director of the National Science Foundation (NSF) and member (ex officio) of the National Science Board, from October 1993 to August 1998.

Before becoming the NSF Director, Dr. Lane was Provost and Professor of Physics at Rice University in Houston, Texas, a position he had held since 1986. He first came to Rice in 1966, when he joined the Department of Physics as an assistant professor. In 1972, he became Professor of Physics and Space Physics and Astronomy. He left Rice from mid-1984 to 1986 to serve as Chancellor of the University of Colorado at Colorado Springs. In addition, from 1979 to 1980, while on leave from Rice, he worked at the NSF as Director of the Division of Physics.

Widely regarded as a distinguished scientist and educator, Dr. Lane's many writings and presentations include topics in theoretical atomic and molecular physics and science and technology policy. Early in his career he received the W. Alton Jones Graduate Fellowship and held an NSF Doctoral Fellowship (University of

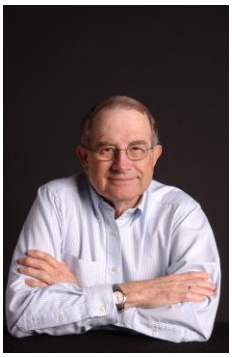
Oklahoma), an NSF Post-Doctoral Fellowship (while in residence at Queen's University, Belfast, Northern Ireland) and an Alfred P. Sloan Foundation Fellowship (at Rice University and on research leave at Oxford University). He earned Phi Beta Kappa honors in 1960 and was inducted into Sigma Xi National Research Society in 1964, serving as its national president in 1993. He served as Visiting Fellow at the Joint Institute for Laboratory Astrophysics in 1965-66 and 1975-76. While a Professor at Rice, he was two-time recipient of the University's George R. Brown Prize for Superior Teaching.

Through his work with scientific and professional organizations and his participation on review and advisory committees for Federal and state agencies, Dr. Lane has contributed to public service throughout his career. He is a fellow of the American Physical Society, the American Academy of Arts and Sciences (co-chairman of its governing council 2010), the American Association for Advancement of Science and the Association for Women in Science. He serves on several boards and advisory committees.

Dr. Lane has received numerous prizes, awards, including the AAAS Philip Hauge Abelson Award, AAAS William D. Carey Award, American Society of Mechanical Engineers President’s Award, American Chemical Society Public Service Award, American Astronomical Society /American Mathematical Society/American Physical Society Public Service Award, NASA Distinguished Service Award, Council of Science Societies Presidents Support of Science Award, Distinguished Alumni Award of the University of Oklahoma, and over a dozen honorary degrees. In 2009, Dr. Lane received the National Academy of Sciences Public Welfare Medal, the American Institute of Physics K.T. Compton Medal for Leadership in Physics, and the Association of Rice Alumni Gold Medal for service to Rice University. In 2011 he received the Distinguished Friend of Science Award from the Southeastern Universities Research Association (SURA). In 2013 he received the Vannevar Bush Award from NSF’s National Science Board.

Born in Oklahoma City in 1938, Dr. Lane earned his B.S. (1960), M.S. (1962), and Ph.D. (1964) degrees in physics from the University of Oklahoma. His thesis advisor was Dr. Chun C. Lin (currently at the University of Wisconsin – Madison). Lane is married to Joni Sue (Williams) Lane and has two children, Christy Saydjari and John Lane, and four grandchildren, Allia and Alex Saydjari, and Matthew and Jessica Lane.

(revised April 6, 2015)



Curriculum Vitae

Neal Lane
Senior Fellow, Rice University's Baker Institute for Public Policy
Malcolm Gillis University Professor Emeritus
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Rice University, Houston, Texas
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(revised November 5, 2015)

Date and Place of Birth:

August 22, 1938 (legal name Cornelius Francis Lane)
Oklahoma City, OK

Education:

B.S.	University of Oklahoma	1960
M.S.	University of Oklahoma	1962
PhD.	University of Oklahoma	1964

Fellowships:

1964-1965, National Science Foundation (NSF) Postdoctoral Fellow, Queens University, Belfast, Northern Ireland
1965-1966, Visiting Fellow, Joint Institute for Laboratory Astrophysics (JILA), Boulder, CO
1967-1971, Alfred P. Sloan Foundation Fellow (Dept. Theoretical Physics, Oxford University, Oxford, England, 1971)
1975-1976, JILA (University of Colorado at Boulder) Visiting Fellow
1984-1993, JILA Non-Resident Fellow (resigned appointment when appointed Director, NSF)
2002-present, JILA Adjunct Fellow

Professional Appointments:

1966-1969, Assistant Professor of Physics Rice University, Houston, TX
1969-1972, Associate Professor of Physics and Space Physics and Astronomy, Rice University

1972-1984, Professor of Physics and Space Physics and Astronomy, Rice University (chairman, 1977-1982)
1979-1980, Director of the NSF Division of Physics (on leave, Rice University)
1984-1986, Chancellor, University of Colorado, Colorado Springs (July 1984 to January 1986)
1984-2001, Professor of Physics, Rice University (on leave 1984-86 and 1993-2001)
1986-1993, Provost, Rice University
1993-1998, Director of the NSF and member (ex officio) of the National Science Board
1998-2001, Assistant to the President of the United States for Science and Technology and Director of the White House Office of Science and Technology Policy (OSTP)
2001–2015 (Jan. 1), Malcolm Gillis University Professor (formerly Edward A. and Hermena Hancock Kelly University Professor), Professor of Physics and Astronomy, and Senior Fellow in Science and Technology Policy at Rice University's Baker Institute for Pubic Policy.
2003–2005, Adjunct Professor, University of Texas Health Science Center at Houston, Institute for Molecular Medicine.
2012–2017, Honorary Professor in the College of Science at Swansea University
2015–present, Senior Fellow in Science and Technology Policy at Rice University's Baker Institute for Pubic Policy. Also holds titles of Malcolm Gillis University Professor Emeritus and Professor of Physics and Astronomy Emeritus.

Teaching Honors (Rice University):

1972-1973	Brown College Teach Award
1973-1974,	George R. Brown Prize for Superior Teaching
1976-1977,	George R. Brown Prize for Superior Teaching

Honorary Degrees:

Hon. DSc.	University of Alabama, 1994
Hon. DHL	University of Oklahoma, 1995
Hon. DSc.	Michigan State University, 1995
Hon. DHL	Marymount University, Virginia, 1995
Hon. DSc.	Ohio State University, 1996
Hon. DSc.	Washington College, Chestertown, Md., 1998
Hon. DSc.	University of Colorado, 1999
Hon. DSc.	Mount Sinai School of Medicine, 1999
Hon. DSc and HL	Illinois Institute of Technology, 2000
Hon. DSc.	Queen's University, Belfast, Northern Ireland, 2000
Hon. DSc.	North Carolina State University, 2001
Hon. DSc.	State University of New York, 2002
Hon. DSc.	University of Tulsa, 2006

Awards:

Distinguished Service Award, National Association of Biology Teachers, 1997
President's Award, American Society of Mechanical Engineers International, 1999
Public Service Award, American Chemical Society, 1999
Support of Science Award, Council of Science Societies Presidents, 2000
Philip Hauge Abelson Award, American Association for the Advancement of Science, 2000
William D. Carey Award, American Association for the Advancement of Science, 2001
Public Service Award, American Mathematical Society, American Astronomical Society, and American Physical Society, 2001

NASA Distinguished Service Award, 2000
Distinguished Alumni Award, University of Oklahoma, 2002
K.T. Compton Medal for Leadership in Physics, American Institute of Physics (presented on May 3, 2009)
National Academy of Sciences Public Welfare Medal (presented on Apr. 26, 2009)
Association of Rice Alumni Gold Medal (presented on May 8, 2009)
Distinguished Friend of Science Award from the Southeastern Universities Research Association (SURA) (presented on November 11, 2011).
Vannevar Bush Award from NSF's National Science Board (presented on May 9, 2013).

Honorary Organizations:

Member, Sigma Pi Sigma (Physics, elected 1960)
Honorary Member, Sigma Pi Sigma (elected 2008)
Member, Sigma Xi: National Research Society (elected 1964, president, Rice-Texas Medical Center Chapter, 1978-1979; national president, 1993; national president-elect, 1992)
Member Phi Beta Kappa (elected 1960)
Member, Catholic Commission on Intellectual and Culture Affairs
Fellow, American Academy of Arts and Sciences (elected 1995)
Member, Philosophical Society of Texas (elected 2006)
Member, Cosmos Club (Washington D.C.) (elected 1996, resigned 2015)
Member, World Innovation Forum

Professional Societies:

Fellow, American Physical Society (APS)
Fellow, American Association for the Advancement of Science (AAAS)
Fellow, Association for Women in Science (AWIS) (elected 1997)

PROFESSIONAL ACTIVITIES

Professional Activities Prior to Appointment as Director, NSF (1993):

At various times, General Committee for the International Conference on the Physics of Electronic and Atomic Collisions (ICPEAC); Program Committee for the Conference on the Physics of Highly Charged Ions; Program and Fellowship Committees for the APS; Heineman Prize Committee (APS); National Research Council/National Academy of Science (NRC/NAS) Committee on Atomic and Molecular Sciences; Program Committee for the International Conference on Atomic Physics; NSF Physics Advisory Committee; NSF Subcommittee for the review of NSF-Supported Nuclear Physics Laboratories and Nuclear Science Programs
Chairman, APS Division of Electron and Atomic Physics (1977-78), Vice Chairman (1976-77)
Chairman, NRC/NAS Evaluation Panel for JILA (1980-83); member (1980-84)
Chairman, Nominating Committee, APS Division of Electron and Atomic Physics, (1981)
Councilor at Large, APS (1981-84)
Member, Executive Committee, APS (1981-83)
Member, Finance Committee, APS (1981-82)
Member, Panel on Faculty Positions for Women Physicists, APS (1981-82)
Chairman, Panel on Public Affairs, APS (1983), Vice Chairman (1982)
Member, Committee on Constitution and Bylaws, APS (1981-83)
Vice Chairman, Executive Committee of the APS International Physics Group (1983-84)

Chairman, NSF Advisory Panel on Advanced Scientific Computing (1984-86)
Member, Governing Board, American Institute of Physics (AIP) (1983-86), Nominating Committee (1986)
Member, Sub-panel on Atomic, Molecular and Optical Physics of the NAS "Survey of Physics" (1983-84)
Member, Magnet Selection Panel, Superconducting Super Collider (SSC) project, Central Design Group, Lawrence Berkeley Lab (1985)
Member, SSC Board of Overseers, Universities Research Association (1987-93); Executive Committee (1990-93); Chairman, Administrative Affairs Committee (1991-93)
Chairman, Panel on Science and Engineering Manpower, Office of Technology Assessment, U.S. Congress (1986-88)
Member, Texas Scientific Advisory Committee (1988-90)
Chairman, NRC Evaluation Panel for the Center for Basic Standards of the National Bureau of Standards (1986-88) and Center for Atomic, Molecular, and Optical Physics of the National Institute of Standards and Technology (1988-90)
Member, Advisory Board for the Institute for Theoretical Atomic and Molecular Physics at the Harvard-Smithsonian Center for Astrophysics (1988-90) and (1991-92)
Member, Commission on Physical Sciences, Mathematics, and Applications, NAS/NRC (1989-93)
Member, Advisory Committee on "American Center of Physics" (APS, AIP, and AAPT) (1990-91)
Chairman, Panel on Future Opportunities in Atomic, Molecular, and Optical Sciences, NAS/NRC (1991-93)
Member, Texas National Research Laboratory Commission, Science Education Advisory committee (1991)
Member, Compton Medal Committee, AIP (1992)
Member, NSF Mathematical and Physical Sciences Directorate Advisory Committee (1992-93, resigned during term to accept NSF directorship)
Member, NSF Blue Ribbon Panel on High-Performance Computing (1993, resigned during term to accept NSF directorship)

Professional Activities Related to Government Service as Director, NSF (1993-98)
(these were ex-officio appointments, held at various times during tenure as Director)

Member, National Science Board (Chairman of Executive Committee)
Member, National Science & Technology Council (NSTC)
Co-chair, Science Committee of the NSTC (with Dr. Harold Varmus, Dr. Arthur Bienenstock)
Member, Information Infrastructure Task Force (IITF)
Member, NRC Government-University-Industry Research Roundtable (GUIRR)
Chair, Interagency Arctic Research Policy Commission
Member, Arctic Research Commission
Member, National Oceanographic Research Leadership Council
Member, Federal Government Liaison Council of the Industrial Research Institute (IRI) Federal Science and Technology Committee
Co-Vice-Chairman, Science and Technology Committee of the Gore-Chernomyrdin Commission
Member, President's Management Council

Professional Activities Related to Government Service as Assistant to the President for Science and Technology and Director OSTP (1998-January 2001)

Served on the President's National Science and Technology Council (NSTC), co-chair of the President's Committee of Advisers on Science and Technology (PCAST), and on a number of other Federal and International Committees. Represented the Clinton Administration at various Science and Technology Ministerial meetings.

Professional Activities Since Leaving Government Service in 2001– not including current activities (does not include Rice University committees and other campus-based activities):

Member, APS Physics Planning Committee (2001-2003)
Chairman, Los Alamos National Laboratory Theoretical Division Review Committee (2001–2006), chairman (2002-2003)
Member, Board of Trustees, Civilian Research and Development Foundation (CRDF) (2001–2005)
Member, Board of Trustees, University Corporation for Atmospheric Research (UCAR) (2001–2007)
Member, Advisory Board, TechVision21, Washington DC (2001–date unknown)
Member, Advisory Committee, Texas Center for High Temperature Superconductivity, University of Houston (2001–2003)
Member, Committee on International Security Studies (CISS), American Academy of Arts and Sciences (2001–2007)
Member, Advisory Committee, "Science for Society Project - Basic Research in the Service of Public Objectives", Columbia University's Center for Science, Policy, and Outcomes (2001–2003)
Member, Review Committee, Japanese Society for the Promotion of Science, (2002)
Member, Review Commission, University of Texas, Dallas (2002)
Chairman, Committee on the Transportation of Radioactive Waste, National Academies, National Research Council (2003-2005)
Chairman, Technical Advisory Board, Institute of Nanomaterials and Nanotechnology, Hong Kong University of Science and Technology (2004–2005)
Chairman, Fermi Accelerator Laboratory Director Search Committee (2004)
Member, NAS/NRC Decadal Study on Earth Sciences and Space Applications (2005-2007)
Member, NAS/NRC Decadal Study on Elementary Particle Physics (2005-2006)
Consultant, NAS/NRC Decadal Study on Atomic, Molecular and Optical Science (2005-2006)
Member, NAS/NRC Policy and Government Affairs Committee (2005-2007)
Member, University of Texas Harrington Fellowships Board (2005-2008)
Member, University of Texas Research Advisory Committee (2005-2007)
Member, Visiting Committee for Jet Propulsion Laboratory (2006-date unknown)
Member, Advisory Board, magazine *Innovations* (2006-2008)
Member, National Academies NRC Review Panel on Scientific Data Integrity (2006-2008)
Member, American Academy of Arts and Sciences Committee on Research Funding and Regulation (Chaired by Tom Cech) (2007- 2009)
Member, National Academies NRC Panel to Review the National Academies *Keck Futures Initiative* (Chaired by James Duderstadt) (2007-2009)
Member, AAAS Abelson Prize Selection Committee (2007-2009)

Co-Chairman, Steering Committee, Project of U.S. China Cooperation in Science Policy, Research and Education (operated by George Mason University (other Co-Chairman is Dr. Edward David, Science Advisor to President Nixon) (2007- 2009)
Member, Advisory Committee to the American Center for Progress – to develop science and technology transition material for the next President (regardless of who is elected) (2007 – 2008)
Member, Government Affairs Advisory Committee, International Society for Stem Cell Research (2007-2009?)
Member, Fermi Research Alliance Board (URA and Univ. Chic) (2007-2011)
Member, Federation of American Scientists Governing Board (2007-2011) (Chairman, 2009-2010).
Member, Advisory Committee, SciFi Channel *futures initiative* (2006))
Member, Efficiency and Renewables Advisory Committee (ERAC), U.S. Department of Energy (2010-2011)
Co-Chairman, Texas Task Force on Access to Health Care in Texas (2005-2011)
Advisory Board of the "Global Cause Foundation: A Climate Alliance Using Science for the Economy" (this is a U.S.- China collaboration focused on helping China deal with economic growth and climate change at the same time – Co-Chairman with Prof. Xu Guanhua, former Minister of Science and Technology of the PRC) (2008-2011)
Member, Board of Trustees, China Foundation for the Promotion of Education and Culture (Republic of China, Taiwan) (2007- 2010)
Member, Science and Technology Advisory Group (STAG) Advisory Committee, Taipei, Taiwan, Republic of China (2002–2011)
Chairman, Ten-Year Review Committee for the Kavli Foundation (2011-12)
Member, Advisory Board for the Toyota Technological Institute at Chicago (2008- 2012)
Member, Council of the American Academy of Arts and Sciences (2005-2013) (Co-Chairman 2010 – and later as Vice Chairman); also member of the Executive Committee of the Council.
Member, Review Committee of Policy and Global Affairs (PGA) Division of the National Academies' NRC (committee chaired by Bob Sproul) (2013-14)

Current Professional Activities (does not include Rice University committees and other campus-based activities):

Member, Board of Trustees, "Reasoning Mind", Houston, TX (2001–present) (serves as board advisor for years when bylaws require stepping down as trustee for a year following normal term)
Member, Board of Trustees, Houston Museum of Natural Science (2002–2007 & 2009-2014)
Co-Chairman S&T Advisory Committee, American Academy of Arts and Sciences (2005-present)
Co-Chairman (with Norman Augustine, Lockheed-Martin, CEO ret.) project on future of S&T Policy, American Academy of Arts and Sciences (2012-present) (study completed in 2014 but continuing to work on follow-up activities for the American Academy)
Member, Advisory Board, Scientists and Engineers for America (2007-present)
Member, Human Embryonic Stem Cell Research Committee, The University of Texas Health Science Center at Houston (2007-present)(status may be inactive)
Member, International Advisory Board of the Institute for Advanced Study (Hong Kong University of Science and Technology) (2008-present)

Member, Advisory Committee on (proposed) Large Synoptic Survey Telescope (Chaired by Tony Tyson) (2007-present)
Member, Advisory Board, Sentinel Satellite (2008 – present)
Member, Board of Visitors, Homer L. Dodge Department of Physics and Astronomy, University of Oklahoma (2009-present)
Member, Senior Advisory Board, Journal: Science and Diplomacy (AAAS) (2011-present)
Member, Board of Directors, Journal of Science Policy and Governance (2011-present)
Member, Editorial Board, The Common Reader, Washington University, St. Louis (2013-present)
Member, Steering Committee for the Center for Science and Democracy, Union of Concerned Scientists (2013-present)
Member, Board of Advisors, Emerging Leaders in Science and Society - ELISS (affil. w/AAAS) (2012-present)
Chairman (Honorary) of Science Policy, Swansea University (2012-present)
Senior Advisor, Global Virus Network (2014-present)
Member, Selection Committee, AAAS Carey Lecture (2013-15)
Member, Selection Committee, AIP 2016 Karl Taylor Compton Medal for Leadership in Physics (2015)

Current Campus Activities

At Rice, Lane co-directs the James A. Baker III Institute for Public Policy Science and Technology Policy Program, gives occasional lectures, meets with students who are interested in policy, and takes on other tasks, as requested.

Selected specific Rice recent activities include:

-Co-Director of Baker Institute's S&T Policy Program (w/ Dr. Kirstin Matthews)
-Provost Search Committee (2009-2010)
-Member of "Scientia"
-Associate of Wiess College (2002-2011)
-Advisor to Rice's NSF funded "Partnerships for International Research and Education (PIRE)" (Director, Jun Kono)
-Advisor to "Rice360" (Director, Rebecca Richards-Kortum)
-Advisor to Joint Institute between Rice and Nanyang Technological University (Director, Krishna Palem) (2010-2013)
-Advisor to Rice Center for Education (Director, Linda McNeil) (2002-2011)
-Advisor to Program for the Study of Leadership
-Member Ad Hoc Strategic Vision Task Force, Center for Philanthropy and Nonprofit Leadership, Rice Glasscock School of Continuing Studies
-Member Ad Hoc President's Advisory Committee on Rice-Baylor Merger Discussion (replaced by Faculty Senate Committee)
-Member Ad Hoc Centennial Lectures Committee
-Lectures on science policy (as invited) in courses across the campus.

SELECTED PRESENTATIONS

Selected Invited Presentations Prior to Appointment as Director, NSF (does not include most physics seminars and colloquia at universities):

APS Annual Meeting, Washington, DC, 1970
APS Division of Electron and Atomic Physics, Yale University, 1973
Gaseous Electronics Conference, Rolla, MO, 1975
George J. Schultz Memorial Symposium, Yale, University, 1977
Distinguished Visiting Scientist University of Kentucky, 1980
U.S.-Japan Seminar on Electron-Molecular Collisions and Photo-ionization Processes, California Institute of Technology, 1982
Distinguished Karcher Lecturer, University of Oklahoma, 1983
XIII International Conference on the Physics of Electronic and Atomic Collisions (ICPEAC), Berlin, 1983
International Symposium on "Wavefunctions and Mechanisms from Electron Scattering Processes", Castle Gandolfo, Italy, 1983
Atomic Physics in High Temperature Plasmas, Asilomar, CA, 1985
Conference on Computers for the Liberal Arts, Reed College, Keynote Address, 1985
Oji International Seminar on Highly Excited States of Atoms and Molecules, Fuji-Yoshida, Japan 1986
Ninth Conference on the Application of Accelerators in Research and Industry, Denton, TX, 1986
International Symposium on Correlation and Polarization in Electronic and Atomic Collisions, The Queen's University of Belfast, 1987
Supercomputing '93: Conference on High-Performance Computing and Communications, Portland, OR, 1993

Presentations as Director NSF and Assistant to the President for Science and Technology and Director OSTP (1993-2001

Numerous presentations were given as Director NSF from October 1993 to August 1998 and as Assistant to the President for Science and Technology and Director OSTP from August 1998 to January 2001 (substantial assistance was received from NSF, OSTP, and other Federal agency staff in preparation of presentations). These presentations reside in the U.S. National Archives - material from the Clinton Administration.

Selected Invited Presentations Since Leaving Government Service (January 2001) (This list does not include many Rice University campus presentations.)

2001

URA (Universities Research Associates) Council of Presidents, Washington DC, 2001
AAAS Annual Meeting, San Francisco, CA, 2001
Ohio Statewide Trustees Meeting, Columbus, OH, 2001
Branscomb Lecture at Harvard University, Kennedy School, Boston, MA, 2001
2001 Innovation Summit, Council on Competitiveness, panelist, San Diego, CA, 2001
Indo-American Chamber of Commerce of Greater Houston, Houston, TX, 2001
Nanotechnology Conference at IBM Almaden, San Jose, CA, 2001
Former Presidential Science Advisors, the 25th Anniversary of OSTP Conference, MIT, Boston, MA, 2001
Carey Lecture, AAAS Meeting, Washington DC, 2001
Council of Scientific Society Presidents, Washington DC, 2001
XXII International Conference on the Physics of Electronic and Atomic Collisions (ICPEAC), Keynote Address, Santa Fe, NM, 2001
Committee on International Security Studies, American Academy of Arts and Sciences, 2001

North Carolina State University, Durham, NC, Commencement Address, 2001
National Research Council/Climate Workshop, Opening Remarks, Boulder, CO, 2001
Bechtel Chief Engineers Conference, Keynote Address, Houston TX, 2001
Bremen University, Bremen, Germany, 2001
River Oaks Breakfast Club, Houston, 2001
APS/AAPT, Texas Section, Keynote Address, Texas Christian University, Ft. Worth, TX, 2001
Houston Museum of Natural Science ("Views of the Earth Symposium", Earth Science Week), Houston, 2001
ROMEO (Rice Old Men Eating Out) Club, Houston, 2001
Annual Meeting of the APS Laser Science Division and the Optical Society of America, Keynote Address, Long Beach, CA, 2001
5th Grade Advanced and Enrichment Science Class, Hose Elementary, Crawfordsville, IN, 2001
Innovation and Technology Commission (ITC), Keynote Address, Hong Kong, 2001
Asia Society, Hong Kong, 2001
Chinese Academy of Science, Beijing, China, 2001

2002

Brentwater Men's Club, 2002
University of Tulsa, Public Lecture, Tulsa, OK, 2002
University of Oklahoma, Distinguished Alumni Lecture, Norman, OK, 2002
Air Force Reserve/Retired Officers, 2002
University of California at Berkeley, Public Lecture, 2002
State University of New York, Albany, NY, Commencement Address, 2002
Japan Task Force, National Institute and Laboratory Directors, Tokyo, 2002
University of Texas' Dean's Scholars Lecture, Austin, 2002
Kansas State University, Distinguished Lecture and Physics Colloquium, Manhattan, KS, 2002
University of Michigan, Gerald Wiesner Lecture and Lecture in Science and Technology Policy Course, Ann Arbor, MI, 2002
Sigma Xi Forum, Introductory Remarks, Galveston, TX, 2002
Georgia State University, College of A&S Distinguished Speaker Series, Atlanta, GA, 2002
Science and Technology Advisory Group, Presentation, Taipei, Taiwan, 2002
APS Division of Atomic, Molecular and Optical Physics Conference, Invited Talk, Norfolk, VA, 2002

2003

Texas Nanotechnology Initiative Conference, Keynote Address, Dallas, TX, Feb. 2003
National Academies COSEPUP Panel, Washington DC, Feb. 2003
Iowa State University, University Lecture, Ames, IA, March 2003
German Academies Annual Meeting, Heidelberg, German, March 2003
American Physical Society Annual Meeting, Phil. Pa., April 2003
Medical Technology Leadership Forum, Harvard University, Camb., Mass., Apr. 2003
American Meteorological Society Leadership Colloquium, Washington DC, June 2003
Packard Foundation Fellows Meeting, Vancouver, Canada, Sept. 2003
American Chemical Society Meeting, Atlanta Ga., Nov. 2003
First Presbyterian Church Study Group, Houston TX, Nov. 2003

2004

Senate Com. Commerce, Sci. and Trans. (Chair. McCain), Washington DC, Jan 2004
American Physical Society (APS) "March Meeting", Montreal, Canada, March 2004
Society of Enviro. Journalism, Carnegie Mellon University, Apr. 2004
Univ. Tex. HSC Houston, Institute of Molecular Medicine, TMC, Apr. 2004
APS Division of Atom., Mol. and Opt. Physics Meeting, Tucson, AZ, May 2004
AAAS S&T Fellows Meeting, Washington DC, May 2004
John Holdren Celebration, Harvard JFK School, Camb., Mass., May 2004
Sante Fe Institute 20th Anniversary Celebration, Sante Fe. N.M. May 2004
Aspen Institute (several panels), Aspen, Colorado, Aug. 2004
EuroScience Forum, Stockholm, Sweden, Aug. 2004
American Academy of Arts and Sciences Induction, Camb. Mass, Oct 2004
Hong Kong University of Science and Technology (HKUST), Hong Kong, Dec. 2004

2005

Jim Krumhansl Mem. Symp., Los Alamos Nat. Lab., Los Alamos NM, Jan. 2005
AAAS Annual Meeting (panel), Washington DC, Feb. 2005
University of Colorado at Colorado Springs, Colorado Springs CO, Feb. 2005
University of South Caroline, Columbia S.C. , Mar. 2005
American Academy of Arts & Sciences (Space Wksp.) Camb., Mass., Mar. 2005
University of Oklahoma (my alma mater), Norman OK, Mar. 2005
American Academy of Arts & Sciences – Council & Trust, Camb. ,Mass. Apr. 2005
The University of Texas Board of Regents, Austin TX, Apr. 2005
Enrico Fermi Institute, University of Chicago, Chicago IL, Apr. 2005
U.S. House of Representatives Caucus on CRDF, Washington DC, June 2005
Kirtland Seminars, Kirtland Air Force Base, Albuquerque, NM, June 2005
Aspen Center for Physics (and Aspen Inst.), Aspen, CO, July 2005
University of Texas Medical Branch (Student Policy Forum), Galveston TX, July 2005
American Academy of Arts & Sciences Induction, Camb., Mass. Oct. 2005
Amer. Phys. Soc. Texas Section Meeting (banquet), Houston TX, Oct. 2005
University of Colorado at Boulder (Pres. Sci. Advis. Series), Boulder, CO, Oct. 2005
Cornell University Physics Colloquium, Ithaca NY, Nov. 2005
"Reasoning Mind" Reception Remarks, Houston TX, Nov. 2005
National Academy of Sciences President's Circle, Stanford U., Palo Alto, CA, Nov. 2005
Washington University - St. Louis (Compton Lecture), St. Louis IL, Dec. 2005
D. Allan Bromley Memorial Symposium, Yale University, New Haven CT., Dec. 2005

2006

House of Representatives Democratic Caucus (Pelosi et.al.), Washington DC, Jan. 2006
Pepperdine University, Los Angeles, CA, Jan 2006
Social Research Conf. on Politics and Science, The New School, NYC, Feb. 2006
Vienna University of Technology, Vienna, Austria, Mar. 2006
Crawfordsville High School (science class), Crawfordsville, IN, May 2006
Fermi National Laboratory, Batavia, IL, May 2006
Aspen Center for Physics (Energy Workshop), Aspen CO, July 2006
SciFi Channel "Visions for Tomorrow" launch, Washington DC, Sept. 2006
Brookhaven National Laboratory, Upton NY, Sept. 2006
San Antonio Health Summit, San Antonio, TX, Sept 2006
MD Anderson Genetics Policy Symposium, Houston TX, Sept. 2006
Carnegie Inst. of Wash. Stem Cell Wksp (join w/ Baker Inst), Washington DC, Oct 2006
Houston Museum Natural Sciences "Ben Franklin Lecture", Houston TX, Oct. 2006
University of North Texas, Denton TX, Nov. 2006

BioIreland 2006 Conference, Dublin, Ireland, Nov. 2006
University of Washington Student Forum, Univ. Wash., Seattle, WA Nov 2006
University of Houston "Tenneco Lecture," Houston, TX, Nov. 2006
American Psychological Assoc. Leadership Forum, Washington DC, Dec. 2006
University of Tulsa, Commencement Address, Tulsa OK, Dec. 2006
Woodrow Wilson International Center for Scholars, Washington DC, Dec. 2006

2007

Trinity Leadership Roundtable (Lounsbery Found. sponsor), Washington DC, Feb. 2007
Bellaire – SW Houston Rotary Club, Houston TX, Feb. 2007
University of Texas Health Workshop, UT Austin, Austin TX, Feb. 2007
House of Representatives Committee on S&T Hearing, Mar. 2007
Pennsylvania State University "Waynick Lecture", Phil. PA, Apr. 2007
Oxford University, Wadham College Workshop, Oxford, England, May 2007
Warren Washington Symp., Natl. Cent. for Atm. Res. (NCAR), Boulder CO, Aug. 2007
Code Red Texas Healthcare Workshop, Austin, TX, Oct. 2007
Houston Endowment Board, Houston TX, Oct. 2007
Keck Center Annual Res. Conf., South Shore Harbor TX, Nov. 2007
Texas Climate Higher Education Conf., HARC, Woodlands TX, Nov. 2007
University of Houston at Clear Lake, Houston TX, Nov. 2007

2008

AAAS Annual Meeting, panel on "Integrity in Science", Boston, MA, Feb. 2008
Metropolitan Assoc. Teachers of Science, Univ. Houston, Houston TX, Feb. 2008
University of Houston Climate Change Conference, Houston TX, Feb. 2008.
Houston Chronicle Editorial Board (energy and climate change), Houston TX, Mar. 2008
"Science Progress" Rollout (Center for American Progress), Wash. DC, June 2008
Amer. Acad. of A&S. ARISE Report, Release, Wash. Press Club, Wash. DC, June 2007
Amer. Meteor. Soc. (AMS) Summer Policy Colloq, Wash. DC, June 2008
Houston Grant Forum (climate change and Houston), Houston TX, June 2008
"Reasoning Mind" Luncheon Remarks, Coronado Club, Houston TX, June 2008
Alex Dalgarno Symposium, Harvard Smithsonian Observatory, Camb. MA, Sept. 2008
American Academy of Arts and Sciences, Induction, Camb. MA, Oct. 2008
Florida State University, Tallahassee, FL, Oct. 2008
Sigma Pi Sigma Summit, Fermi National Laboratory, Batavia, IL, Nov. 2008
Symposium on "Policy Challenges for the New President", LBJ Lib., Austin Tx, Dec. 2008

2009

ILO Institute (business execs), Houston TX, Feb. 2009
AAAS Annual Meeting, Chicago, Ill, panel, Feb. 2009
Stem Cell Workshop (Joint Baker Inst. and Qatar Found), Doha Qatar, Mar. 2008
University of Wisconsin, Chemistry Departmental Colloq., Madison, WI, Mar. 2009
Guadalupe Nanotech Conf. (Smalley Inst. org.), Guadalupe River Ranch TX, Apr. 2009
National Academy of Sciences Public Welfare Medal remarks, Wash. DC, Apr. 2009
Amer. Phys. Soc. Ann. Meeting - Panel, Denver CO, May 2009
Amer. Phys. Soc. Ann. Meeting - Compton Medal session, Denver CO, May 2009
House of Representatives Briefing on Space Policy, Wash. DC, June 2009
Briefing for Senator Mark Warner (with John Podesta et.al.), Wash. DC, Sept. 2009
National Academy of Sciences "Issues in S&T" event, UT at Dallas, TX, Sept. 2009
House of Representatives, Com. on S&T, Subcom. Res. Sci. Educ., Wash. DC, Oct. 2009

Carnegie Vanguard School (with Kirstin Matthews), Houston TX, Oct. 2009

2010

Nanyang Technological University, Singapore, workshop, keynote address "Science for Knowledge and Innovation in the 21st Century", Jan. 2010.

National Academies COSEPUP panel, Beckman Center, Irvine, "Challenges to the Public Trust in Science: Lessons from the University of East Anglia/"Climategate" Incident", Feb. 18, 2010.

AAAS Annual Meeting, San Diego California, panel, "A Wobbly Three-Legged Stool: Science, Politics and the Public", Feb. 2010.

AAAS Annual Meeting, San Diego California, panel, "The Future of Science – NSF Still Sprinting after 60 Years", Feb. 2010.

University of Texas at Austin Physics Colloquium, "21st Century American Science – A Case of Disorder and Uncertainty", Mar. 31, 2010

Duke University Sanford School, Sanford Distinguished Lecture, "The Uncertain Future of American Science – Coping with a Changing Climate and a Changing World", Apr. 8, 2010.

North Carolina State Univ., Scope Lecture, "America's Science Challenges and Opportunities: Past, Present and Future", Apr. 10, 2010

Japan Society for the Promotion of Science Forum "Summary Remarks on Energy", June 15, 2010

Rice Memorial Service for William E. Gordon, June 26, 2010

Rice AGEP (Alliances for Grad. Educ. And the Professoriate) banquet, Aug. 5, 2010

University of Oklahoma Dept. Phys.&Astro. Anniv. Banquet, " Reminiscences", Sept. 10, 2010

University of Colorado at Boulder – graduate student Forum on Science, Ethics and Policy (FOSEP) lecture, "21st Century American Science – A Case of Disorder and Uncertainty", Sept. 23, 2010

National Academies COSEPUP Com. Sci. Tech. and Law, "Reorganizing/Rethinking Science Policy and Infrastructure to Meet Challenges of the Future", Oct. 25, 2010

National Nanotechnology Initiative (NNI) 10th Anniv. DC, "Birth of the NNI", Dec. 9, 2010

2011

Rice *Scientia* "Conference on Research and Innovation in Undergraduate Natural Science and Engineering Education – Overview", Feb. 12, 2011

AAAS Annual Meeting Roundtable on "Enhancing Science and Technology Cooperation in the Asia-Pacific Region", Feb. 16, 2011

International Public Service Events Congress, panel on "Sense in Science", Washington D.C. Feb. 17, 2011.

American Physical Society Annual Meeting, Dallas, Texas, Panel on "Federal Funding and Budget Battles", Mar. 22, 2011

Center for American Progress: Science Progress Roundtable, Washington D.C., Mar. 31, 2011.

National Academies NRC Workshop on "Measuring the Impacts of Federal Investments in Research", opening remarks as co-chair of workshop, Apr. 18-19, 2011.

American Physical Society Annual Meeting, Anaheim. Calif., Panel on "Science Diplomacy," (delivered by teleconference) May 3, 2011.

Rice University – Texas Medical Center Chapter of Sigma Xi Banquet talk, "Science and Technology – the Future of American Leadership," May 5, 2011.

University of Texas Graduate School of Biomedical Sciences Commencement talk, "The Unique Role of the Scientist in an Unsettled World," May 7, 2011.
Peking University and Tsinghua University, joint colloquium, "U.S. Science and Technology – Lessons Learned and Looking Ahead," Beijing, June 9, 2011.

2012

American Physical Society Annual Meeting, "What is the Way Forward," contribution to Panel on "American Science and America's Future", Atlanta Ga., April 2, 2012.
Annual Meeting of the Federal Demonstration Partnership, "Science Policy Tools – Time for an Update?", DC, January 12, 2012.
Rice Baker Institute Conference on "Religions in the 2012 Elections," joint with Texas Freedom Network, Rice Baker Institute, January 25, 2012.
Rice Course in Science, Policy and Ethics (NSCI 511), "Neal's Perspective on Science, Policy and Politics", Rice Univ., February 1 2012.
Rice Sino-US Student Conference, "U.S. Science and Technology – Lessons Learned and Looking Ahead," Rice Univ., February 18, 2012.
Medal of Science Dinner in Honor of Richard Tapia, Remarks about Tapia's national service, Houston TX, March 3, 2012.
Rice Scientia Lecture, "The Rice Institutes – Present at the Creation," Rice Univ., March 13, 2012.
Univ. Texas Health Science Center Career Seminar, March 20, 2013
University of Texas Health Science Center Houston, "Science and Religion in the 2012 Elections", UTHSC Houston, April 4, 2012.
Rice Statistics Department Anniversary Dinner, Remarks and Introduction of Guest Speaker, Stephen Stigler, Rice Univ., April 9, 2012.
University of Texas at Austin Student Colloquium, "American Science Policy: From Order to Disorder – Time for a Change?", Austin TX, April 16, 2012.
Retirement Reception for Dr. Joseph Bordogna (former Deputy Director of NSF), Univ. Pennsylvania, Philadelphia Pa., May 1, 2012.
Retirement Reception for Patricia Garfinkel (NSF speechwriter), NSF, DC, May 2, 2012.
International Space Medicine Summit, Rice Baker Institute, "Comments on the Importance of International Cooperation in Science," May 18, 2012.
Sackler Colloquium on Science and Science Communication, "Presidential Science Advisors Session," (informal Q/A), National Academies, DC, May 22, 2012.
Rice Course on Responsible Conduct of Research UNIV 594, Dec. 4, 2013

2013

Rice Course on Science, Policy and Ethics (NSCI 511), "U.S. Science, Policy and Politics – It's Time For a New Approach ", Rice Univ., January 18, 2013.
Rice Biochem class , interview on Human Genome Project and the conflict between the government project (led by Francis Collins) and private company Celera Genomics (led by Craig Venter) during Clinton Administration, January 22, 2013.
Rice University Scholars Program (RUSP), "Some Thoughts About Policy and Policy Careers," February 5, 2013.
Rice Course on Public Policy (POST101) "Giving Science Advice to the President – And Why It's Getting Harder," February 12, 2013
Rice Baker Institute, Introduction of Sylvia Earle's Civic Scientist Lecture, Feb. 12, 2013

Rice Baker Institute Conference on "Lost in Space – the Need for a Definitive U.S. Space Policy," Panel Remarks on experiences while in the Clinton Administration, February 24, 2013.
University of Illinois at Urbana-Champaign, Physics Colloquium, "Giving Science Advice to the President – And Why It's Getting Harder," March 27, 2013.
Rice Course on Nanoscience and Nanotechnology (Chem533), "Reflections on Seven Years in Washington – and A Few Comments on the Birth of the NNI," April 3, 2013.
Rice University, Introduction of Rorschach Lecturer, Jane Lubchenco (past NOAA Administrator), April 13, 2013
Bethany Methodist Church presentation on "Climate Change," April 25, 2013
Rice "Curl-Smalley Celebration," Remarks and Introduction of Jim Heath, May 6, 2013.
Rice Baker Institute, Introduction of "Civic Scientist" Lecturer Dr. Rita Colwell (past Director of NSF), May 7, 2013.
National Science Foundation, National Science Board, Remarks on the "future of science – where is American science going in the coming decades?" May 10, 2013
Rice University Business and Professional Women, "Science Under Attack," Oct. 8, 2013
Houston Tomorrow, "American Science in a Changing Climate," Oct. 24, 2013
Rosalind Franklin Board presentation, Dec. 19, 2013

2014

Rice Course in Science, Policy and Ethics (NSCI 511), "Giving Science Advice to the President – And Why It's Getting Harder," Rice Univ., January 24, 2014.
Rice Biochem class , interview on Human Genome Project and the conflict between the government project (led by Francis Collins) and private company Celera Genomics (led by Craig Venter) during Clinton Administration, January 28, 2014.
Rice Course on Public Policy (POST101) "Giving Science Advice to the President – And Why It's Getting Harder," February 6, 2014.
Rice Engineering Leadership Workshop, "Remembering Chuck Vest," March 21, 2014
Rice Service, "Memories of G. King Walters," March 22, 2014.
Rice Materials Genome Symposium, March 29, 2014.
Texas A&M colloquium, "Giving Science Advice to the President – and Why It's Getting Harder," April 10, 2014.
Joint Harte Research Institute-Houston Museum of Natural Sciences Luncheon, "Comments and Introduction," May 14, 2014.
U.S. Senate Commerce Committee (Chair. Rockefeller), testimony on the report of the American Academy of Arts and Sciences, "Restoring the Foundation: the Vital Role of Research in Preserving the American Dream," July 17, 2014.
Press Conference, Washington, DC, , "Restoring the Foundation: the Vital Role of Research in Preserving the American Dream," Reserve Officers Association, Sept. 16, 2014.
Harvard Symposium to Celebrate Venky's 75th Birthday, "Inventing the Future to Address Societal Challenges," (discussed the "Restoring the Foundation…" report), Sept. 19, 2014.
Rice Course on Responsible Conduct of Research (Univ. 594) "Science and Technology Policy – A Wobbly Three-Legged Stool," Nov. 19, 2014.
National Institute for Standards and Technology (NIST), Washington DC, "Restoring the Foundation: the Vital Role of Research in Preserving the American Dream," Dec. 9, 2014.

2015

2015 Joint Mathematics Meeting (AMS panel), "Restoring the Foundation: the Vital Role of Research in Preserving the American Dream," Jan. 12, 2015

Rice Course in Science, Policy and Ethics (NSCI 511), "Giving Science Advice to the President – And Why It's Getting Harder," Rice Univ., Feb. 13, 2015.

Rice Course on Nanoscience and Nanotechnology (Chem533), "Reflections on Seven Years in Washington – and A Few Comments on the Birth of the NNI," Mar. 11, 2015

Stanford University Symposium Celebrating Artie Bienenstock's 80th Birthday, "Remarks," Mar. 20, 2015.

Academy of Science and Technology & Academy for Science and Health Professionals, Woodlands College Park High School, Tex, "One Physicists Excursion into the Unsettling World of Science Policy," April 20, 2015

Workshop of Vice President's for Research and EPSCoR Directors from Central and Southern Plains Institutions, briefing on the American Academy of Arts and Sciences' "Restoring the Foundation" report, Hyatt Regency at Chicago O'Hare, May 28, 2015

International Space Medicine Summit, Rice University's Baker Institute for Public Policy, Keynote Address, June 5, 2015

Congressman Jim Bridenstine (R-OK) briefing on the American Academy of Arts and Sciences' "Restoring the Foundation" report, University of Oklahoma, July 2, 2015

Senator Cory Gardner (R-CO) briefing on the American Academy of Arts and Sciences' "Restoring the Foundation" report, University of Oklahoma, August 26, 2015, Denver, Colorado.

National Academies' ad hoc Committee on Research Regulations and Reporting Requirements, NL comments on first report, Rice University, Oct. 29, 2015

RESEARCH ACTIVITIES

Dr. Lane's current scholarly interests include: U.S. and international science and technology policy; science education in K-12 schools; public understanding of science and technology and the role of the "civic scientist"; energy, environmental and space policy; health and medical research (e.g. stem cells research) policy.

Dr. Lane's research has been in the area of theoretical atomic and molecular physics, essentially applied quantum mechanics, with an emphasis on collision phenomena including: electron-molecule and atom-atom scattering, excited atoms in liquid helium, ion collisions in dense plasmas, state-changing and ionization in collisions of excited atoms (including high-Rydberg atoms) with atoms, molecules and ions; alignment and orientation effects in atomic collisions; and very low-energy collisions. His research was supported in part by the U.S. Department of Energy, Division of Chemical Sciences and by the Robert A. Welch Foundation. Dr. Lane's appointment as Director of the NSF required termination of his research support. Throughout his career Dr. Lane has collaborated with researchers at Argonne, Los Alamos, and Lawrence Livermore National Laboratories, as well as faculty at other universities.

PUBLICATIONS

Publications include two physics textbooks, numerous research articles in professional journals through the 1990's (attached) and more recent articles on science and technology policy, which are listed below.

Policy Publications (since leaving Government in January 2001) (does not include Baker Institute Reports co-edited with Dr. Kirstin Matthews – for Baker Institute publications, see http://www.bakerinstitute.org/programs/science-and-technology)

1) Neal Lane, "The Grand Challenges of Nanotechnology", J. Nanoparticle research vol 3: pp 95-103 (2001)

2) Neal Lane and Rosina Bierbaum, "Recent Advances in the Science of Climate Change", Natural Resources and Environment: ABA Section of Environment, Energy, and Resources, vol 15, No. 3, pp 147-151, Winter (2001)

3) Neal Lane, "The Openness Imperative", in *Foreign Policy* pp 80-81, March-April (2001)

4) Neal Lane, "International science policy and atomic collision science", in Photonic, Electronic and Atomic Collisions,, Proc. XXII International Conference on Photonic, Electronic and Atomic Collisions, July 18-24, 2001, Rinton Press, pp 1-12 (2002).

5) Neal F. Lane, Rosina M. Bierbaum, and Mark T. Anderson, "Science and Water Policy for the United States", in *Water: Science, policy, and Management: Water Resources Monograph 16*, American Geophysical Union Press, p 207 (2003).

> **Note** that the above-referenced publications1), 2), and 4) and Dr. Lane's publications while in the Federal government benefited substantially from the input - ideas and words -- of staff in the White House Office of Science and Technology Policy and other Federal agencies.

6) Harcombe, Elnora and Neal Lane, "The University as a Partner in Transforming Science Education," in *Science Literacy for the Twenty-First Century*, eds., Stephanie Pace Marshall, Judith A. Scheppler, and Michael J. Palmisano, pp 118-130 (Prometheus Books, Amherst NY, 2003)

7) Neal Lane, "Benjamin Franklin, Civic Scientist", in *Physics Today*, vol. 56, no. 10, p 41 (October 2003)

8) Neal Lane, "Funding Priorities and External Advice – A Perspective on U.S. Science and Technology," Proceedings of Conference of German Academies of Science, "Politikberatung in der Demokratie," held March 17-19, 2003, Heidelberg, Germany (author assumes proceedings appeared, but biographic reference not available).

9) George Abbey and Neal Lane, "United States Space Policy: Challenges and Opportunities," American Academy of Arts and Sciences, (occasional paper) 2005.

10) Neal Lane and Tom Kalil, "The National Nanotechnology Initiative: Present at the Creation", *Issues in Science and Technology* , XXI, Number 4 (Summer 2005), pp 49-54 (National Academies, Washington D.C.)

11) Richard Casten and Neal Lane, "Obituary: David Allan Bromley," *Physics Today*, September 2005 (American Institute of Physics)

12) Neal Lane, "Two Civic Scientists – Benjamin Bederson and the other Benjamin," in *Advances in Atomic, Molecular, and Optical Physics*, ed. by H.H. Stroke, vol 51, pp 41-48 (2005).

13) Neal Lane, "Alarm Bells Should Help us Refocus", editorial in *Science*, vol 312 (30 June 2006), page 1847.

14) Steven C. Currall, Eden B. King, Neal Lane, Juan Madera and Stacey Turner, "What Drives Public Acceptance of Nanotechnology?" in *Nature Nanotechnology*, vol 1 December 2006, page 153-155.

15) Neal Lane, "Politics and Science: A Series of Lessons," (article based on lecture at The New School), in *Social Research* , vol 73, no. 3 fall 2006, page 861.

16) Neal Lane "U.S. Science and Technology and the Role of the Federal Government," (paper prepared for the U.S.-China Science and Technology Forum, held in Beijing, October 2006) (included with proceedings of the forum)

17) William B. Gail, Milly K. Macauley and Neal F. Lane, "In shadow of climate debate this country owes it to its future to set up a comprehensive file on data about Earth", op-ed in Viewpoints/Outlook section of the Houston Chronicle, June 23, 2007

18) Neal Lane and Thomas Kalil, "In the Beginning: The U.S. National Nanotechnology Initiative," in *Nanoethics: The Ethical and Social Implications of Nanotechnology*, ed. By Fritz Allhoff, Patrick Lin, James Moor, John Weckert, page 80 (John Wiley and Sons, 2007) (this is a reprint of the 2005 article in *Issues in Science and Technology* XXI, Number 4 (Summer 2005), pp49-54, National Academies, Washington DC)

19) Neal Lane, " Comment on 'Science's Social effects', Robert Frodeman and J. Britt Holbrook" in *Issues in Science and Technology,* Summer Issue 2007*, pp 19-20* (National Academies Press, 2007)

20) Neal Lane, "U.S. Science and Technology – An Uncoordinated System That Seems to Work" in special issue "China, India and the United States," of the journal *Technology in Society*, vol. 30, Nos 3-4 August-November 2008, pp 248-263 (Elsevier, NY, and Science Direct, 2008)

21) Neal Lane, "Science in the seat of power," in *Bulletin of the Atomic Scientists*, issue July/August 2008, page 48.

22) Thomas Cech, Steve Chu and Neal Lane, "Physics Tomorrow", in American Physical Society's "*APS News*" (2008)

23) Malcolm Gillis and Neal Lane, "Ideas that will actually cut into global warming" (op-ed), *Houston Chronicle*, Feb. 8, 2008.

24) Neal Lane, "Political Debate: A risk, but one that's worth taking," in *Nature* magazine, Correspondence Section, February, 2008.

25) Neal Lane, "Essay: American Physics, Policy, and Politics: An Uneasy Relationship," *Physical Review Letters*, vol. 101, 31 December, 2008, page xxx.

26) Neal Lane and George Abbey, "The U.S. Space Program: Restoring Preeminence in Space Science and Exploration," Center for American Progress Action Fund, prepared for Presidential transition, on CAP web site, Nov. 2008.

27) Neal Lane, "White House Office of Science and Technology Policy," in *Change for America: A Progressive Blueprint for the 44th President*, eds., Mark Green and Michele Jolin (Basic Books, NYC, 2009), page 50.

28) Neal Lane, "Helping the President", editorial in "Science" magazine, vol 324, page 1, April 10, 2009, AAAS).

29) George Abbey, Neal Lane, and John Muratore, "Recommendations for NASA's Future in Flight", editorial in *Space News*, March 30, 2009. (also included in Baker Institute's "transition" papers)

30) Neal Lane, "Forward" to Springer Handbook of Nanotechnology, 2009 Third Edition, ed. Bharat Bhushan (Springer Verlag, to be published); also Forwards to First (April 2004) and Second (December 2006) Editions.

31) Neal Lane and George Abbey, "United States Space Policy: Challenges and Opportunities Gone Astray," American Academy of Arts and Sciences (occasional paper) (Cambridge, Mass., 2009).

32) Neal Lane, "Alex Dalgarno Symposium Dinner Remarks" in *Proceedings of the Dalgarno Celebratory Symposium*, eds., J.F.Babb, K. Kirby, H. Sadeghpour (Imperial College Press, London, 2009) pp 379-388.

33) Neal Lane and Kirstin Matthews, "The President's Scientist" in *Cell* 139, pp 847-850 (Nov. 25, 2009)

34) Walter Greiner and Neal Lane, National Academy of Sciences (on-line) "Biographical Memoir for Dr. Allan Bromley" (Science Advisor to President George Herbert Walker Bush) (2009)

35) Neal Lane, Foreward to book *A History of Federal Science Policy – from the New Deal to the Present*, by William A. Blanpied (Rice University Press, Houston Texas, 2010)

36) Neal Lane, "Threats to the Future of Science and Technology," (article based on lecture at University of Colorado, in *Presidential Science advisors: Perspectives and Reflections on Science, Policy and Politics*, ed. by Roger A. Pielke, Jr. and Roberta Klein (Springer Verlag, 2010).

37) Neal Lane, Foreward to book *The Joy of Quantum Physics*, by Michael Morrison (Oxford Press, to be published).

38) Neal Lane, Foreward to book *The Impact of Global Warming on Texas*, 2nd edition, ed. Jurgen Schmandt, Judith Clarkson and Gerald R. North (Univ. of Texas Press, 2011) http://www.texasclimate.org/Home/ImpactofGlobalWarmingonTexas/tabid/481/Default.aspx

39) Marshall Cohen and Neal Lane, National Academy of Sciences (on-line) "Biographical Memoir for Dr. William E. Gordon" (former Provost of Rice University) (2011)

40) Kirstin R.W. Matthews, Neal Lane and Kenneth M. Evans, "U.S. Scientific Research and Development 202", in "Science Progress" (July 23, 2011, on-line) http://scienceprogress.org/2011/07/u-s-scientific-research-and-development-202/

41) Edward P. Djerejian, Neal F. Lane and Kirstin R.W. Matthews, "Establishing Dialogues: Science Diplomacy and International Collaboration," op-ed in *Houston Chronicle* and on-line March 19, 2011)

42) Neal Lane, "Science Policy Tools: Time for an Update", in *Issues in Science and Engineering* (National Academies Press, Fall 2011, pp 31-38) .http://www.issues.org/28.1/lane.html

43) Neal Lane and Rahul Rekhi, "Qualitative Metrics in Science Policy: What Can't be Counted Counts," in *Issues in Science and Engineering* (National Academies Press, Fall 2012, pp 21-24) http://www.issues.org/29.1/rahul.html

44) Neal Lane, "Science is the Key to Growth," op-ed in *New York Times*, October 28, 2012 http://www.nytimes.com/2012/10/29/opinion/want-to-boost-the-economy-invest-in-science.html?_r=0

45) Neal Lane, "Less Knowledge is Less Power: The Sequester is Indiscriminately Slashing Scientific Research," *U.S. News and World Report*, August 23, 2013. http://www.usnews.com/opinion/articles/2013/08/23/congress-must-end-the-sequester-for-science-and-technology-research

46) Neal Lane, "Remembering one of America's foremost champions of science, engineering, technology and education: Dr. Charles "Chuck" Vest," Baker Institute Blog., Jan. 26, 2014 (an excerpt was included in the program for the National Academy of Engineering Chuck Vest Memorial event in Washington D.C. on Feb. 20, 2014) http://blog.chron.com/bakerblog/category/science-technology-policy/neal-lane/

47) Neal Lane, "The Changing Political Climate for U.S. Science," *Physics Today* (on-line), February, 2015.http://www.scientificamerican.com/article/neal-f-lane-ldquo-investments-in-basic-research-are-just-that-investments-rdquo/

48) Norman Augustine and Neal Lane, "What if America had a Plan for Scientific Research?" *Inside Sources*, on-line -April 28, 2014 http://www.insidesources.com/what-if-america-had-a-plan-for-scientific-research/

49) Neal Lane, "Investments in Basic Research Are Just That: *Investments*", in Scientific American report "In Defense of Science," (on line) July 22, 2014 http://www.scientificamerican.com/article/neal-f-lane-ldquo-investments-in-basic-research-are-just-that-investments-rdquo/

50) A.A. Rosenberg, L.M. Branscomb, V. Eady, P.C. Frumhoff, G.T. Goldman, M. Halpern, K. Kimmell, Y. Kothari, L.D. Kramer, N.F. Lane, J.J. McCarthy, P. Phartiyal, K. Rest, R. Sims, and C. Wexler, "Congress's Attacks on Science-Based Rules: Proposed Laws Based on False Premises Could Undermine Science for the Public Interest," *Science*, pp 964-966, vol. 348, issue

6238, 2015.

51) Neal Lane, "Remembering Jack Gibbons, Science Advisor to Clinton and Congress," Rice University's Baker Institute Blog, August 10, 2015.

(above publications as of November 5, 2015)

Studies and Reports

Neal Lane has served on several National Academies' NRC study committees that wrote reports on several topics: earth science and applications from space; five- year review of the National Academies' Keck Futures Initiative; Presidential science appointments; elementary particle physics; integrity of research data. Lane served as advisor to the NRC panel that wrote the report "Controlling the Quantum World: the Science of Atoms, Molecules and Photons" (National Research Council Press of the National Academies, Washington DC, 2007). Lane also served on the American Academy of Arts and Sciences Committee, chaired by Tom Cech, that wrote the 2008 report "ARISE: Advancing Research in Science and Engineering" (published by the American Academy of Arts and Sciences). Lane co-chaired the study committee of the American Academy of Arts and Sciences that issued the 2015 report "Restoring the American Dream – the Vital Role of Research in Restoring the American Dream,"
https://www.amacad.org/content/Research/researchproject.aspx?d=1276
Note: Lane was not a principal author of any of these reports.

Physics Research Publications

Neal Lane's Physics Research Publication List –SEE LIST BELOW (following research students and postdoctoral associates) - also available at http://www.ruf.rice.edu/~neal/index.htm

RESEARCH STUDENTS AND POSTDOCTORAL ASSOCIATES
(with latest information I have about affiliation – as of October 2002)

PhD Research Students
Kenneth F Black (space industry, NASA area, Clearlake City TX)
Steve A. Evans (TriQuint Semiconductor (part of Texas Instruments, Richardson, TX)
James S. Cohen (T Division, Los Alamos National Laboratory, Los Alamos NM)
A. Peet Hickman (Physics, Lehigh Univ., PA)
Walter Steets (consultant with off-shore energy industry, Houston, TX)
Jon C. Weisheit (T Division, Los Alamos National Laboratory, Los Alamos NM)
Michael Morrison (Physics, Univ. OK.)
Lee Collins (T Division, Los Alamos National Laboratory, Los Alamos NM)
Sam Shaw (X Division, Los Alamos National Laboratory, Los Alamos NM)
Russell W. Simpson (Xerox Corp. NY)
Larry W. Carlson (W.J. Shafer Associates, defense contractor, DC and VA)
Steve Preston

M.S. Research Students
Amy Day (schoolteacher, Southwestern University, Georgetown, TX)
Alan Haggard (Shell Oil, Houston TX)
M. D. Duncan (employment not known)
Tom Cook (X Division, Los Alamos National Laboratory, Los Alamos NM)
Jim K. O'Connell (employment not known, resides in Melissa, TX)
Ben West (employment not known, resides in Rochester, NY)

Postdoctoral Associates
Thomas G. Winter (Penn. State Univ., Wilkes Barre PA)
Greg J. Hatton (Texaco Research, Houston TX)
Barbara Whitten (Physics, Colo. College., Colo. Springs, CO)
Mineo Kimura (Yamuguchi Univ., Japan)(Deceased)
B.J. Archer (employment not known)
Karl F. Scheibner (Lawrence Livernmore National Laboratory)
Chizuko M. Dutta (Physics, Rice Univ.)
Bidhan C. Saha (Physics, Florida A&M Univ.)
R.G. Dixson (employment not known)
N.T. Padial (T Division, Los Alamos National Laboratory, Los Alamos NM)
A. Kumar (India)

2002 Reunion of many of Neal's research students and postdoctoral associates (Front: Bidhan Saha, James Cohen, Nely Padial, Chizuko Dutta, Mineo Kimura, Rus Simpson; Middle: Barbara Whitten, Peet Hickman, Karl Scheibner, NL, Walter Steets, Bill Archer, Tom Winter; Third: Steve Evans, Mike Morrison, Tom Cook, Greg Hatton, Lee Collins; Fourth: Jon Weisheit, Steve Preston, Sam Shaw.) (photo in Rice Faculty Club, Cohen House)

Research Articles Published by Neal Lane and Collaborators (includes only peer-reviewed articles in journals, books or selected proceedings)

Book:

M. Morrison, N.F. Lane, and T.L. Estle, *Quantum States of Atoms. Molecules and Solids* (Prentice Hall, NJ, 1976). Reprinted in part as Understanding More Quantum Physics (Prentice Hall, NJ, 1991).

Research Articles:
(Includes Selected Abstracts of International Conference Proceedings)

C.C. Lin and N.F. Lane, "A Semi-empirical Method for the Calculation of Slater-Condon Parameters," Annals of Physics **20**, 234 (1962).

N.F. Lane and C.C. Lin, "Inelastic Electron-Atom Collisions Under Near-Resonance Conditions: Analysis of Transitions Involving Strong Coupling," Phys. Rev. **133**, A947 (1964).

L.L. Barnes, N.F. Lane, and C.C. Lin, "Electron Excitation Cross Section of the 3^2S-3^2P Transition of Sodium," Phys. Rev. **137**, A388 (1965).

N.F. Lane, "Low Energy Expansion of the Scattering Matrix for Collisions by Electron with Diatomic Molecules," *Fourth Intl. Conf. on the Physics of Electronic and Atomic Collisions* (1965), p 215 (abstract, not refereed).

A. Dalgarno and N.F. Lane, "Free-Free Transitions of Electrons in Gases," Astrophys. J. **145**, 623 (1966).

N.F. Lane and S. Geltman, "Rotation Excitation of Diatomic Molecules by Slow Electrons: Application to H_2," Phys. Rev. **160**, 53 (1967).

J.C.Y. Chen and N.F. Lane, "Photoionization of Molecules Near the Threshold," *Fifth Intl. Conf. on the Physics of Electronic and Atomic Collisions* (1967), p 627 (abstract, not refereed).

N.F. Lane and R.J.W. Henry, "Polarization Potential in Low-Energy Electron-H_2 Scattering," Phys. Rev. **173**, 183 (1968).

W.A. Fitzsimmons, N.F. Lane, and G.K. WaIters, "Diffusion of He(2^3S_1) in Helium Gas; 2^3S_1-1^1S_0 Interaction Potentials at Long Range," Phys. Rev. **174**, 193 (1968).

N.F. Lane and A. Dalgarno, "Electron Cooling by Vibrational Excitation of O_2," J. Geophys. Res., Spac. Phys. **74**, 3011 (1969).

R.J.W. Henry and N.F. Lane, "Polarization and Exchange Effects in Low-Energy Electron-H_2 Scattering," Phys. Rev. **18.3**, 221 (1969).

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(Lane had no physics research publications after 1994 – future publications (listed earlier in this c.v.) relate to science and technology policy)