

RÉSUMÉ

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U.S. Science and Technology Policy
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CONTACT:

E-mail:

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EDUCATION:

Ph.D. (History), The Johns Hopkins University (1969)
B.A. (English), Hollins College (1965)
Carnegie Corp. Internship in Academic Administration (1974-75)
NASA Management Education Program (1984)
National Academy of Public Administration, Federal Management (1984)
US Department of Agriculture Graduate School (1984-1999):
 Modern Management
 Mediation and Negotiation
 Statistics for Management
 Accounting
Brookings Institution Seminars (1995-1999):
 Congressional Briefing Conference
 Science and Technology Policy
 National Defense Policy
U.S. Office of Personnel Management, Executive Development Program in
 Science and Technology Policy (1995)
Harvard University Law School Program in Negotiation (1999)

EXPERIENCE:

Independent Policy Research, U.S. Science and Technology Policy [2004--]

Visiting Faculty, Program in Science, Technology, and Society, Colby College (Waterville, ME) [2002-2004]

Director of Interagency Relations, Office of External Relations
National Aeronautics and Space Administration (September 2001 - 2002)

Established and oversaw a new division at NASA Headquarters to promote Federal interagency collaboration by serving as agency liaison to civilian and defense agencies, the White House, and the National Academies complex (National Research Council). Directed operations of the NASA Advisory Council. Ref.: Mr. John Schumacher, Assistant Administrator for External Relations.

Visiting Professor, School of Public Policy
George Mason University (October 2000 to September 2001)

Completed a substantial portion of research on the effectiveness of Federal patent policies leading to one journal publication and a U.S. patent application

(business method). Also developed and taught an M.A. level course in Science and Technology Policy. Ref.: Dr. Kingsley Haynes, Dean, School of Public Policy.

Director of Policy Development, Office of Policy and Plans
National Aeronautics and Space Administration (May 1999 to September 2000)

NASA coordinator for U.S. space and related policy issues in the Office of Policy and Plans, and direction of policy research for the Office of the Administrator, as well as evaluation of NASA patent policy. Patent policy research recognized through invitations to present research progress and findings to the Haas Business School of the University of California, the Society for the History of Technology, and conference hosted by the Department of Commerce Advanced Technology Program and the National Bureau of Economic Research.

Director of Special Studies, Office of Policy and Plans in the National Aeronautics and Space Administration (May 1995 to May 1999)

Primary coordinator for policy issues external to NASA (primarily Executive Branch) in which the agency had interest. Served as agency negotiator for White House-led review of the Nation's space policy, resulting in the Clinton Administration's National Space Policy issued September, 1996. Responsible also for investigations of NASA or NASA-related practices or policies and their programmatic implications, e.g., NASA patenting and licensing trends to determine whether patenting and licensing practices are being used effectively as vehicles for the transfer of Federally developed technologies to the private sector.

Commonwealth of Virginia, Governor's Commission on Champion Schools (1994-1996)

Appointed to the Commission by Governor of the Commonwealth of Virginia, serving on the Academic Standards and Testing committee, which drafted the revised content "Standards of Learning" (K-12) for the Commonwealth of Virginia, subsequently adopted by the Virginia State School Board. Led in the drafting of the Standards of Learning for English/Language Arts; participated in the drafting of the Standards of Learning for history and social studies.

Director, Special Studies Division, Office of External Relations, NASA (Jan 1993-March 1995)

Responsible for policy research for NASA senior management. Staff under my direction, including the chief historian and archives, routinely developed information and substantive background material for Congressional, White House, and public inquiries. Responsibilities enabled extensive exposure to the substantive issues surrounding political support for the space program in particular, and Federal R&D policy in general.

Acting director, NASA Scientific and Technical Information Program (1994-1995)

Directed and managed NASA's extensive program of scientific and technical publications and on-line bibliographic services, requiring an annual budget of \$9 million and 150 contractor employees, in addition to 8-person civil service staff. Restored stability and probity to a program then undergoing investigation, while initiating a down-sizing of its scope.

Chair, Inventions and Contributions Board, NASA (1992-1995)

Presided over proceedings and staff of a 9-member statutory board responsible

for evaluating NASA (contractor and civil service) inventions, innovations, and patents in order to allocate approximately \$.5 million in awards annually.

Executive Secretary [Staff Director], NASA Advisory Council (1989-1994)

Directed research and administrative staff of the NASA Advisory Council, the senior-most body of non-Government experts and leaders from industry and academia to advise the NASA Administrator, as well as the Council's nine program area subcommittees. Routinely mediated policy agenda and issues between the Council and NASA's senior management. Policy investigations "staffed" for the Council or completed for NASA management included examinations of NASA's relations with the university community, NASA's education and public affairs programs, a study of NASA's economic impact, the origins of NASA's R&D program management, and the political origins of NASA's space station program. Work during this period earned awards from the American Association for Public Administration and the Society for History in the Federal Government.

Chief Historian, NASA (1983-1989)

Served as agency's subject area authority for historical research and oversaw NASA's agency-wide program (incorporating 10 field installations) of agency archives, policy studies and historical research. Responsibilities included the design, direction, guidance, and fiscal management of studies performed by over 20 post-doctoral and ABD level historians and public administration scholars, the editorial and peer-review processes for NASA history publications, program budgets and procurements, and the preparation of numerous policy and planning background studies, including an extensive aggregate career biography of the NASA engineers who carried out the Apollo moon landing program. Served as expert witness on oral history as evidence for the Federal government (which prevailed) in case argued before U.S. Circuit Court (*Suid v. U.S.*).

Member, NASA Advisory Council; Consultant to NASA (1977-1983)

As a member of the NASA Advisory Council, evaluated a broad range of NASA policy and program issues and served on special task forces on (a) long-term goals for the U.S. civil space program, and (b) the merits and risks of flying citizen-passengers on the Space Shuttle. As consultant to NASA on the policies and operations of its history program, evaluated proposals for sponsored research funded by the program and ranging in awards from \$75,000 to over \$350,000, evaluated results, reviewed manuscripts of completed studies. Also chaired the NASA Advisory Council History Advisory Committee.

EXPERIENCE: Teaching, Research, Academic Administration (1963-1983)

Taught American and European history to undergraduate and graduate students at The Johns Hopkins University (1963-65), Vassar College (1969-70), Southern Methodist University (1970-73), and the University of Maine at Orono (1973-1983). Engaged in extensive historical research, writing, and publication. Designed and completed social science/humanities research in science and technology policy and urban history, funded respectively by the National Science Foundation and the American Association for the Advancement of Science.

AWARDS AND RECOGNITION:

Essay describing the early management of NASA, "Organizing for Exploration," with accompanying archival documents, adopted for class use by Prof. Richard Darman, Harvard University's John f. Kennedy School of Government. (January 1999).

Creative Management Award, National Aeronautics and Space Administration (1993)

1992 Lilly Award for Outstanding Research (Honorable Mention), American Society for Public Administration

Appointment to the U.S. Government's Senior Executive Service, 1990.

James Madison Prize for the outstanding contribution to research in the history of the Federal Government for the Year 1988, Society for History in the Federal Government.

Elected Fellow of the International Academy of Astronautics (1989)

Member, NASA Advisory Council (1981-1983)

Chair, History Advisory Committee (1981-83) National Aeronautics and Space Administration

National Science Foundation Grant to examine origins of national science and technology policy legislation from 1969 thru 1976 (1979-80)

Southern Methodist University: Good Teaching Award; Elected Fellow and Research Grant Recipient, Council of the Humanities (1971)

National Defense Education Act Title IV Grant for Graduate Study (1965-66, 1966-67, 1967-68)

BIBLIOGRAPHY: (Continued separately)

SYLVIA KATHARINE KRAEMER

Bibliography

Science and Technology Policy in the United States: Open Systems in Action (New Brunswick, NJ: Rutgers University Press, 2006).

"Kraemer's book ably sets policy and policymaking for science and technology in the United States where it belongs, in the larger context of the nation's political economy, and she convincingly contends that they best serve society when they operate in the light of democratic openness."

---Daniel Kevles, *Yale University*

"This is an outstanding piece of work by a leader in the field who brings intellectual depth and real-life experience inside federal agencies to her study of science and technology policy in the United States."

---Kingsley E. Haynes, Dean and Hazel Professor of Public Policy, School of Public Policy, *George Mason University*

"Federal Intellectual Property Policy and the History of Technology: The Case of NASA Patents," *History and Technology*, Vol. 17, No. 3 (2001).

"Method for Evaluating a Patent Portfolio," U.S. Patent [Business Method] Application Serial No. 09/917,827. "This invention relates to a method for evaluating a large patent portfolio, and in particular, a government or publicly owned patent portfolio which includes, preferably, more than a thousand United States patents."

"Policy and Practice: Patenting NASA Inventions," Conference on R&D Investment and Economic Growth in the 20th Century, Haas Business School of the University of California, Berkeley. (March 18, 1999).

"Policy Advisors: Historians and Making Policy," in James B. Gardner and Peter s. LaPaglia, Eds., *Public History: Essays from the Field* (Krieger, 1999).

"Organizing for Exploration," chapter accompanying author-selected primary documents for *Exploring the Unknown: A Documentary History of the U.S. Space Program*, Vol. 1 (Washington, D.C.: U.S. Superintendent of Documents, 1995). Chapter adopted for class use by Prof. Richard Darman, Harvard University's John F. Kennedy School of Government (January 1999).

Milestones of Space, edited with Martin Collins (The Smithsonian Institution and Hugh Lauter Levin and Assoc., Inc., with Macmillan, 1994); sidebars on the Mercury-Atlas and Saturn launch vehicles, the Space Shuttle, and the Hubble Space Telescope.

"Space History, Space Policy, and Executive Leadership," International Space History Symposium, NASA Headquarters (Washington, D.C., October 14, 1993).

(continued)

Published under the name Sylvia D. Fries:

"U.S. Policy Regarding Federally Operated Laboratories." White paper giving overview of statutory and executive branch positions re. value of Federally operated laboratories (February 8, 1993).

NASA Engineers and the Age of Apollo (Washington, D.C.: National Aeronautics and Space Administration, 1992).

This is a remarkable and noteworthy book [I]t is not about technology or policy, but people -- the people who brought off the Apollo moon landing in 1969 and then, for better or worse, continued with the agency into the doldrums of the 1970s and the tumultuous and tragic 1980s.... Fries's insightful book sets their work into a solidly researched context, supported by excellent notes. It is at times a moving book One guarantee -- you'll never look at [a] film of Apollo, or a Shuttle launch, quite the same way again.

- *The Public Historian*

[This is] a unique book about a much neglected aspect of engineering -- how it is performed and experienced, not by the movers and shakers, but by the troops in the trenches.... The task was facilitated by her position as director of NASA's History Division from 1983 to 1990, which provided access and insight that she exercises with commendable objectivity. The result is a rich tapestry of what it means to be a working engineer in a large sociotechnical enterprise in late-20th-century America....

- *Technology and Culture*

"Opinion Polls and the U.S. Civil Space Program," Annual Meeting of the American Institute for Aeronautics and Astronautics (Washington, D.C., April 29, 1992). Also published in a special edition of the *Journal of the Interplanetary Society*, "The Impact of Space on Culture," Vol. 46, No. 11 (November 1993).

"The Apollo Program and The Balance Between Public and Private Enterprise," Annual Meeting of the American Society for Public Administration (ASPA), (Chicago, IL, April 13, 1992). An extended version of this presentation received Honorable Mention for the Lilly Award for Outstanding Research presented at the 1992 ASPA National Conference.

"Introduction: Space Policy and Decision-Making" and "Introduction: Civilian and Military Remote Sensing and Reconnaissance," *A Spacefaring Nation: Perspectives on American Space History and Policy*, Martin J. Collins and Sylvia D. Fries, eds., (Washington, D.C.: Smithsonian Institution Press, 1991).

"The History of Women in NASA," Marshall Space Flight Center (Huntsville, AL, August 23, 1991).

"Recovering from Challenger," *Action*, News Magazine of the Senior Executives Association, Vol. 10, No. 10 (November-December, 1990).

"Applied History of Science and Technology," Annual Meeting of the History of Science Society (Seattle, Wa., October 27, 1990).

"The Civilian Space Program: Issues Rooted in History," White Paper prepared for the Advisory Committee on the Future of the U.S. Space Program, Norman Augustine, Chair. (November 7, 1990).

"Recovering from Challenger," Luncheon Address to the Council on Excellence in Government (Goddard Space Flight Center, September 12, 1990).

"Impact of NASA on the U.S. Economy," Literature review and executive summary prepared for the NASA Advisory Council (August 31, 1990).

"Evolution of the NASA Institution." NASA Langley Research Center (January 17, 1990).

"Dealing with Crisis: History and the Challenger Disaster," *The Public Historian*, Vol. 10, No. 4 (Fall 1988).

"2001 to 1994: Political Environment and the Design of NASA's Space Station System," *Technology and Culture*, Vol. 29, No. 3 (July 1988). Winner of the James Madison Prize for 1989 awarded by the Society for History in the Federal Government.

"NASA: A Capsule History." Historical introduction to NASA, Transition Book prepared for President-Elect Bush (1988).

"Crossing the Next Frontier: Precedents for a National Space Program from the History of the United States." Prepared for NASA Associate Administrator for External Relations (September 1988).

"The Space Station: From Concept to Evolving Reality," (with Frederick I. Ordway, III) *Interdisciplinary Science Reviews*, Vol. 12, No. 2, (1987).

"Recent Developments in Space History." U.S. Air Force Historians' Conference (Maxwell Air Force Base: November 18, 1987).

"Apollo to the Moon: Engineers at the Creation." National Air and Space Museum (June 18, 1987).

"Should NASA Become a Federal Corporation? Some Historical Dimensions". White paper for NASA Associate Administrator for Management and Associate Administrator for Policy and Planning (February 19, 1987).

"Federal Agency Status and the Effectiveness of Research and Development Organizations: Historical Dimensions." White paper for NASA Associate Administrator for Policy and Planning (February 2, 1987).

"Long Range Planning in NASA" (with Nathaniel B. Cohen). Prepared for NASA Associate Administrator for Policy and Planning (January 20, 1987).

"Apollo: A Pioneering Generation." Annual Meeting of the International Astronautical Federation at Innsbruck, Austria. (October 9, 1986).

"The Apollo Generation: A Profile of NASA's First Engineers." Annual Meeting of the Society for the History of Technology. (Pittsburgh, Pa.: October 1986).

"Space and the Human Dilemma." Keynote Address at the Conference on Space and the Humanities, Texas Commission on the Humanities. (Houston, TX., July 19, 1986).

"The New Policy History: Toward a Synthesis." Annual Meeting of the Organization of American Historians. (New York: April 11, 1986).

"Historical Summary: NASA's Safety Organization and Procedures in Manned Space Flight Programs." Prepared for NASA Deputy Administrator (March 24, 1986).

"Function, Form, and Technology: The Evolution of Space Station in NASA." XXXVI International Astronautical Federation Congress. (Stockholm: October 1985).
Delivered in absentia.

"Political Environment and Space Systems: The Evolution of NASA's Space Station." International Congress of the History of Science. (Berkeley, CA: August 1985).

"Space Station: Evolution of a Concept." Prepared for the NASA Administrator (February 1984).

"The Ideology of Science During the Nixon Years: 1970-76," *Social Studies of Science*, Vol. 14, No. 4 (August 1984).

"Expertise Against Politics: Technology as Ideology on Capitol Hill, 1966-1972," *Science, Technology, & Human Values*. Vol. 8, Issue 2. (Massachusetts Institute of Technology, Spring 1983).

"Technology and Ideology: The View from the Hill." Joint Session of the Society for the History of Technology and the Society for the Social Studies of Science (Toronto, Can.: October 1980).

Science in the State House., et. al. (Augusta, Me.: Maine State Planning Office, 1979).

The Urban Idea in Colonial America (Philadelphia, Pa.: Temple University Press, 1977).

Using surveyors' and architectural drawings as well as textual sources, this book explores the perceptions of urban life that governed the original establishment of Boston, New Haven, Philadelphia, Williamsburg, and Savannah. It finds that American antipathies toward cities conventionally attributed to the mid-19th century process of urbanization can, instead, be traced to the experiences and cultural inheritances of the 17th and early 18th centuries. Ironically, only Williamsburg was

planned in anticipation (unfulfilled) of a thriving capital city as we would think of it today.

"Abraham Lincoln and the Language of Sectional Crisis," *Lincoln Herald* (1977)

"From Village to Grand Concourse: The Idea of the City in Early America." Second Annual Urban South Symposium. (Norfolk, VA., 1976).

"Antiquity and the Urban Aesthetic in Early America." Symposium on the Classics in the American Republic. (Hollins College, Va., 1976).

"Classical Humanities in the American Republic." Annual Meeting of the American Philological Association (New York City, December 1976).

"American Values and Models of Human Habitation: A Historiographical Perspective," *American Values and Models of Human Habitation* (Washington, D.C.: American Association for the Advancement of Science, 1976).

"*Staatstheorie* and the New American Science of Politics," *Journal of the History of Ideas*. (July-September, 1973).

"The Slavery Issue in Northern School Readers, Geographies, and Histories, 1850-1875," *Journal of Popular Culture* (Winter, 1971).

Edited Publications:

As General Editor, "New Series in NASA History" for The Johns Hopkins University Press (1987-1990), procured and edited:

McCurdy, Howard E., *Inside NASA: High Technology and Organizational Change in the U.S. Space Program* (Baltimore: The Johns Hopkins University Press, 1993).

Hufbauer, Karl, *Exploring the Sun: Solar Science Since Galileo* (Baltimore: The Johns Hopkins University Press, 1991).

McCurdy, Howard E. *The Space Station Decision: Incremental Politics and Technological Choice*. (Baltimore: The Johns Hopkins University Press, 1990).

Cooper, Henry S.F., Jr., *Before Lift-Off: The Making of a Space Shuttle Crew* (Baltimore: The Johns Hopkins University Press, 1987).

As Chief Historian, National Aeronautics and Space Administration (1983-1990), recruited historians to research and write, directed peer-review of, and edited:

Naugle, John E., *First Among Equals: The Selection of NASA Space Science Experiments* (Washington, D.C.: National Aeronautics and Space Administration, 1991).

Compton, W. David, *Where No Man Has Gone Before: A History of Apollo Lunar Exploration Missions*. (Washington: National Aeronautics and Space Administration, 1989).

Bilstein, Roger E., *Orders of Magnitude: A History of the NASA and NASA, 1915-1990* (Washington, D.C.: National Aeronautics and Space Administration, 1989).

Ezell, Linda Neuman, *NASA Historical Data Book, Vol. II: Programs and Projects, 1958-1968* and *Vol. II: Programs and Projects, 1969-1978* (Washington, D.C.: National Aeronautics and Space Administration, 1988).

Roland, Alex, *Model Research: The National Advisory Committee for Aeronautics, 1915-1958*, 2 vols. (Washington, D.C.: National Aeronautics and Space Administration, 1985).

Pitts, John A. *The Human Factor: Biomedicine in the Manned Space Program to 1980* (Washington, D.C.: National Aeronautics and Space Administration, 1985).

Ezell, Edward C. and Linda Neuman Ezell, *On Mars: Exploration of the Red Planet, 1958-1978* (Washington, D.C.: National Aeronautics and Space Administration, 1984).

Book Reviews in: *Technology and Culture* - *Interdisciplinary Science Reviews* - *Science, Technology & Human Values* - *Journal of American History* - *Journal of Historical Geography* - *The Perkins Review*

