



MICHAEL M. CROW

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CURRICULUM VITAE

EDUCATION

- 1985 Ph.D., Public Administration (Science and Technology Policy)
 The Maxwell School of Citizenship and Public Affairs,
 Syracuse University, Syracuse, New York
- 1977 B.A., Political Science and Environmental Studies
 Iowa State University, Ames, Iowa

LEADERSHIP AND ADMINISTRATIVE POSITIONS

- 2002– President, Arizona State University, Tempe, Arizona
- 1998–2002 Executive Vice Provost, Columbia University, New York, NY
- 1997–2002 Founding Director, Earth Institute at Columbia University
- 1993–1998 Vice Provost of the University, Columbia University
- 1992–1993 Vice Provost for Research, Columbia University
- 1991–1992 Associate Vice Provost for Science and Engineering,
 Columbia University
- 1988–1991 Director, Institute for Physical Research and Technology,
 Iowa State University, Ames, Iowa
- 1985–1988 Assistant Director for Planning and Program Development,
 Ames Laboratory, U.S. Department of Energy, Iowa State University
- 1985–1991 Director, Office of Science Policy and Research, Iowa State University
- 1984–1985 Associate Director, Institute for Mining and Minerals Research,
 University of Kentucky, Lexington, Kentucky
- 1978–1982 Assistant Director for Program Planning, Coal Research Center,
 Carbondale, Illinois
- 1977–1978 Program Development Coordinator, Fossil Energy Program,
 Ames Laboratory, U.S. Department of Energy, Iowa State University

ACADEMIC AND RESEARCH POSITIONS

- 2007– Arizona State University Foundation Leadership Chair and
Professor of Science and Technology Policy
- 2002– Professor, School of Public Affairs, College of Public Programs,
Arizona State University
- 1992–2002 Professor of Science and Technology Policy,
School of International and Public Affairs, Columbia University
- 1991 Institute Professor, Institute for Physical Research and Technology,
Iowa State University
- 1990–1991 Associate Professor, Department of Political Science,
Iowa State University
- 1988–1991 Associate Professor, Department of Management, Iowa State University
- 1987–1989 Research Fellow, Technology and Information Policy Program,
The Maxwell School, Syracuse University, Syracuse, New York
- 1983–1987 Senior Research Associate, Technology and Information Policy Program,
The Maxwell School, Syracuse University
- 1984–1985 Assistant Professor of Public Administration,
School of Public Administration, University of Kentucky
- 1982–1983 Research Associate, Institute for Energy Research, Syracuse University
- 1974–1977 Research Assistant, Energy and Mineral Resources, Research Institute,
Iowa State University

RESEARCH AND TEACHING FIELDS

Knowledge enterprise design; technology management; science and technology policy; science and societal outcomes; research and development; emerging technologies; organization theory; energy policy; sustainable development

COURSES TAUGHT (1984–2011)

Science and Technology Policy and Politics (graduate/undergraduate); Technology Development and Policy (graduate); Technology Assessment (graduate); Strategic Management and Business Policy (undergraduate); Public Management (graduate/undergraduate); Bureaucratic Theory (undergraduate); Organization Theory (graduate/undergraduate); Organization Behavior (graduate)

PROFESSIONAL RECOGNITION (SELECTED)

- 2010– National Advisory Council on Innovation and Entrepreneurship, U.S. Department of Commerce
- 2006– Fellow, National Academy of Public Administration
- 2005– Member, Council on Foreign Relations
- 2005– Member, Urban Land Institute

BOARD MEMBERSHIPS

- 2011– Chair, National LambdaRail Chairman’s Advisory Council
- 2011– Tucson Regional Economic Opportunities, Inc. (TREO)
- 2010 Arizona Commerce Authority, Arizona Department of Commerce
- 2009–2011 Chair, Pacific-10 Conference (Pac-10), becoming in 2011 the Pacific-12 Conference (Pac-12)
- 2007–2010 Chair, American College and University Presidents Climate Commitment
- 2007–2009 Board of Directors, National Association of State Universities and Land-Grant Colleges (NASULGC), and Chair, Commission on Innovation, Competitiveness, and Economic Prosperity (CICEP)
- 2007– 2009 Board of Directors, Arizona Economic Resource Organization (AERO)
- 2007– Board of Directors, Stardust Foundation, Phoenix, Arizona
- 2005– Board of Trustees, Council for Aid to Education, New York, NY
- 2004–2009 Board of Trustees, Internet2, Ann Arbor, Michigan
- 2004–2006 Advisory Board, James Martin Institute for Science and Civilization, University of Oxford (UK)
- 2003– 2009 Board of Directors, Arizona Technology Enterprises (AzTE), Tempe, Arizona
- 2003–2008 Board of Directors, Aquila, Inc., Kansas City, Missouri
- 2003–2007 Board of Directors, Arizona State Board of Education
- 2002–2010 Board of Directors, Translational Genomics Research Institute, Phoenix, Arizona
- 2002– Board of Directors, Board of Trustees, ASU Foundation for a New American University, Tempe, Arizona
- 2002– Board of Directors, Greater Phoenix Economic Council, Phoenix, Arizona

2002– Greater Phoenix Leadership, Phoenix, Arizona

2001–2006 Trustee, Bowdoin College, Brunswick, Maine

2000–2002 Chair and Director, Fathom Global Network, Inc., New York, NY

1999– Chair (2006–present) and Director, In-Q-Tel, Inc., Washington, DC

1996–2002 Director, Biosphere Center Inc., Tucson, Arizona

1995–1999 Director, New York Information Technology Center, New York, NY

1992–2002 Director, Audubon Science and Technology Park, New York, NY

1991–2001 Director, Engineering Animation, Inc., Ames, Iowa

1991–1999 Director, Project Performance Corporation, Sterling, Virginia

1990–1991 Director, Kentucky Technologies Inc, Lexington, Kentucky

1990–1991 Director, Edge Technologies Inc., Des Moines, Iowa

1990–1991 Trustee, Science Center of Iowa, Des Moines, Iowa

1989–1991 Director, Ames Economic Development Commission, Ames, Iowa

1989–1991 Director, Center for Amorphous Semiconductors, Inc., Ames, Iowa

CONSULTANCIES (SELECTED)

2011– Malaysian Global Science and Innovation Advisory Council
(New York Academy of Sciences)

1993–2002 U.S. Department of Commerce

1992–1994 U.S. General Accounting Office

1991–2002 Arizona State University

1990–1993 U.S. Department of Energy

1990–1991 Columbia University

1990 Niagara Mohawk Power Company

1987–1988 Office of Technology Assessment, U.S. Congress

1985–1992 Consortium for Fossil Fuel Liquefaction Science

1982 Illinois High Technology Commission

1980–1983 U.S. Senate Committee on Governmental Affairs,
Subcommittee on Energy

1978–1982 U.S. Department of Energy

PUBLICATIONS AND RESEARCH

BOOKS

Crow, Michael M., and Barry Bozeman. *Limited by Design: R&D Laboratories in the United States*. New York: Columbia University Press, 1998.

Crow, Michael M., Barry Bozeman, Walter Meyer, and Ralph Shangraw. *Synthetic Fuels Technology Development in the United States: A Retrospective Assessment*. New York: Praeger Press, 1988.

EDITED BOOKS

Bozeman, Barry, Michael M. Crow, and Albert N. Link, eds. *Strategic Management of Industrial R&D*. Lexington MA: Lexington Books, 1984.

Crow, Michael M., ed. *High Sulfur Coal Exports: An International Analysis*. Carbondale: Southern Illinois University Press, 1983.

ARTICLES (SELECTED)

Crow, Michael M., and William B. Dabars. "Knowledge Without Borders: American Research Universities in a Global Context." *Cairo Review of Global Affairs* 5 (Spring 2012): 35–45.

Crow, Michael M. "Time to Rethink the NIH." *Nature* 471 (March 31, 2011): 569–571.

Crow, Michael M. "Differentiating America's Colleges and Universities: Institutional Innovation in Arizona." *Change: The Magazine of Higher Learning* (September/October 2010): 34–39.

Crow, Michael M. "Organizing Teaching and Research to Address the Grand Challenges of Sustainable Development." *Bioscience* (American Institute of Biological Sciences) 60, no. 7 (July/August 2010): 488–489.

Crow, Michael M. "Toward Institutional Innovation in America's Colleges and Universities." *Trusteeship* (Association of Governing Boards of Colleges and Universities) 18, no. 3 (May/June 2010): 8–13.

Paradeise, Catherine, and Michael M. Crow. "Une nouvelle université américaine?" *Le Débat: Histoire, Politique, Société* 156 (September–October 2009): 117–127.

Crow, Michael M. "The Challenge for the Obama Administration Science Team." *Issues in Science and Technology* 25, no. 3 (2009): 29–30.

Crow, Michael M. "Overcoming Stone Age Logic." *Issues in Science and Technology* 24, no. 2 (2008): 25–26.

Crow, Michael M., and Mariko Silver. "American Education Systems in a Global Context." *Technology in Society* 30, no. 3 (July 2008): 279–291.

- Crow, Michael M. "Enterprise: The Path to Transformation for Emerging Public Universities." *The Presidency* (American Council on Education) 10, no. 2 (Spring 2007): 24–30.
- Crow, Michael M. "None Dare Call it Hubris: The Limits of Knowledge." *Issues in Science and Technology* 23, no. 2 (2007): 29–32.
- Crow, Michael M. "A Working Model of a New American University." *Metropolitan Universities: An International Forum* 17, no. 2 (2007): 95–110.
- Crow, Michael M. "U.S. Universities and Global Competition." *The Globalist* (posted September 5, 2006) <http://www.theglobalist.com/StoryId.aspx?StoryId=5552>.
- Colyvas, Jeannette, Michael M. Crow, Annetine Gelijns, Roberto Mazzoleni, et al. "How Do University Inventions Get Into Practice?" *Management Science* 48, no. 1 (2002): 61–72.
- Crow, Michael M., and Christopher Tucker. "The American Research University System as America's *de facto* Technology Policy." *Science and Public Policy* 28, no. 1 (2001): 2–10.
- Crow, Michael M. "Linking Scientific Research to Societal Outcomes." In *AAAS Science and Technology Policy Yearbook*. Edited by A. Teich et al. Washington, DC: American Association for the Advancement of Science, 2001.
- Crow, Michael M. "Science and Technology Policy in the United States: Trading in the 1950s Model." *Science and Public Policy* 21, no. 4 (1994).
- Niosi, Jorge, Paolo Saviotti, Bertrand Bellon, and Michael M. Crow. "National Systems of Innovation: A Framework for Analysis." *Technology in Society* 15, no. 2 (1993): 207–227.
- Crow, Michael M., and Barry Bozeman. "Congressional Science Policy and Pork Barrel Science." *Forum for Applied Policy Research* 7 (1992): 69–88.
- Niosi, Jorge, Paolo Saviotti, Bertrand Bellen, and Michael M. Crow. "National Systems of Innovation: A Framework for Analysis." *Revue Française d'Economie* 7, no. 1 (1992): 215–250.
- Crow, Michael M., and Shrilata A. Nath. "Technology Strategy Development in Korean Industry: An Assessment of Market and Government Influences." *Technovation* 12, no. 2 (1992): 119–136.
- Bozeman, Barry, and Michael M. Crow. "Red Tape and Technology Transfer in U.S. Government Laboratories." *Journal of Technology Transfer* 16, no. 2 (1991): 29–37.
- Bozeman, Barry, and Michael M. Crow. "Technology Transfer from U.S. Government and University R&D Laboratories." *Technovation* 11, no. 4 (1991): 231–246.
- Crow, Michael M. "Technology Planning and Development in the U.S.: An Institutional Assessment." *Policy Studies Journal* (Korea) 1, no. 1 (1991): 71–98.

- Crow, Michael M., and Barry Bozeman. "R&D Laboratories in the United States: Structure, Capacity, and Context." *Science and Public Policy* 11, no. 5 (1991): 165–179.
- Crow, Michael M., Mark A. Emmert, and Carol I. Jacobson. "Government Supported Industrial Research Institutes in the United States." *Policy Studies Journal* 19, no. 1 (1990): 59–74.
- Crow, Michael M., and Shrilata A. Nath. "Technology Strategy Development in Japanese Industry: An Assessment of Market and Government Influences." *Technovation* 10, no. 5 (1990): 333–346.
- Bozeman, Barry, and Michael M. Crow. "The Environments of U.S. R&D Laboratories: Political and Market Influences." *Policy Sciences* 23, no. 1 (1990): 25–56.
- Crow, Michael M. "Technology Development in Japan and the United States: Lessons from the High-Temperature Superconductivity Race." *Science and Public Policy* 9, no. 6 (1989): 322–345.
- Crow, Michael M., and Barry Bozeman. "Bureaucratization in the Laboratory." *Research Technology Management* 32, no. 5 (1989): 30–31.
- Emmert, Mark A., and Michael M. Crow. "The Cooperative University Research Laboratory: Policy Implications for Higher Education." *Journal of Higher Education* 60, no. 4 (1989): 408–422.
- Link, Albert N., Barry Bozeman, and Michael M. Crow. "Federal Funding and R&D Output in U.S. Industrial Laboratories." *IEEE Transactions on Engineering Management* 36, no. 2 (1989): 154–157.
- Shangraw, Ralph F., and Michael M. Crow. "Public Administration as a Design Science." *Public Administration Review* 49, no. 2 (1989): 153–160.
- Rahm, Diane, Barry Bozeman, and Michael M. Crow. "Domestic Technology Transfer and Competitiveness: An Empirical Assessment of the Roles of University and Government Research and Development Laboratories." *Public Administration Review* 48, no. 6 (1988): 969–978.
- Crow, Michael M. "Assessing Government Influence on Industrial R&D." *Research Technology Management* 31, no. 5 (1988): 47–52.
- Emmert, Mark A., and Michael M. Crow. "Public, Private, and Hybrid Organizations: An Empirical Examination of the Role of Publicness." *Administration and Society* 20, no. 2 (1988): 216–244.
- Crow, Michael M. "Technology and Knowledge Transfer in Energy R&D Laboratories: An Analysis of Effectiveness." *Evaluation and Program Planning* 11 (1988): 85–95.
- Crow, Michael M., and Barry Bozeman. "R&D Laboratory Classification and Public Policy: The Effects of Environmental Context on Laboratory Behavior." *Research Policy* 16, no. 5 (1987): 229–258.

- Emmert, Mark A., and Michael M. Crow. "Public-Private Cooperation and Hybrid Organizations." *Journal of Management* 13, no. 1 (1987): 55-67.
- Crow, Michael M., and Barry Bozeman. "A New Typology for R&D Laboratory Classification: Implications for Policy Analysis." *Journal of Policy Analysis and Management* 6, no. 3 (1987): 328-341.
- Lambright, W. Henry, Ralph F. Shangraw, and Michael M. Crow. "National Projects in Civilian Technology." *Policy Studies Review* 2, no. 3-4 (1984): 453-459.
- Desai, Uday C., and Michael M. Crow. "Failures of Power and Intelligence: Use of Scientific and Technical Information in Government Decision-Making." *Administration and Society* 15, no. 2 (1983): 185-206.

BOOK CHAPTERS (SELECTED)

- Crow, Michael M., and William B. Dabars. "University-Based R&D and Economic Development: The Morrill Act and the Emergence of the American Research University." In *Precipice or Crossroads: Where America's Great Public Universities Stand and Where They Are Going Midway Through Their Second Century*. Edited by Daniel Mark Fogel, 119-158. Albany: State University of New York Press, 2012.
- Crow, Michael M., and William B. Dabars. "Interdisciplinarity as a Design Problem: Toward Mutual Intelligibility Among Academic Disciplines in the American Research University." Forthcoming in *Enhancing Communication and Collaboration in Interdisciplinary Research*. Edited by Michael O'Rourke, Stephen Crowley, Sanford D. Eigenbrode, and J. D. Wulfhorst. Thousand Oaks: Sage, 2012.
- Crow, Michael M. "Beyond the 'New Normal' in American Higher Education: Toward Perpetual Innovation." In *Smart Leadership for Higher Education in Difficult Times*. Edited by David W. Breneman and Paul J. Yakoboski, 50-69. TIAA-CREF Institute Series on Higher Education. Cheltenham, UK: Edward Elgar, 2011.
- Crow, Michael M. "The Research University as Comprehensive Knowledge Enterprise: A Prototype for a New American University." In *University Research for Innovation*. Edited by Luc E. Weber and James D. Duderstadt, 211-225. Glion Colloquium, no. 6. London: Economica, 2010.
- Crow, Michael M. "Sustainability as a Founding Principle of the United States." In *Moral Ground: Ethical Action for a Planet in Peril*. Edited by Kathleen Dean Moore and Michael P. Nelson, 301-305. San Antonio: Trinity University Press, 2010.
- Crow, Michael M. "The New American University: Redefining Excellence, Access, and Impact in the American Public Research University." In *Reinventing the University: Creating a New Vision*. Edited by Ronaldo Munck and Kathryn Mohrman. Dublin: Glasnevin, 2010.
- Crow, Michael M. "Building an Entrepreneurial University." In *The Future of the*

- Research University: Meeting the Global Challenges of the 21st Century*. Proceedings of the Third Kauffman-Max Planck Institute Summit on Entrepreneurship Research and Policy, Bavaria, Germany, June 8–11, 2008. Kansas City, MO: Ewing Marion Kauffman Foundation, 2008.
- Slate, Peter J., and Michael M. Crow. "The New American University and the Role of "Technology Translation": The Approach of Arizona State University." In *Intellectual Property Management in Health and Agricultural Innovation: A Handbook of Best Practices*. Edited by Anatole Krattiger, Richard T. Mahoney, et al., 1661–1672. Oxford: Centre for Management of Intellectual Property in Health Research and Development, 2007.
- Crow, Michael M., and Daniel Sarewitz. "Nanotechnology and Societal Transformation." In *AAAS Science and Technology Policy Yearbook 2001*. Edited by Albert H. Teich, Stephen D. Nelson, et al, 89-101. Washington DC: American Academy for the Advancement of Science, 2001.
- Crow, Michael M. "Expanding the Policy Design Model for Science and Technology: Some Thoughts Regarding the Upgrade of the Bush Model of American Science and Technology Policy." Washington, DC: *AAAS Science and Technology Yearbook*, 1998.
- Crow, Michael M. "Science and Technology Policy in the United States: Trading in the 1950 Model." In *New Technology Policy and Social Innovations in the Firm*. Edited by Jorge Niosi, 38-57. London: Pinter Publishers, 1994.
- Crow, Michael M. "The Continuing Responsiveness of American Universities to Commercial Challenge." In *Science and Technology Policy Yearbook*. Edited by Albert H. Teich, Stephen D. Nelson, and Celia McEnamey, 339–343. Washington, DC: American Academy for the Advancement of Science, 1994.
- Crow, Michael M. "The University as Catalyst for Scientific and Industrial Development." In *Industrial Policy for Agriculture in the Global Economy*. Edited by S. R. Johnson and S. A. Martin, 109-127. Ames: Iowa State University Press, 1993.
- Emmert, Mark, Michael M. Crow, and Ralph F. Shangraw. "Public Organization Design and the Future." In *Public Management: The State of the Art*. Edited by Barry Bozeman, 345-360. San Francisco: Jossey Bass, 1993.
- Crow, Michael M. and Barry Bozeman. "Federal Laboratories' Information Products and Policies." In *Perspectives on U.S. Government Scientific and Technological Information Policies*. Edited by Charles R. McClure and Peter Herson, 193-215. Norwood, NJ: Quorem Press, 1989.
- Crow, Michael M. and Barry Bozeman. "Strategic Public Management." In *Strategic Planning: Threats and Opportunities for Planners*. Edited by John M. Bryson and Robert C. Einsweiler, 51-68. Chicago: APA Planners Press, 1988.

Crow, Michael M. "Synthetic Fuel Technology Non-Development and the Hiatus Effect: The Implications of Inconsistent Public Policy." In *The Unfilled Promise of Synthetic Fuels: Technological Failure, Policy Immobilism or Commercial Illusion*. Edited by Ernest J. Yanarella and William C. Green, 33-52. Westport, CT: Greenwood Press, 1987.

Bozeman, Barry and Michael M. Crow. "A Case Example: How the Level of Publicness Affects Performance in R&D Organizations." In *All Organizations are Public: Bridging Public and Private Organizational Theories*. Edited by Barry Bozeman, 107-141. San Francisco: Jossey-Bass, 1987.

Crow, Michael M. and Mark A. Emmert. "Interorganizational Management of R&D: University-Industry Relations and Innovation." In *Strategic Management of Industrial R&D*. Edited by Barry Bozeman, Michael M. Crow, and Albert N. Link, 187-200. Lexington, MA: Lexington Books, 1984.

SPECIAL ARTICLES, FOREWORDS, OP-EDS, AND REVIEWS (SELECTED)

Crow, Michael M. "Advancing the Front Line of Engagement for Colleges and Universities." *Currents* (Council for the Advancement and Support of Education) 38, no. 2 (February 2012)

Crow, Michael M. "The Miseducation of American Dreamers." *Washington Post* (November 1, 2011)

Crow, Michael M. "America Needs Broadly-Educated Citizens, Even Anthropologists." *Slate* (October 21, 2011)

Crow, Michael M. "Growing a Better NIH." *Boston Globe* (June 19, 2011)

Crow, Michael M., Denis Cortese, and Leland Hartwell. "Let's Collapse Twenty-Seven U.S. Health Institutes into Three." *Bloomberg View* (June 6, 2011)

Crow, Michael M. "Science, Technology, and Democracy." Introduction to *Building a Better Human? Refocusing the Debate on Transhumanism*. Edited by Hava Tirosh-Samuelson and Kenneth L. Mossman. Frankfurt: Peter Lang GmbH, 2011.

Crow, Michael M. "University Futures." Commentary on "Science and the Entrepreneurial University," by Richard C. Atkinson and Patricia A. Pelfrey. *Issues in Science and Technology* 28, no. 1: 5.

Crow, Michael M. "American Research Universities During the Lingering Twilight of the Stone Age." *Sustainability Review* (Global Institute of Sustainability). Tempe: Arizona State University, March 2010)

Crow, Michael M. "Fulfilling the Sun Corridor's Promise: Creating an Economic, Technological, and Cultural Center." Foreword to Grady Gammage Jr. et al., "Megapolitan: Arizona's Sun Corridor." Phoenix: Morrison Institute for Public Policy, 2008.

- Crow, Michael M. Foreword to *Preparing for an Arizona Of 10 Million People: Meeting the Infrastructure Challenges of Growth*. Tempe: L. William Seidman Research Institute, W. P. Carey School of Business, Arizona State University, November 2008.
- Crow, Michael M. "Investing in the Future of Our Children." *Arizona Daily Star* (November 24, 2008)
- Crow, Michael M. "Sustainability: A New Organizing Principle." *Sustainability for Arizona: The Issue of our Age*. Phoenix: Morrison Institute for Public Policy, November 2007: 78–81.
- Crow, Michael M. "Research Funding in the Twenty-First Century: Are Universities and Market Forces Compatible?" Review of *Science for Sale: The Perils, Rewards, and Delusions of Campus Capitalism*, by Daniel S. Greenberg. *Nature* 449 (September 27, 2007): 405.
- Crow, Michael M. "The World is Catching Up." *Newsweek International* (August 20, 2007): URL: <http://www.msnbc.msn.com/id/20226758/site/newsweek/>
- Crow, Michael M. "Sustainability: An Organizing Principle for Colleges and Universities." *University Business* 10, no. 6 (June 2007): S8–10.
- Crow, Michael M. "Harnessing Science to Benefit Society." *The Chronicle of Higher Education* (March 9, 2001): B20.
- Crow, Michael M. "New Media and the Changing Context of University Outreach," *Journal of Public Service and Outreach* 4, no. 1 (Spring 1999)
- Crow, Michael M. "Inventing the Future." Review of *Endless Frontier: Vannevar Bush, Engineer of the American Century*, by G. Pascal Zachary. New York: Simon & Schuster, 1997. In *Issues in Science and Technology* (Winter 1997)

SPECIAL RESEARCH REPORTS (SELECTED)

- "Federal Investment in Public University Infrastructure to Stimulate the Economy, Increase Bachelor's Degree Attainment in the Workforce, and Enhance National Competitiveness" (December 5, 2008).
- "Federal R&D Laboratories in the U.S.: Design and Structure." A report prepared for the Technology Administration, U.S. Department of Commerce, 1994.
- "New Technology Planning and Development in the U.S. and Japan." A report prepared for the U.S. Department of Commerce, 1989.
- "The U.S. R&D Laboratory System: The Effect of Public and Market Influence." A report prepared for the National Science Foundation, 1988 (with B. Bozeman).
- "Synthetic Fuels Development: The Impact of the Reagan Administration." Syracuse University Institute for Energy Research, Policy Series 82-3, December 1982.

INVITED PROFESSIONAL PRESENTATIONS AND PANELS (SELECTED)

- Berlin 9 Open Access Conference, panel discussion on "Open Education: Linking Learning and Research through Open Access," Howard Hughes Medical Institute, Chevy Chase, MD, November 10, 2011
- Compass Summit 2011, panel discussion on social innovation and technology, Palos Verdes, California, October 23, 2011
- "Toward a New American University," "The Future of State Universities: The Next Ten Years," Dallas, Texas, October 6, 2011
- "America's Public Universities: The Front Line to America's Economic Recovery and Competitiveness," Graduate College Distinguished Lecture, University of Illinois at Urbana-Champaign, October 5, 2011
- "Universities and Transdisciplinary Education for Sustainability," University Corporation for Atmospheric Research, Boulder, Colorado, October 4, 2011
- "The Humanities Under Threat?" Panel discussion at the conference "Threats to Universities, Humanities, and Sciences," British Academy, London, July 20, 2011
- "Reinventing the University," Forum for the Future of Higher Education 2011 Aspen Symposium, Aspen, Colorado, June 7, 2011
- "Designing a University for America's Complex Future," Harvard University Program on Science, Technology, and Society, Harvard Kennedy School, November 30, 2010
- "Building a University for Someone Other Than Ourselves: Designing Transdisciplinary Programs for Students, Faculties, and Challenges," University of Idaho Conference on Enhancing Communication in Cross-Disciplinary Research, Coeur d'Alene, Idaho, October 1, 2010
- "Reconceptualizing Universities as Knowledge Enterprises: Toward Innovation, Differentiation, and Adaptation," Arizona State University / Dublin City University Summit on Reinventing the University, Dublin, Ireland, June 16, 2010
- "Engineering in the Service of the Nation," National Academy of Engineering Phoenix Grand Challenges Summit, Arizona State University, Arizona Biltmore, April 8, 2010
- "Toward Entrepreneurial Universities," Entrepreneurial University Leadership Programme, Saïd School of Business, University of Oxford, February 3, 2010
- "Toward Institutional Innovation in America's Colleges and Universities," Association of Governing Boards (ABG) Foundation Leadership Forum, Arizona Biltmore, January 25, 2010
- "Mobilizing a World-Class Energy Workforce," a panel discussion at the National

- Energy Summit and International Dialogue, Council on Competitiveness, Washington, DC, September 23, 2009
- “The University of the Future and Sustainable Development,” Institut des Hautes Études pour la Science et la Technologie (IHEST): “Vers une Nouvelle Université,” Collège des Bernardins, Paris, France, June 24, 2009
- “The Research University as Comprehensive Knowledge Enterprise: The Reconceptualization of Arizona State University as a Prototype for a New American University,” Seventh Glion Colloquium: “The Role of the Research University in an Innovation-Driven Global Society,” Montreux, Switzerland, June 23, 2009
- “Innovative Ways the U.S. Can Maximize Returns on Full Global Engagement: The Perspective of American Research Universities,” National Academies Government-University-Industry Research Roundtable: “Maximizing U.S. Returns on Shared Knowledge: Innovative Frameworks for Technology Transfer and Full Global Engagement,” National Academies Keck Center, Washington, DC, June 3, 2009
- “Arizona Innovation Clusters,” National Academies Board on Science, Technology, and Economic Policy (STEP) and Center for American Progress Symposium: “Growing Innovation Clusters for American Prosperity,” National Academy of Sciences, Washington, DC, June 3, 2009
- “A Matter of Excellence and Access: Economic Mobility and Higher Education,” Milken Institute Global Conference, Los Angeles, California, April 27, 2009
- “Energy Discovery-Innovation Institutes: A Step Toward Energy Sustainability,” a roundtable discussion with James Duderstadt, president emeritus, University of Michigan, and E. Gordon Gee, president, Ohio State University, “Toward New Paradigms for U.S. Energy Research,” Brookings Institution, Washington, DC, February 9, 2009
- “The Challenges of Globalization and the New Role of Universities in the Hemisphere,” a panel discussion between Michael M. Crow and Rafael Rangel Sostmann, rector, Instituto Tecnológico y de Estudios Superiores de Monterrey and Raúl Bao García, president, Universidad San Martín de Porres, Thirty-Third Lecture of the Americas, Organization of American States, Washington, DC, February 4, 2009
- “Arizona is Poised to Become the Global Leader in Solar Energy,” Arizona Leadership Summit on Solar Energy and Economics, Arizona State University, Phoenix, Arizona, January 9, 2009
- “Hope, Change, and Affirmation: New Values to Guide Institutional Innovation in American Higher Education,” College Board, Houston, Texas, November 6, 2008
- “Toward Sustainable Development.” Arizona State University Sustainability Summit,

- Washington, DC, September 17, 2008
- “The New American University and the Spirit of Academic Enterprise: Redefining Excellence, Access, and Impact for Public Higher Education,” Ministère de l’Enseignement Supérieur et de la Recherche, Paris, France, June 24, 2008
- “Building an Entrepreneurial University,” Third Annual Ewing Marion Kauffman Foundation-Max Planck Institute Summit on Entrepreneurship Research and Policy, Bavaria, Germany, June 8–11, 2008
- “The University at a Crossroads: How Higher Education Can Meet the Demand of Today’s Entrepreneurial Community,” Milken Institute Global Conference, Santa Monica, California, April 28, 2008
- “Sustainability as an Interface Problem,” Annual Science Board, Santa Fe Institute, Santa Fe, New Mexico, April 12, 2008
- “Opportunities and Limits in the Creation of Useful Knowledge For Sustainable Development,” Eighth Annual Sackler Colloquium, Arthur M. Sackler Colloquia of the National Academy of Sciences, Washington, DC, April 3, 2008
- Science and Technology Policy Fellows Seminar, American Association for the Advancement of Science (AAAS), National Science Foundation, Washington, DC, April 3, 2008
- “The Death of the Public University and Why it is Time for a New Model,” Center for the American University at the Manhattan Institute for Policy Research, New York City, February 6, 2008
- “The Achilles’ Heel of The Regional Economy: Four Challenges That Arizona Must Address,” East Valley Partnership, Arizona State University at the Polytechnic Campus, November 8, 2007
- “Perpetual Innovation: Universities and Regional Economic Development,” Annual Conference of the International Economic Development Council (IEDC), Scottsdale, Arizona, September 17, 2007
- “A Focus on Innovation, Competitiveness, and Prosperity,” Commission on Innovation, Competitiveness, and Economic Prosperity (CICEP), National Association of State Universities and Land-Grant Colleges (NASULGC), Kansas City, Missouri, June 20, 2007
- “The New American University: Redefining Excellence, Access, and Impact in the American Public Research University,” Sixteenth Annual European Access Network (EAN) Conference, National University of Ireland, Galway, June 19, 2007
- “University Design for the Twenty-First Century: The Case of Sustainability,” International University Presidents Forum, Tongji University, Shanghai, May 20, 2007

- “American Research Universities During the Long Twilight of the Stone Age,” Rocky Mountain Sustainability Summit, University of Colorado, Boulder, February 21, 2007
- “Global Engagement and the American Research University,” Phoenix Committee on Foreign Relations, Paradise Valley, Arizona, September 14, 2006
- “Preparing America for the Future,” Workforce Innovations 2006, U.S. Department of Labor, Anaheim, California, July 13, 2006
- “Agency to Enterprise: Rethinking University Trajectory,” President’s Speakers Series, Northern Arizona University, April 19, 2006
- “Nanotechnology and Society,” Center for Nanotechnology, Arizona State University, January 30, 2006
- “Towards Consensus Regarding the Value of Higher Education in Arizona,” East Valley Think Tank, Phoenix, Arizona, September 22, 2005
- “A Critical Inflection Point: The New Molecular Technologies, Healthcare, and Economic Development in Arizona,” “Meds and Eds” Luncheon, Arizona Biltmore, Phoenix, Arizona, September 21, 2005
- “The New Competitive Global Environment,” Tempe Chamber of Commerce Annual Luncheon, Tempe, Arizona, June 21, 2005
- “Implementing Four Academic Platforms,” Downtown Campus Planning Retreat, Phoenix, Arizona, May 16, 2005
- “Education, Innovation, Free Enterprise, Global Competitiveness,” Economic Club of Phoenix, Phoenix, Arizona, May 12, 2005
- “How Competitive is Arizona?” APS Quarterly Leadership Forum, Phoenix, Arizona, December 2, 2004
- “Towards Diversity in Our Institutions,” Symposium on Educating for a Diverse America, University of Texas, Austin, January 29–30, 2004
- “Building a Comprehensive Metropolitan Research University,” Spring Semester 2004 Academic Assembly, Arizona State University, January 27, 2004
- “The Academy as Social Change Driver,” STRATA Programme of the European Commission Rethinking Science Policy: “Analytical Frameworks for Evidence-Based Policy,” Brighton, UK, March 21, 2002
- “Science, Society and Outcomes: Building a New Basis for Meteorology and Climate Science,” American Meteorological Society Second Annual Presidential Forum: “Society and The Society: What Can the American Meteorological Society Do to Better Foster Scientific Services for Society’s Needs?” Orlando, Florida, January 16, 2002
- “The Economic Development-Postsecondary Education Nexus,” Partnerships for

- Progress: Linking Higher Education and Economic Development, National Governors Association, Louisville, Kentucky, December 3, 2001
- “Maximizing the Impact of Academic Technology Transfer,” New York State Technology Transfer Summit, Albany, New York, October 4, 2001
- “Greater Phoenix in the Knowledge-Driven Economy,” Greater Phoenix 2001 Workshop, Phoenix, Arizona, April 2–3, 2001
- “Investing in and Managing Academic Research Strategically,” Association of University Managers 2001 Annual Meeting, New Orleans, Louisiana, March 2, 2001
- “Science and Social Outcomes: Updating Outdated Models for Science Policy,” Center for International Development, Harvard University, February 27, 2001
- “Universities as Engines of Innovations,” University of Kentucky, Lexington, October 25, 2000
- “Nanotechnology and Societal Transformation,” National Science and Technology Council Workshop on Societal Implications of Nanosciences and Nanotechnology, Washington, DC, September 28-29, 2000
- “High Quality, High Leverage University Research,” New Frontiers in Science and Technology Policy, Gordon Conference, Plymouth, New Hampshire, August 29, 2000
- “Training Future Decision Makers in SP&C,” Global Dialogue 1: Natural Resources in our Independent World, Expo 2000, Hanover, Germany, June 2000
- “Linking Scientific Research to Societal Outcomes,” Twenty-fifth Anniversary of the AAAS Colloquium on Science and Technology Policy, Washington, DC, April 12, 2000
- “Managing Complexity: Teaching and Learning in the Next Twenty Years,” Conference of SUCCEED and GATEWAY Engineering Education Coalition, Greensboro, North Carolina, March 2000
- “Exploding Technology, Public/Private Partnerships and the Modern Campus,” SEC Chairs Conference 2000 of Louisiana State University, New Orleans, Louisiana, March 2000
- “Linking Scientific Research to Societal Outcomes,” International Workshop on Research, Technology and Design Issues, Saltsjobaden, Sweden, March 2000
- “The Limits of Us: Producers of the Knowledge that Shape the State of the Planet,” State of the Planet Conference, Columbia University, November 16, 1999
- “Federal Laboratories and Defense Policy in the U.S. National Innovation System,” Danish Research Unit on Industrial Dynamics, Summer Conference on National Innovation Systems, Rebild, Denmark, June 9–12, 1999 (with Barry Bozeman and

Chris Tucker)

- “Universities and the New Manifest Destiny: Organizational Principles for Strategically Realigning American Research Universities,” University of Georgia Strategic Planning Conference, February 18, 1999
- “Science, Society, and Public Policy,” Council on Chemical Research, Orlando, Florida, September 27, 1998
- “Organizing to Responded External Research Opportunities: Dimensions of Concern for University Collective Action,” Mobilizing for Research Opportunities in the Next Century, Merrill Advanced Studies Center, University of Kansas, July 15–17, 1998
- “University Research and the Changing Environment,” National Association of State Universities and Land Grant Colleges, St. Louis, Missouri, April 6, 1998
- “Universities and the New Manifest Destiny,” American Association for the Advancement of Science Conference “The Future of Science and Technology in Arizona,” Tucson, Arizona, March 27, 1998
- “Academic Science and University Research Parks,” Association of University Research Parks, Philadelphia, June 6, 1996
- “Designing Knowledge Innovation Systems,” Alfred Nobel Foundation, Stockholm, Sweden, December 11, 1995
- “Columbia’s Virtual Information Initiative,” Assets and Alliances Workshop, Institute for Learning Technologies, Columbia University, February 11, 1994
- “Technology Policy in the United States: New Designs,” Fifth International Conference on Technology Policy, Montreal, Quebec, October 30, 1992
- “The University as a Catalyst for Scientific and Industrial Advancement,” Conference on Industrial Policy for Agriculture in a Global Economy, Ames, Iowa, September 17, 1992
- “American Technology Futures: The Emergence of a Unified Science and Technology Policy,” Center for Research on Industrial Technology Development, Montreal, Quebec, June 12, 1992
- “Public Organization Designs and the Future,” National Public Management Conference, Syracuse, New York, September 20-21, 1991 (with M. Emmert and R. F. Shangraw)
- “The National System of Innovation (NSI) in the United States,” Second International Conference on Policies and Strategies on Technology in Industrialized Countries, Moscow, USSR, May 13-17, 1991 (with B. Bozeman)
- “National Systems of Innovation: In Search of a Workable Concept,” Second International Conference on Policies and Strategies on Technology in

- Industrialized Countries, Moscow, U.S.S.R., May 13-17, 1991 (with J. Niosi and B. Bellon)
- “Congressional Science Policy and Pork Barrel Science,” Association for Public Policy & Management, San Francisco, California, October 18, 1990
- “R&D Laboratory Development: An Overview,” Canadian Conference on Science Policy, Montreal, Quebec, September 20, 1990
- “Industry and University Joint Venturing in Technology Development,” American Society of Public Administration, Los Angeles, California, April 10, 1990
- “Technology Transfer in Industry,” Academy of Management, Los Angeles, California, August 9, 1988
- “The Utilization and Influence of R&D Policy Options by Industrial Research Laboratories,” American Society for Public Administration, Portland, Oregon, April 16-20, 1988
- “Industrial R&D Systems in the United States,” Ninth European Meetings on Cybernetics and Systems Research, Vienna, Austria, April 5-8, 1988 (with A. Link and B. Bozeman)
- “Technology Transfer to Government and Industry: An Environmental Dependence Model,” Harvard Business School Colloquium on Operations and Production Management, Cambridge, Massachusetts, November 16, 1987 (with B. Bozeman and D. Rahm)
- “The Evolution of Cooperative Research at American Universities,” Association for Public Policy and Management, Austin, Texas, October 30, 1986
- “Corporate Technology Development Strategy Making: Market vs. Policy Influence,” ORSA/TIMMS Meeting, Miami, Florida, October 28, 1986
- “Synthetic Fuels Development: A Historical Perspective,” American Political Science Association, Washington, DC, August 30, 1986
- “The Evolution of Research and Development Laboratories Since 1940: Implications for R&D Policy,” Science Policy Research Unit, University of Sussex, Brighton, United Kingdom, June 20, 1986
- “Higher Education and Industrial R&D: Organizational Characteristics and Public Policies for R&D Stimulation,” American Society for Public Administration, Anaheim, California, April 16, 1986 (with M. Emmert)
- “R&D Laboratories Environmental Contexts: Are the Government Lab/Industrial Lab Stereotypes Still Valid?” American Political Science Association, New Orleans, Louisiana, August 30, 1985 (with B. Bozeman)
- “Public, Private, and Hybrid Organizations: An Empirical Examination of the Role of Publicness,” Academy of Management, San Diego, California, August 13, 1985

(with M. Emmert)

- “Bureaucratic Theory Development and the Schizophrenia of Public Administration,”
Western Social Science Association, Fort Worth, Texas, April 24, 1985
- “Organized Science and Public Private Cooperation,” American Society for Public
Administration, Indianapolis, Indiana, March 25, 1985 (with M. Emmert)
- “The Evolution of Interorganizational Relationships: An Agenda for the Integration of
Organizational Systematics,” American Institute for Decision Science, Toronto,
Ontario, November 5-7, 1984
- “Organization Theory and State Government Structure,” Conference on Charting State
Government Organization for New York, Albany, New York, May 17, 1984 (with
B. Bozeman)
- “Managing Interorganizational Relations: Integrating Theory and Practice,” American
Society for Public Administration, Denver, Colorado, April 16, 1984 (with M.
Emmert)
- “Strategic Planning for Interorganizational R&D Program Management,” Conference on
Strategic Planning for Industrial R&D, Blacksburg, Virginia, May 16-17, 1983
(with M. Emmert)
- “Interorganizational Program Management: Organization vs. Action Sets,” American
Society for Public Administration, New York, New York, April 16, 1983 (with M.
Emmert)
- “Organizational Barriers to Participatory Decision Making in Coal Mining,” National
Conference on Workplace Democracy, Carbondale, Illinois, August 30-31, 1982
(with C. L. Pizer)
- “Technology Decision-Making: The Case of United States Coal R&D Policy,” First
National Energy Policy Conference, Morgantown, West Virginia, May 1-3, 1980
(with U.C. Desai)

PERSONAL

Born October 11, 1955, San Diego, California

Married to Dr. Sybil Francis; three children (Ryan, Britt, Alana)

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