



## **MICHAEL M. CROW**

### **PRESIDENT, ARIZONA STATE UNIVERSITY**

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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 EXECUTIVE POSITIONS**

- 2002–            President, Arizona State University, Tempe, Arizona
- 2002–            Chief Executive Officer, ASU Enterprise
- 1998–2002      Executive Vice Provost, Columbia University, New York, NY
- 1997–2002      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,  
                  Southern Illinois University, Carbondale, Illinois
- 1977–1978      Program Development Coordinator, Fossil Energy Program,  
                  Ames Laboratory, U.S. Department of Energy, Iowa State University

## **ACADEMIC, RESEARCH AND SERVICE POSITIONS**

- 2007– Arizona State University Foundation Leadership Chair and  
Professor of Science and Technology Policy
- 2002– Professor, School of Public Affairs, Watts College of Public Service and  
Community Solutions, 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
- 1974–1976 Volunteer, VISTA (Volunteers in Service to America) University Year for  
Action (National Program)

## **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–Present)**

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)

## **NATIONAL SERVICE (SELECTED)**

|           |  |
|-----------|--|
| 2015–2017 | U.S. Department of Homeland Security Academic Advisory Council                               |
| 2007–2013 | National Security Higher Education Advisory Board (NSHEAB)                                   |
| 2010–2014 | National Advisory Council on Innovation and Entrepreneurship,<br>U.S. Department of Commerce |
| 1999–     | Chair (2006–present) and Director, In-Q-Tel, Inc., Washington, D.C.                          |

## **AWARDS AND RECOGNITION (SELECTED)**

|      |   |
|------|---|
| 2021 | Elected Member, American Academy of Arts & Sciences                 |
| 2013 | Carnegie Corporation of New York Academic Leadership Award          |
| 2012 | Elected Fellow, American Association for the Advancement of Science |
| 2006 | Elected Fellow, National Academy of Public Administration           |
| 2005 | Member, Council on Foreign Relations                                |

## **HONORARY DEGREES**

|      |  |
|------|--|
| 2018 | University of Nebraska                     |
| 2014 | Leuphana University, Lüneberg (Germany)    |
| 2014 | Clark University, Worcester, Massachusetts |
| 2013 | National Central University (Taiwan)       |
| 2013 | University of Central Florida              |
| 2008 | Iowa State University                      |

## **BOARD MEMBERSHIPS (SELECTED)**

### **PRIVATE**

|           |   |
|-----------|---|
| 2018–     | Advisory Board, RIDGE-LANE Limited Partners                   |
| 2010–     | Board of Directors, Workiva Inc., Ames, Iowa                  |
| 2003–2008 | Board of Directors, Aquila, Inc., Kansas City, Missouri       |
| 2000–2002 | Chair and Director, Fathom Global Network, Inc., New York, NY |
| 1991–2001 | Director, Engineering Animation, Inc., Ames, Iowa             |
| 1991–1996 | Director, Project Performance Corporation, Sterling, Virginia |

## **PUBLIC**

- 2015–2016 Member, Arizona State Board of Education
- 2003–2007 Member, Arizona State Board of Education

## **NOT FOR PROFIT/SERVICE**

- 2021– Board of Directors, Nia Tero, Seattle, Washington
- 2021– Strategy, Innovation and Technology Committee, Smithsonian Institution, Washington, D.C.
- 2019– International Advisory Council, American University of Beirut, Beirut, Lebanon
- 2018–2021 Member, Knight Commission on Intercollegiate Athletics, Miami, Florida
- 2014– Board of Directors, New America, Washington, D.C.
- 2011–2014 Chair, National LambdaRail Chairman’s Advisory Council
- 2011– Chairman’s Circle, Tucson Regional Economic Opportunities, Inc. (TREO), Tucson, Arizona
- 2009–2011 Chair, Pacific-10 Conference (Pac-10), becoming in 2011 the Pacific-12 Conference (Pac-12), San Francisco, California
- 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), Washington, D.C.
- 2007–2009 Board of Directors, Arizona Economic Resource Organization (AERO), Phoenix, Arizona
- 2007–2012 Board of Directors, Stardust Foundation, Phoenix, Arizona
- 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
- 2002–2010 Board of Directors, Translational Genomics Research Institute, Phoenix, Arizona
- 2002– Board of Directors, 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

1996–2002 Director, Biosphere Center Inc., Tucson, Arizona  
 1995–1999 Director, New York Information Technology Center, New York, New York  
 1992–2002 Director, Audubon Science and Technology Park, New York, New York  
 1990–1991 Trustee, Science Center of Iowa, Des Moines, Iowa

**HYBRID**

2019–2021 Co-chair, National Commission on Innovation and Competitiveness Frontiers, U.S Council on Competitiveness, Washington, D.C.  
 2013–2021 University Vice Chairman, U.S. Council on Competitiveness, Washington D.C.  
 2005–2013 Board of Trustees, Council for Aid to Education, New York, NY  
 2004–2009 Board of Trustees, Internet2, Ann Arbor, Michigan  
 1990–1991 Director, Kentucky Technologies Inc, Lexington, Kentucky  
 1990–1991 Director, Edge Technologies Inc., Des Moines, Iowa  
 1989–1991 Director, Ames Economic Development Commission, Ames, Iowa  
 1989–1991 Director, Center for Amorphous Semiconductors, Inc., Ames, Iowa

**CONSULTANCIES (SELECTED)**

2013–2016 Council on Global Competitiveness Enhancement of Russian Universities, Moscow School of Management  
 2011–2015 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  
 1991-1992 U.S. Department of State  
 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

## **PUBLICATIONS AND RESEARCH (SELECTED)**

### **BOOKS**

- Bozeman, Barry, and Michael M. Crow. *Public Values-Based Institutional Design: Resetting our Outmoded Institutions for Success*. Baltimore: John Hopkins University Press, 2021.
- Crow, Michael M., and William B. Dabars. *The Fifth Wave: The Evolution of American Higher Education*. Baltimore: Johns Hopkins University Press, 2020.
- Crow, Michael M., and William B. Dabars. *Designing the New American University*. Baltimore: Johns Hopkins University Press, 2015.
- Translations into Chinese (Shanghai: Shanghai Jiaotong University Press, 2020); Korean (Seoul: Arche Press, 2017); Russian (Moscow: Higher School of Economics, 2017); and Vietnamese (Hanoi: National University of Hanoi Press, forthcoming 2020)
- 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. "The Emergence of the Fifth Wave in American Higher Education." *Issues in Science and Technology* 36, no. 3 (Spring 2020): 71–74.
- Elkins-Tandon, Linda T., Evgenya L. Shkolnik and Michael M. Crow, "The Arizona State University Interplanetary Initiative: Envisioning and Creating our Human Space Future." *New Space* 8, no. 3 (2020): 1-4.
- McNutt, Marcia, and Michael M. Crow. "Science Institutions for a Complex, Fast-Paced World." *Issues in Science and Technology* 36, no. 2 (Winter 2020): 30-34.
- Crow, Michael M., and Derrick M. Anderson. "Higher Logic." *Trusteeship (Association of Governing Boards of Colleges and Universities)* 26, no. 3 (Summer 2018): 26–31.
- Gilbert, Clark, Michael M. Crow, and Derrick M. Anderson. "Design Thinking in Higher Education: Towards Adaptive Enterprise." *Stanford Social Innovation Review* 16, no.1 (2017): 36–41.

- Crow, Michael M., and R. F. Shangraw. "Revisiting 'Public Administration as a Design Science' for the Twenty-First Century Public University." *Public Administration Review* 76, no. 5 (September/October 2016): 762–763.
- Crow, Michael M. "Public Administration and the Imperative for Social Progress." *Public Administration Review* 76, no. 2 (March/April 2016): 215–216.
- Crow, Michael M., and William B. Dabars. "A New Model for the American Research University." *Issues in Science and Technology* 31, no. 3 (Spring 2015): 55–62.
- 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. "Reinventing the Public Research University." *Forum Futures 2012* (Forum for the Future of Higher Education and American Council on Education): 18–24.
- 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, D.C.: American Association for the Advancement of Science, 2001.
- Crow, Michael M. "Science and Technology Policy in the United States: Trading in the 1950 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 and Anderson, Derrick. (in press, 2021). Design-build: Making sense of routine and transformational change in higher education. *The New College President's Handbook*. James Soto Antony, Ana Mari Cauce, Lynn Gangone, Tara Nicola (Eds). Harvard University Press. Cambridge, Mass.
- Crow, Michael; Dabars, William; Anderson, Derrick. (2020). Building a research university where all people matter. *Democracy Unchained*. Ed. David Orr.
- Crow, Michael M., William B. Dabars, and Derrick M. Anderson. "Building a Research University Where All People Matter." In *Democracy Unchained: How to Rebuild Government for the People*. Edited by David W. Orr, Andrew Gumbel, Bakari Kitwana, and William Becker. Washington, DC: New Press, forthcoming 2020.
- Crow, Michael M., and William B. Dabars. "Restructuring Research Universities to Advance Transdisciplinary Collaboration." In *Strategies for Team Science Success: Handbook of Evidence-Based Principles for Cross-Disciplinary Science and Practical Lessons Learned from Health Researchers*. Edited by Kara L. Hall, Amanda L. Vogel, and Robert T. Croyle, 477–488. New York: Springer, 2019.
- Crow, Michael M., and William B. Dabars. "Interdisciplinarity and the Institutional Context of Knowledge in the American Research University." In *The Oxford Handbook of Interdisciplinarity*, 2nd ed. Edited by Robert Frodeman, Julie Thompson Klein, and Roberto Carlos Dos Santos Pacheco. Oxford: Oxford University Press, 2017.
- Crow, Michael M., and William B. Dabars. "Toward Interdisciplinarity by Design in the American Research University." In *University Experiments in Interdisciplinarity: Obstacles and Opportunities*. Edited by Peter Weingart and Britta Padberg, 13–36. Bielefeld: Transcript Verlag, 2014.
- Crow, Michael M., and William B. Dabars. "Interdisciplinarity as a Design Problem: Toward Mutual Intelligibility Among Academic Disciplines in the American Research University." In *Enhancing Communication and Collaboration in Interdisciplinary Research*. Edited by Michael O'Rourke, Stephen Crowley, Sanford D. Eigenbrode, and J. D. Wulfhorst, 294–322. Los Angeles: Sage, 2013.
- Crow, Michael M., and William B. Dabars. "University-Based Research 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. "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 D.C.: 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, D.C.: *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, D.C.: 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., and Greg Tananbaum, "We must tear down the barriers that impede scientific progress," *Scientific American*, (December 18, 2020).
- Crow, Michael, "Las interrupciones son inevitables. Las universidades pueden hacer a nuestras comunidades más resilientes." *El Universal*. (November 11, 2020).
- Crow, Michael M. "It's Time to End the Obsession with College Exclusivity." *The Washington Post* (October 17, 2019).
- Crow, Michael M. "What Colleges Would Gain by Admitting More First-Generation Students." *The Wall Street Journal* (May 16, 2019)
- Crow, Michael M., and William B. Dabars. "A New Model for the American Research University (Go Big. Go Really Big)." *Politico* (September 28, 2015).
- Crow, Michael M., and Derrick M. Anderson. "Research Universities are for Undergraduates, Whether They Know It or Not." *Deseret News* (April 24, 2015).

- Crow, Michael M., and William B. Dabars. "Public Universities Must Operate At a Higher Level." *Boston Globe* (April 12, 2015).
- Crow, Michael M., and William B. Dabars. "Is a Model Where Access Trumps Exclusivity the Key to the Future of Higher Education?" *Hechinger Report* (April 2, 2015).
- Crow, Michael M., and Derrick M. Anderson. "Online Learning: Optimism, Pessimism and Realism." *Deseret News* (September 17, 2014).
- Crow, Michael M. "A Majority-Minority Nation Needs a New Definition of the University." *Huffington Post* (March 17, 2014).
- Crow, Michael M. "Look, Then Leap: Massive Open Online Courses Can Make Higher Education More Accessible, Immersive, and Comprehensive." *Nature* 499 (July 18, 2013): 275–277.
- Crow, Michael M. "Toward Academic Leadership to Advance Sustainability." Foreword to *Presidential Perspectives: Elevating Sustainability Through Academic Leadership, 2013–2014*.
- Crow, Michael M. "Citizen Science U.: The Best Way to Teach Today's Hyperconnected Students is to Get Rid of the Departments of Geology and Biology," *Scientific American* (October 2012).
- 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." *The 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-Samuels 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. "Organizing Teaching and Research to Address the Grand Challenges of Sustainable Development." *BioScience* (July/August 2010).

- 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. "The Challenge for the Obama Administration Science Team." *Issues in Science and Technology*, no. 3 (Spring 2009)
- 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: <https://www.newsweek.com/michael-crow-world-catching-99215>
- 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)**

“Seizing the Opportunity,” keynote interview, Higher Ed’s Reset, The Chronicle of Higher Education, Videoconference (Due to COVID-19), April 20, 2021.

“Are Universities Really a Progressive Force for All?” panel discussion with Suzanne Fortier, Dawn Freshwater, Lily Kong and John Ross, Times Higher Education Innovation and Impact Summit, Videoconference (Due to COVID-19), April 19, 2021.

“Family Voices: Building Pathways From Learning to Meaningful Work,” panel discussion with Amy Eubanks Davis, John White, LaVerne Evans Srinivasan and Mohamed Younis, Carnegie Corporation and Gallup, Videoconference (Due to COVID-19), April 7, 2021.

“Brave New World: The Next Wave of Higher Education,” panel discussion with Sylvia Burwell, Zachary Karabell and Scott Galloway, The Progress Network, Videoconference (Due to COVID-19), April 7, 2021.

“Intermountain Rising: Unlocking our Region’s Economic Potential Through Bipartisan Immigration Reform,” remarks, American Business Immigration Coalition, Videoconference (Due to COVID-19), March 19, 2021.

“Disruptive Innovation Where You Least Expect It,” panel discussion with Lance M Fritz and Anne-Marie Slaughter, New America, Videoconference (Due to COVID-19), March 8, 2021.

“Online Higher Education: Changing Imperatives,” keynote address, Higher Education @ 2030: R.I.S.E.’ (Resilience. Innovation. Sustainability. Enterprise), 16<sup>th</sup> Federation of Indian Chambers of Commerce and Industry, Videoconference (Due to COVID-19), February 26, 2021.

“A New Evolution of Research Universities,” discussion with William B. Dabars, American Association for the Advancement of Science Annual Meeting, Videoconference (Due to COVID-19), February 9, 2021.

“Transforming Education,” panel discussion with Sal Khan, Stand Together Network, Videoconference (Due to COVID-19), February 2, 2021.

“Innovation in Higher Education,” keynote address, Innovation in Industry Series, Central City Association, Videoconference (Due to COVID-19), February 2, 2021.

- “Do I have your attention now? How COVID-19 kicked the open the door to innovation In doctoral education,” keynote address, American Association of Colleges of Nursing Doctoral Education Conference, Videoconference (Due to COVID-19), January 20, 2021.
- “Online Higher Ed for All,” remarks, Future of Higher Ed Workshop, Santa Fe Institute, V Videoconference (Due to COVID-19), January 19, 2021.
- “The Role of Public Universities in Statewide Economic Development,” keynote address, University of New Mexico Business and Economic Summit, Videoconference (Due to COVID-19), January 12, 2021.
- “Competing in the Next Economy,” panel discussion with Mehmood Khan, Brian Moynihan, Lonnie Stephenson, Thomas Zacharia, Deborah Wince-Smith, Council on Competitiveness, Videoconference (Due to COVID-19), December 17, 2020.
- “Leading the Way: An American Approach to Immigration,” panel discussion, National Immigration Forum, Videoconference (Due to COVID-19), November 18, 2020.
- “A Fireside Chat with Michael Crow,” keynote interview with Anya Kamenetz, ASU + GSV Virtual Summit, Videoconference (Due to COVID-19), September 30, 2020.
- “Dreamscape Learn: How Hollywood and Higher Ed Are Transforming Education through Exploration,” discussion with Walter Parkes, ASU + GSV Virtual Summit, Videoconference (Due to COVID-19), September 29, 2020
- “The ABC’s of Educational Inequalities,” panel discussion, POLITICO Town Hall, Videoconference (due to COVID-19), September 24, 2020
- “The Technology-Enabled University and the Future of Higher Education,” remarks to the Association of Governing Boards Board of Directors, Videoconference, (Due to COVID-19), August 6, 2020.
- “The Challenges and Opportunities Facing Higher Education,” discussion with Jeff Selingo and Allyson Fryhoff, Salesforce Innovation Forum, Videoconference (Due to COVID-19), July 23, 2020.
- “We Are Only Limited by Our Own Imagination,” discussion with Beatriz Rendon, National Charter School Conference, Videoconference (Due to COVID-19), July 16, 2020.
- “Harnessing the Perfect Storm: Higher Ed Leadership Post Covid-19,” discussion with Yuval Shraibman, The Future of Education Summit, Tel Aviv University, Videoconference (Due to COVID-19), July 13, 2020.
- “Navigating the Future of Education and Work,” panel discussion, Australian American Leadership Dialogue, Videoconference (Due to COVID-19), July 9, 2020.
- “The Digital Curriculum Challenge,” remarks, The University of Buckingham Fifth Festival of Higher Education, Videoconference (Due to COVID-19), July 7, 2020.



“COVID-19 and the Mission of the U.S. Public University,” panel discussion, National Academies of Science, Engineering and Medicine Board on Higher Education and the Workforce, Videoconference (Due to COVID-19), May 27, 2020.

“We’re Moving from B.C. to A.D.... Before Coronavirus, After Disease,” discussion with Michael Moe, GSV Virtual Summit Series: The Dawn of the Age of Digital Learning, Videoconference (Due to COVID-19), April 30, 2020.

“Innovating Innovation,” panel discussion, Earth Optimism 2020 Digital Summit, Videoconference (Due to COVID-19), April 23, 2020.

“The Importance of a Quality Online Education Model,” remarks to the Nevada System of Higher Education Board of Regents, Las Vegas, Nevada, March 6, 2020.

“U.S.-China Collaboration in Higher Education,” panel discussion, U.S. University Sports and Education Summit, Shanghai, China, November 8, 2019.

“The Fifth Wave: Launching the next evolution in Higher Education,” guest lecture, Hainan University, Hainan, China, November 5, 2019.

“Moving at the Velocity of Change,” keynote address, Hawaii Executive Conference, Kailua-Kona, Hawaii, October 5, 2019.

“The Future of Interdisciplinarity: The New American University,” keynote address, International Symposium on Interdisciplinarity Revisited, Berlin, Germany, October 3, 2019.

“Public Value-based Design: Strategic Foresight and Public Organization Transformation,” keynote address, launch of the Government Accountability Office Center for Strategic Foresight, Washington, D.C., September 10, 2019.

“Moving Forward: The Role of Postsecondary Education in the 21st Century,” keynote address, Innovative Governance: Positioning Tennessee Higher Education for the Future, Memphis, Tennessee, August 15, 2019.

“The Future of Education: Accelerating Innovation to Advance Accessible and Affordable Learning,” keynote address, UC Davis Chancellor’s Colloquium Distinguished Speaker Series and UC Davis Forums on the Public University and the Social Good, Davis, California, June 3, 2019.

“The Future of Learning, Opportunity, and Work: Building the New American Research University,” discussion, Stanford Speaker Series, Stanford, California, May 15, 2019.

“Designing Partnerships for Social Impact and Transformation,” remarks at The Rise Fund annual meeting, San Francisco, California. May 9, 2019.

“Geostrategic and Economic Implications of the Race to 5G,” panel moderator, McCain Institute Sedona Forum, Sedona, Arizona, May 4, 2019.

“What Are the Challenges the Air Force Will Face in 2030 and Beyond?,” discussion with Secretary of the Air Force Heather Wilson, Future Security Forum, Washington, D.C., April 29, 2019

“Designing Partnerships for Social Impact and Transformation,” keynote address, ASU GSV Summit, San Diego, California, April 9, 2019

“Close the “Side Door” to the American Dream the Impact and the Opportunity of The College Admissions Scandal,” panel discussion, ASU GSV Summit, San Diego, California, April 8, 2019

“The Future of University and Employer Partnerships,” panel discussion, ASU GSV Summit, San Diego, California, April 8, 2019

“Making the case for impact: What responsibility does higher education have in society?”, panel discussion, ASU/Chronicle Leadership Forum at ASU GSV X, San Diego, California, April 7, 2019

“Making the Case for Innovation,” opening remarks, ASU/Chronicle Leadership Forum at ASU GSV X, San Diego, California, April 7, 2019

“The Future of Humane Technology,” keynote address, Future of Humane Technology symposium, Washington, D.C., March 14, 2019

“Moving Forward: The Role of Postsecondary Education in the 21st Century,” remarks at the 2018 Kentucky Postsecondary Education Symposium, Louisville, Kentucky, December 18, 2018

“The Changing Higher Education Environment,” remarks to the University of Maryland Board of Regents, Hanover, Maryland, November 28, 2018

“The Future of Education: Maximizing Latino Educational Attainment to Reach the Full Potential of National Economic Competitiveness,” keynote address and panel discussion, L’Attitude, San Diego, California, September 10, 2018

“New Models for American Higher Education,” keynote address, National Conference of State Legislatures, Standing Committee on Education, Los Angeles, California, July 31, 2018

“Other America,” panel discussion, Allen & Company Annual Sun Valley Conference, Sun Valley, Idaho, July 12, 2018

“How America’s Universities Are Revolutionizing the Economy and Transforming the Latino Workforce,” plenary remarks and panel moderator, National Association of Latino Elected Officials, 35<sup>th</sup> Annual Conference, Phoenix, Arizona, June 22, 2018

Spring Commencement, keynote address, University of Nebraska Omaha, Omaha, Nebraska, May 4, 2018

“Next Generation Technology for National Security,” panel moderator at McCain Institute Sedona Forum, Sedona, Arizona, April 20, 2018

“Field(s) of Dreams, If We Build It, Will They Come? Using Athletics as a Research Lab Featuring adidas,” panel discussion, ASU + GSV Summit, San Diego, California, April 18, 2018

- “Designing a Future for the Universal Learner,” keynote address, ASU GSV Summit, San Diego, California, April 18, 2018
- “Responding to Educational Needs in the Arab World,” panel discussion, ASU + GSV Summit, San Diego, California, April 17, 2018
- “Building a College for a Million Learners: Getting It Done in California,” discussion with Eloy Ortiz Oakley, ASU + GSV Summit, San Diego, California, April 16, 2018
- “Next Generation College,” panel discussion, Reagan Institute Summit on Education, Washington, D.C., April 12, 2018
- “What the Future Needs from Higher Education,” plenary remarks, University Innovation Alliance National Summit for Student Success Innovation and Campus Transformation, Atlanta, Georgia, April 3, 2018
- “Public Higher Education at a Crossroads,” panel discussion, Deloitte’s Center for Higher Education Excellence, New York, New York, March 12, 2018
- “Pathways to Prosperity: The Future of Innovation in Higher Education,” plenary remarks and panel discussion, National Governor’s Association Winter Meeting, Washington, D.C., February 25, 2018
- “The Role of Research Universities in Place-Based Climate Action,” panel discussion, Higher Education Climate Leadership Summit, Tempe, Arizona, February 6, 2018
- “Where America Stands: The 2017 Clarion Call for Competitiveness,” panel discussion, National Council on Competitiveness Forum, Washington, D.C., December 15, 2017
- “Higher Education: The Next Ten Years,” keynote address, Council of Graduate Schools 57<sup>th</sup> Annual Meeting, Scottsdale, Arizona, December 7, 2017
- “Pioneers and Possibilities,” panel discussion, edX Global Forum, Whistler, Canada, December 5, 2017
- “Driving Innovation in Higher Education: An American Example,” keynote address, Global Education Summit, Beijing, China, November 29, 2017
- “Science, Technology, Engineering, and Math: What STEM Can Help Us Achieve,” keynote address, Transforming STEM Higher Education Conference, San Francisco, California, November 2, 2017
- “Designing the New Global University,” panel discussion, PLuS Alliance, London, England, September 4, 2017
- “Innovation in the Age of Disruption,” panel discussion, The New York Times Higher Ed Leaders Forum, New York, New York, June 1, 2017
- Devotional, keynote address, Brigham Young University Idaho, Rexburg, Idaho, May 23, 2017
- “Innovation to Impact,” panel and roundtable discussion, King Abdullah University of Science & Technology, Thuwal, Saudi Arabia, May 19, 2017

- “The Future of Higher Education: The Real Innovations We Need,” keynote address, ASU + GSV Summit, Salt Lake City, Utah, May 10, 2017
- “Designing the Future: Innovation in Higher Education,” International Exhibition & Conference on Higher Education, Riyadh, Saudi Arabia, April 12, 2017
- “Innovative Practices for a Stronger Future,” panel discussion, Association of Governing Boards National Conference on Trusteeship, Dallas, Texas, April 2, 2017
- “Entrepreneurship and Innovation in Arizona,” discussion with Arizona Governor Doug Ducey, Arizona Tech Innovation Summit, Scottsdale, Arizona, March 23, 2017
- “The New American University: The Emerging Fifth Wave,” discussion with the University of Wisconsin System Board of Regents, Madison, Wisconsin, March 9, 2017
- “La Nueva Universidad Americana: 2025 y Más Allá,” discussion with University of Guadalajara Board of Rectors and General Administration Council, Guadalajara, Mexico, March 6, 2017
- “Wave 5: Launching the Next Wave in Higher Education,” keynote address, EDUCAUSE Enterprise IT Summit, Phoenix, Arizona, February 28, 2017
- “Designing for Resilience in American Higher Education,” keynote address, American Association of Independent Colleges and Presidents Annual Conference, Phoenix, Arizona, February 23, 2017
- Tree of Life Celebration, keynote address, Jewish National Fund, Phoenix, Arizona, January 19, 2017
- “Where Are They Now: A Look at America’s Next Generation Universities,” panel discussion, Washington, D.C., January 12, 2017
- “Growth, Innovation, and the Future of the Arizona Economy,” keynote address, 2016 Phoenix and East Valley Economic Forum, Tempe, Arizona, December 21, 2016
- “Designing the Future: Innovation in Higher Education,” keynote address, Third International Conference on Education Innovation, Mexico City, Mexico, December 14, 2016
- “Designing for the Future: Innovation in Higher Education,” keynote address, Education Speaker Series, Al Ghurair Foundation for Education, Dubai, United Arab Emirates, November 21, 2016
- “Wave 5: The University of the Future,” keynote address, Education Commission Speaker Series, Georgia Institute of Technology, Atlanta, Georgia, November 9, 2016
- “Designing the New American University,” panel discussion, American Society for Public Administration, Washington, D.C., October 4, 2016
- “Wave 5: Launching the Next Wave in Higher Education,” keynote address, Washington Higher Education Secretariat, Washington, D.C., October 4, 2016

“Teaching for the 21<sup>st</sup> Century,” panel discussion, *Times Higher Education* World Academic Summit, Berkeley, California, September 28, 2016

“Innovating Academia: Priorities for 21<sup>st</sup> Century Higher Education,” discussion with Tom Brokaw, Concordia Summit, New York, New York, September 19, 2016

Convocation, keynote address, Drexel University, Philadelphia, Pennsylvania, September 16, 2016

“Reflections on the Outputs of the Research University,” panel discussion, SciSIP Conference, National Academies of Sciences, Davis, California, June 6, 2016

*U.S. News and World Report* STEM Solutions National Leadership Conference, panel discussion, Baltimore, Maryland, May 18, 2016

“Progress Report: Education Leaders Sound Off,” panel discussion, Milken Institute Global Conference, Beverly Hills, California, May 2, 2016

“Wave 5: Launching the Next Wave in Higher Education,” keynote address, Chautauqua Weekend, St. John’s Health Center Foundation, Ojai, California, April 30, 2016

“Wave 5: Launching the Next Wave in Higher Education,” keynote address, ASU + GSV Summit, San Diego, California, April 20, 2016

VISTA Panel on Innovation, Thought Leadership and the Role of the Higher Learning Commission, panel discussion, Higher Learning Commission Annual Conference, Chicago, Illinois, April 16, 2016

“Designing the Research University of the Future,” panel discussion, The National Academy of Sciences Committee on Science, Technology and Law, Newport Beach, California, March 10, 2016

“Launching the Next Wave in Higher Education,” keynote address, SXSW Edu, Austin, Texas, March 7, 2016

“The Humanities in Higher Education: Disruption and Innovation in Higher Education – The Future of Arts and Design,” keynote address, 3 Million Stories Conference, Strategic Arts Alumni Project, Tempe, Arizona, March 4, 2016

“Access & Excellence: Bridging the Growing Digital Divide in Higher Education” panel discussion, Opportunity America Conference, Washington, D.C., January 15, 2015

“The Entrepreneurial Mindset in Higher Education,” keynote address, KEEN Conference, Kern Entrepreneurial Engineering Network, Phoenix, Arizona, January 11, 2016

“Competitiveness is Innovation,” remarks at National Competitiveness Forum, Washington, D.C., December 4, 2015

The White House College Opportunity Day of Action, panel discussion, Washington, D.C., December 4, 2015

“Science, Technology, Engineering and Math: What STEM Can Help us Achieve,” keynote address, Erich D. Bloch Lecture, Science Foundation Arizona, Tempe, Arizona, December 1, 2015

“The Impact of Latino Student Success,” keynote address, DATOS: The State of Arizona’s Hispanic Market, Arizona Hispanic Chamber of Commerce, Phoenix, Arizona, September 23, 2015

“Low Income/High Potential,” panel speaker, *New York Times* Schools for Tomorrow Conference, New York, NY, September 16, 2015

“Restarting Opportunity in the Connected Age,” panel discussion, The Aspen Institute, Aspen, Colorado, June 29, 2015

“The Cost of Higher Education: Four Years Out of Pocket,” *Economist* interview, June 22, 2015

“The Future is Calling and Universities Better Figure Out How To Answer,” panel discussion with California Lt. Governor Gavin Newsom, Zócalo Public Square, Sacramento, California, May 19, 2015

“Academic Engagement in Public and Political Discourse,” panel discussion, 2015 Michigan Meeting, University of Michigan, Ann Arbor, May 13-15, 2015

“Reinventing Higher Education,” *Economist* roundtable, May 5, 2015

“Arizona’s Economic Imperative: Leading the Nation in Latino Student Success,” keynote address, Helios Education Foundation, Phoenix, Arizona, April 30, 2015

“How Do We Design the University We Want and Need?” keynote address, Concordia University, Montreal, Canada, April 28, 2015

Interview with Mitch Daniels, former Indiana State Governor and Purdue University President, ASU GSV Summit, Scottsdale, Arizona, April 9, 2016

“Awareness and Action to Create a Sustainable Economy,” keynote address, Sustainability Summit, City University of Hong Kong, October 23, 2014

“The New Role of Business in Shaping the Future of Education,” panel discussion, Hinrich Foundation and Asia Society, Hong Kong, China, October 21, 2014

“Science and Higher Education Policy,” keynote address, Center for Technology and Innovation Policy (CTIP), Maxwell School of Citizenship and Public Affairs, Syracuse University, November 17, 2014

“Manufacturing Technology Game Changers,” panel moderator at American Energy and Manufacturing Competitiveness Forum, Council on Competitiveness, Washington, D.C., September 17, 2014.

Victor Hurst Convocation, keynote address, Clemson University, Clemson, South Carolina, August 19, 2014

- “The Future of the American Research University,” keynote address, Symposium on the Future of Higher Education, University of California, Riverside, May 9, 2014
- “Culture Change in Educational Innovation,” keynote address, Arizona State University and Global Silicon Valley (GSV) Summit, Phoenix, Arizona, April 22, 2014
- “Leadership for the Innovative University,” panel discussion, Georgetown University, March 28, 2014
- Insights from the Presidential Innovation Lab, panel discussion, American Council on Education, 96th Annual Meeting, San Diego, California, March 9, 2014
- “Adaptive Learning and National Need,” keynote address, Markle Economic Future Initiative, Markle Foundation, Ossining, New York, March 1, 2014
- “Universities as Partners in Global Development,” keynote address, World Bank, Washington, D.C., February 10, 2014
- “The Future of Higher Education,” panel discussion, The National Competitiveness Forum, The U.S. Council on Competitiveness, Washington, D.C., October 30, 2013
- “The Arizona Story – New Business Model,” American Association of State Colleges and Universities Annual Meeting, Los Angeles, California, October 22, 2013
- “Digital in Higher Education: Lessons from the Leading Edge,” panel discussion, McKinsey & Company Boards of Higher Education Summit, San Francisco, California, October 18, 2013
- “Reinvention,” panel discussion, *TIME* Summit on the Future of Higher Education, New York, New York, September 20, 2013
- “The Changing Nature of Leadership,” panel discussion, The Markle Initiative: America’s Economic Future in a Networked World, Aspen, Colorado, July 29, 2013
- “Complexity and Interdisciplinary: Reconceptualizing the Academic Enterprise,” remarks to the Santa Fe Institute, Santa Fe, New Mexico, July 21, 2013
- “The Next American University: Research, Faculty and Forging Partnerships,” panel discussion, The New America Foundation, Washington, D.C., May 21, 2013
- New York Times* Higher Education Panel, New America Foundation, Washington, D.C., May 18, 2013
- “The World Wide Ed – Global is the New Local,” ASU GSV Summit, Scottsdale, Arizona, April 17, 2013
- “Building a Complex Adaptive Knowledge Enterprise: The Case of ASU as the New American University,” presentation at Mayo Clinic Center for Innovation, Mayo Clinic, Rochester, Minnesota, March 19, 2013

- “How to Make It Work in Real Time and in Real Life: Building Interdisciplinary Programs,” remarks at Planning Meeting on Interdisciplinary Science Teams, Board on Behavioral, Cognitive, and Sensory Sciences, Division of Behavioral and Social Sciences and Education, National Research Council, National Academy of Sciences, Washington, D.C., January 11, 2013
- “Designing a True Public University for the Future,” Council of Graduate Schools Annual Conference, December 8, 2012
- “Innovation in the Biosciences and Economic Development in Arizona,” Tenth Anniversary Celebration of Arizona’s Bioscience Roadmap, Flinn Foundation, Phoenix, Arizona, December 4, 2012
- “A Watershed Moment: Will U.S. College and Universities Lead or Lag in Education and Innovation?” panel discussion, The National Press Club, Washington, D.C., November 14, 2012
- TIME* Summit on Higher Education, panel discussion, New York City, October 18, 2012
- “Bringing Genomics and Informatics to the Practice of Medicine to Improve the Diagnosis and Treatment of Cancer,” panel moderator, Washington, D.C., October 3, 2012
- “Precipice or Crossroads: A Symposium on the Future of Public Research Universities,” panel discussion on “Costs, Strategic Resource Investment, Finance, and Governance,” University of Vermont, October 10–12, 2012
- “Opportunities and Challenges for Research Universities,” panel discussion, A Celebration of Science: Renewing our Commitment to the Future, George Washington University, Washington, D.C., September 9, 2012
- “The Science of Science Communication,” panel discussion at the Arthur M. Sackler Colloquium, National Academy of Sciences, Washington, D.C., May 21, 2012
- “Massive Change,” League of European Research Universities, Barcelona, Spain, May 11, 2012
- “Innovation for Sustainability,” American Innovation for Sustainability Summit, U.S. Environmental Protection Agency and Arizona State University, Washington, D.C., April 22, 2012
- “The New American University,” “Academic Leadership in the West: Harnessing the Power of Disruptive Innovation,” Western Academic Leadership Forum (WALF), Phoenix, Arizona, April 18, 2012
- “The New American University and Its Global Challenges,” keynote address, “Giving Meaning to Interdisciplinarity in the Organization of Universities: A Symposium on the Occasion of Helmut Schelsky’s 100th Birthday,” Zentrum für interdisziplinäre Forschung (ZiF) (Center for Interdisciplinary Research), Universität Bielefeld, Bielefeld, Germany, April 12, 2012
- “Building International Education Networks and Exchanges: The Value of Global Education,” panel discussion, United States Department of Commerce, Washington, D.C., March 13, 2012



“Massive Change,” 2012 Robert H. Atwell Lecture, 94th Annual Meeting, American Council on Education, Los Angeles, March 11, 2012

American College & University Presidents Climate Commitment, presidents panel discussion, Phoenix, Arizona, March 2, 2012

“The New U: New Solutions, New Futures,” keynote address, TEDxAshokaU, Arlington, Virginia, February 10, 2012

“Innovation in Higher Education,” 27th Annual Emerging Issues Forum: “Investing in Generation Z,” North Carolina State University, February 6, 2012

“Solve for X with U,” keynote address, Google X, San Martin, California, February 3, 2012

“The New American University,” University Speaker Series, Georgia State University, January 27, 2012

Berlin 9 Open Access Conference, panel discussion on “Open Education: Linking Learning and Research through Open Access,” Howard Hughes Medical Institute, Chevy Chase, Maryland, 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

“Your Future: Arizona’s Sun Corridor,” keynote address, Tucson Regional Economic Opportunities, Tucson, Arizona, September 30, 2011

National Institute of Standards and Technology Innovation Policy Roundtable, Phoenix, Arizona, August 3, 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

“Inside Faith and Globalisation,” Tec de Monterrey Conference, Monterrey, Mexico, February 15, 2011

“Can Technology Policy be Democratic?” panel discussion, New America Foundation/ASU Future Tense, Washington, D.C., February 3, 2011

- “Designing a University for America’s Complex Future,” Harvard University Program on Science, Technology, and Society, Harvard Kennedy School, November 30, 2010
- “Reimagining Public Higher Education,” panel discussion, Summit on Public Higher Education, New York, New York, November 10, 2011
- ARPA-E/ASU Southwest Energy Innovation Forum, panel discussion, Phoenix Arizona, October 18, 2010
- “Educating Students for the 21<sup>st</sup> Century Business Climate,” panel discussion, American College & University Presidents Climate Commitment, Denver, Colorado, October 13, 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
- “Smart Places: How do we foster creativity and innovation in a world of rapid urbanization,” panel discussion, Council on Competitiveness 2<sup>nd</sup> US-Brazil Innovation Summit, Washington D.C., September 21, 2010
- “Citizenship and Pathways for a Green Economy,” panel discussion, US Department of Education Sustainability Education Summit, Washington D.C., September 20, 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
- “Getting back in the race: Fixing American Education,” panel discussion, The National Press Club, Washington, D.C., June 4, 2010
- “Getting In and Staying In: The next frontiers of college access, affordability and value,” panel discussion, The Newseum, Washington, D.C., May 22, 2010
- “Engineering in the Service of the Nation,” National Academy of Engineering Phoenix Grand Challenges Summit, Arizona State University, Arizona Biltmore, April 8, 2010
- ASU 1<sup>st</sup> Energy Forum, The National Press Club, Washington, D.C., April 1, 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
- “The New Green Economy: How can we get there from here?” panel discussion, 10<sup>th</sup> National Conference on Science, Policy and the Environment, Washington, D.C., January 21, 2010
- “The Experience of Member Universities Handling Budgets,” panel discussion, APLU Council of Presidents, Washington, D.C., November 16, 2009

- GreenBuild Executive Roundtable, Phoenix, Arizona, November 11, 2009
- “Smart Leadership in Difficult Times,” panel discussion, TIAA-CREF Institute: Higher Education Leadership Conference, New York, New York, November 5, 2009
- “Mobilizing a World-Class Energy Workforce,” a panel discussion at the National Energy Summit and International Dialogue, Council on Competitiveness, Washington, D.C., September 23, 2009
- “Funding Climate Action and Other Higher Education Sustainability Efforts,” panel discussion, ACUPCC Climate Leadership Summit, Chicago, Illinois, August 14, 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, D.C., 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, D.C., June 3, 2009
- “Rebuilding Arizona’s Economy,” panel discussion, Greater Phoenix Economic Council Town Hall, Phoenix, Arizona, May 18, 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, D.C., 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, D.C., 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, D.C., 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
- “Leadership Now for Climate Neutrality,” a presidential panel discussion, ACUPCC Leadership Summit, Grand Rapids, Michigan, June 6, 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, D.C., April 3, 2008
- Science and Technology Policy Fellows Seminar, American Association for the Advancement of Science (AAAS), National Science Foundation, Washington, D.C., 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
- “Solutions: Engaging Communities Large and Small,” panel discussion, National Conference on Science, Policy and the Environment, “Climate Change: Science and Solutions,” Washington, D.C., January 17, 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
- “Converging, Combining, Emerging,” panel discussion, Highlands Forum, Washington, D.C., May 31, 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
- Chronicle of Higher Education Leadership Forum, Las Vegas, Nevada, November 14, 2006
- “The Future of Informatics,” panel discussion, School of Computing and Informatics Launch, Arizona State University, September 29, 2006
- “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
- “Changing Sciences, Changing Institutions,” panel discussion, The Atlanta Conference on Science and Technology Policy, Atlanta, Georgia, May 18, 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, D.C., 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, D.C., 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, D.C., 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

Children: Ryan Crow, Britt Crow-Miller, Alana Francis-Crow