

PAUL MARTIN

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Professional appointments

Arizona State University, Tempe, AZ

Co-Director, Center for Innovation in Informal STEM Learning, 2017–present

Science Museum of Minnesota, Saint Paul, MN

Senior Vice President, Science Learning 2010–2017

Vice President, Exhibits 2005–2010

Director, Exhibits Division 2003–2005

Head of Exhibit Development 1996–2003

Production Manager and Lighting Designer 1975–1980

Minnesota Historical Society, Saint Paul, MN

Director of Exhibits 1990–1996

The Field Museum of Natural History, Chicago, IL

Design Supervisor 1987–1990

Design Consultant 1985–1987

Museum Content Builders, Inc., Sudbury, Ontario

Partner and Technical Design Director 1981–1984

Jim Henson Productions, Inc. New York, NY

Design Consultant and Production Manager 1980–1987

Paul Martin Lighting Design and Consultation

Owner and Designer 1980–1990

Grants and projects

Federal grants

After the Dinosaurs: A Paleontology Exhibition and Education Project. Science Museum of Minnesota. Exhibit featuring a detailed reconstruction of the ecology of a Paleocene subtropical environment in the North Plains of North America. NSF #9705453, \$\$1,524,486, PI Redline, 7/1/1997-6/30/2002. Role: Project development and senior personnel.

Amazon Voyage: Vicious Fishes and Other Riches. Miami Museum of Science with Science Museum of Minnesota. Develop a 5,000 square foot exhibition to immerse visitors in the Amazon's rich diversity. NSF#0229625, \$2,372,328, PI Duran, 2/13/2003-9/30/2006. Role: Project development and oversight.

Atmospheric Explorations: Weather and Climate Systems. The Center for Atmospheric and Space Sciences (CASS) at Augsburg College with the Science Museum of Minnesota. Develop and produce three exhibit clusters on important weather and climate systems that affect our everyday lives. NSF #9804107, PI Jaspers, \$609,542, 7/1/1998-6/30/2003. Role: Project oversight.

Biomusic: The Music of Nature. Science Museum of Minnesota. Develop a 4,000 square foot traveling exhibition exploring the origins of music in nature and the connections between music and sound of living things. NSF #0407373, \$2,701,853, PI Newlin, 9/1/2004-8/31/2009. Role: Project development and senior personnel.

Bits-2-Bites: Youth Applying STEM Content and Computational Thinking to Learn about Nutrition and Advocate for Food Justice. Science Museum of Minnesota. Engage middle school and high school students in learning to apply computational thinking and computer based tools to address STEM-related community health issues such as obesity and diabetes. NSF#1312282, \$1,199,537, PI Adamji, 10/1/2013-9/30-2017. Role: Project development and oversight.

Brighter Futures: Public Deliberation About the Science of Early Childhood Development. Science Museum of Minnesota, University of Minnesota, and community collaborators. Engage the general public, policymakers, and caregivers in deliberations around the latest early childhood development research through programs, an interactive exhibition, and two research studies. NSF #0813522, \$2,268,849, PI Fink, 9/15/2008-9/31/2015. Role: Project development and senior personnel.

Building Informal Science Education: Supporting Evaluation of Exhibitions and Programs with an informalscience.org Research Network. University of Pittsburgh and multiple collaborators. Facilitate the growth and use of the website informalscience.org for posting reports of research and evaluation of NSF-funded projects related to informal STEM education. NSF#1010924, \$1,458,600, PI Crowley, 8/15/2010-7/31/2015. Role: Project development and oversight.

Buildings: A Travelling Exhibit and Permanent Installation with Education and Outreach Programs. Science Museum of Minnesota. Create and exhibition and educational programming exploring the science, technology and human perception of buildings. NSF #9627112, \$1,088,805, PI Garfinkle, 9/15/1996-8/31/1999. Role: Project development and senior personnel.

Center for the Advancement of Informal STEM Education. Association of Science-Technology Centers with multiple collaborating organizations. Resource center for the National Science Foundation's Advancing Informal Science Learning program. NSF #1612739, PI J. Bell, \$5,000,000, 9/15/2016-9/14/2021. Role: Participate in task forces and serve as NISE Network liaison.

ChemAttitudes: Using Design-Based Research to Develop and Disseminate Strategies and Materials to Support Chemistry Interest, Relevance, and Self-Efficacy. Museum of Science, American Chemical Society, and multiple other organizations. Create and study innovative approaches to informal

science learning about chemistry. NSF #1612482, PI L. Bell, \$2,634,708, 10/1/2016-9/30/2019. Role: Member of leadership team.

Climate Change Education. Science Museum of Minnesota and Columbia University. Develop multimedia kiosks and teacher training about climate science. NASA #NX09AL39G, \$758,866, PI Hamilton, 7/1/2009-6/30/2014. Role: Project development and oversight.

Complex Adaptive Systems as a Model for Network Evaluations (CASNET). University of Minnesota, Science Museum of Minnesota, Museum of Science, and Oregon Museum of Science and Industry. Research applying complexity theory as a theoretical framework for the evaluation of the Nanoscale Informal Science Education Network (NISE Net). NSF #1228868, \$799,881, PI Lawrenz, 9/6/2012-7/31/2014. Role: Project oversight.

Cyborgs: A Natural History of Machines and Humans. Science Museum of Minnesota. Create a national traveling exhibit, website, and educational programs focused on the boundaries between humans and machines. NSF #0104691, \$1,881,283, PI Pohlman, 9/15/2001-8/31/2005. Role: Project development and senior personnel.

Dead Sea Scrolls. Science Museum of Minnesota. Underwrite insurance premiums for the 14,000 square foot exhibition. National Endowment for the Arts' Arts and Artifacts Indemnity Program, \$133,000, PI Imholte, 1/1/2010-11/30/2010. Role: Project development, fundraising, and oversight.

DEVISE: Developing, Validating, and Implementing Situated Evaluation Instruments. Cornell Lab of Ornithology with Science Museum of Minnesota. Create, test, validate, and disseminate a suite of evaluation tools for use by professionals who are developing Public Participation in Scientific Research projects. NSF #1010744, \$1,400,000, PI Bonney, 8/15/2010-7/31/2017. Role: Project oversight.

Disease Detectives. Science Museum of Minnesota. Develop a 1,500 square foot traveling exhibition that explores the world of infectious diseases. NIH #5R25RR20439-5, \$1,348,548, PI Fink, 3/1/2004-2/28/2009. Role: Project development and senior personnel.

DragonFly TV GPS: Investigating the Nanoworld. Twin Cities Public Television and multiple collaborators. Six episodes for the Dragonfly TV GPS (Going Places in Science) series to engaging audiences in learning about nanoscale science and technology. NSF#0741749, \$1,982,391, PI Hudson, 5/1/2008-4/30/2011. Role: Project oversight for episode set at Science Museum of Minnesota.

EAGER: MAKER: Studying the Role of Failure in Design and Making. Science Museum of Minnesota. Research on failure and persistence in making experiences involving underserved and underrepresented youth. NSF#1623447, \$115,190, PI Anderson, 10/1/2016-9/30/2018. Role: Project development and oversight.

Elementary, Secondary, and Informal Education: Invention at Play. Smithsonian Institution's Lemelson Center for the Study of Invention in cooperation with the Playful Invention and Exploration Network (a consortium of six museums). *Invention at Play*, a traveling exhibit in two sizes (3,500 square feet and 1,500 square feet), explores the value of play and its critical role in

the development of creative human beings. NSF#0125417, \$1,593,241, PI Smith, 6/1/2002-5/31/2007. Role: Project development and senior personnel.

Engineering Research Center for Compact and Efficient Fluid Power. University of Minnesota with Science Museum of Minnesota. Create permanent exhibits, traveling exhibits, educational materials, and an extracurricular fluid power program for middle schools and high schools. NSF #0540834, \$34,691,037, PI Stelson, 6/1/2006-5/31/2017. Role: Project development and oversight.

Explore Evolution. University of Nebraska-Lincoln with Science Museum of Minnesota. Develop traveling exhibits and activity kits to introduce the concept of evolution to museum audiences and 4-H groups. NSF #0229294, \$2,851,404, PI Diamond, 6/1/2003-10/31/2007. Role: Project development and oversight.

Exploring Time. Science Museum of Minnesota. Develop a 4,000 square foot traveling exhibition, related educational materials, and public website exploring the vast world of phenomena that happen too quickly or too slowly for humans to perceive. NSF #9901919, \$1,895,595, PI Newlin, 8/1/1999-1/1/2003. Role: Project development and senior personnel.

Free Access Learning with Museum Collections in an Animal Resource Center. Field Museum of Natural History. Design and construct an Animal Resource Center of 24,000 square feet in the context of its encompassing larger exhibit, Diversity and Survival in the Animal Kingdom. NSF #8954698, \$1,198,196, PI Spock, 9/1/1989-5/31/1992. Role: Project development and senior personnel.

Future Earth Initiative Exhibit and Programs. Science Museum of Minnesota. Develop exhibits exploring the theme of the Anthropocene epoch. NSF #0741760, \$2,999,377, PI Hamilton 9/1/2008-9/30/2014. Role: Project development and senior personnel.

Geometry Playground: An Immersive Learning Laboratory. Exploratorium, Science Museum of Minnesota, and additional collaborators. Engage public audiences with geometry in physically immersive environments, including an indoor 4,500 square foot traveling exhibition and outdoor exhibits for public and school playgrounds and museums. NSF#0610436, \$2,993,050, PI Rockwell, 10/1/2006-9/30/2011. Role: Project development and senior personnel.

Gender Research on Adult-child Discussion in Informal Engineering eNvironments (GRADIENT). Science Museum of Minnesota and Purdue University. Study gender differences in the development of engineering interest and understanding in children between the ages of 4 and 11. NSF #1136253, \$524,718, PI King, 1/1/2012-12/31/2015. Role: Project oversight.

Hall of Life Health Science Exhibits. Denver Museum of Nature with contract for services to Science Museum of Minnesota. As major a component of a 10,000 sq. ft. health exhibit, create Biology Base Camp, a hands on public lab where visitors can do real time wet biology experiments. NSF#8850606, \$496,211, PI Goddard, 1/15/2009-6/30-2011. Role: Project development and principal in charge.

Handling Calculus: Math in Motion. Science Museum of Minnesota. Introduce museum visitors to calculus through interactive physical models that illustrate mathematical concepts both

kinesthetically and conceptually. NSF #0087912, \$989,504, PI Newlin, 6/1/2001-5/31/2005. Role: Project development and senior personnel.

Investigations in Cell Biology. Science Museum of Minnesota. Introduce cell biology, microbiology, and molecular biology to museum audiences through a wet lab with micro-experiment benches; provide training and support for school teachers, classes for adults and teens, and a program for local high school youth. NSF #98-15069, \$974,943, PI Fink, 7/1/1999-6/30/2006. Role: Project development and senior personnel.

iPAGE: Developing a Model for Broadening Participation in Informal STEM Institutions. Science Museum of Minnesota. Expand a comprehensive program including learning modules, workshops, and site visits that prepare informal STEM institutions to make their institutions more inclusive STEM learning environments. NSF#1612640, \$2,147,156 PI Chatman, 9/8/2016-8/31/2019. Role: Project oversight.

Journey to Space I. Science Museum of Minnesota. Develop a large national traveling exhibition exploring what it takes to live and work in space. NASA #NNX10AK10G, \$1,248,959, PI Jolly, 1/1/2011-12/31/13. Role: Co-investigator.

Journey to Space II. Science Museum of Minnesota with the International Space Station (ISS) Office of the Johnson Space Center. Create additional components for a large national traveling exhibition featuring what it takes to live and work in space. NASA #NNX12AL42G, \$300,000, PI Jolly, 11/1/2012-8/31/2015. Role: Co-investigator.

Journey to Space III: Engineering for Space Exploration. Science Museum of Minnesota. Create additional components for a large national traveling exhibition featuring what it takes to live and work in space. NASA #NNX14AD16G, \$999,998, PI Jolly, 9/1/2013-8/31/2015. Role: Co-investigator.

LinCT: Linking Educators, Youth, and Learners in Computational Thinking. Science Museum of Minnesota. Engage female teachers-in-training and youth from underrepresented demographics in immersive technology experiences and STEM education, guiding teachers to develop their understanding and use of technology in the classroom and preparing youth for a future where technology plays a key role in a wide range of professional opportunities. NSF#1513009, \$1,198,689, PI Guimond, 8/1/2015-7/31/2018. Role: Project oversight.

Making Connections: Exploring Culturally-Relevant Maker Experiences through an Iterative, Cross-Institutional Approach. Science Museum of Minnesota. Research cross-institutional approaches to using making activities to engage people from communities historically underrepresented in STEM fields. (NSF #1323584, \$899,738, PI Bequette, 10/1/2013-9/30/2017). Role: Project development, senior personnel, and member of leadership team.

Math Core for Museums. Science Museum of Minnesota. Develop, install, and study in four museums a set of math exhibits for children and families on the topic of ratio and proportion. NSF #0840320, \$2,604,410, PI Newlin, 9/1/2009-9/30/2015. Role: Project development and senior personnel.

Maximizing Collective Impact Through Cross-Sector Partnerships: Planning a SENCER and NISE Net Collaboration. SUNY Stony Brook. Plan a collaboration between the National Center for Science

and Civic Engagement and the National Informal STEM Education Network. NSF #1612376, PI Burns, \$149,987, 9/15/2016-9/14/2017. Role: Co-principal investigator.

Mississippi RiverWeb Museum Consortium. St. Louis Science Center, Science Museum of Minnesota, Illinois State Museum, St. Louis Science Center, and National Center for Supercomputing Applications at the University of Illinois in Champaign. Form a museum consortium to develop two virtual reality interactive displays. NSF #9814287, \$417,452, PI Roman, 9/15/1998-3/31/2003. Role: Project development and senior personnel.

Multi-Site Public Engagement with Science–Synthetic Biology. Museum of Science with multiple collaborators. Hands-on activities to promote multidirectional dialogue between scientists and members of the public related to the societal implications of synthetic biology. NSF #1421179, PI L. Bell, \$2,101,572, 10/1/2014-9/30/2017. Role: Member of leadership team.

National Center for Earth-Surface Dynamics (NCED). University of Minnesota with Science Museum of Minnesota. Produce exhibits, community workshops, and informal education programs. NSF #0120914, \$4,270,000, PI Fofoula-Georgiou, 8/1/2002-7/31/2013. Role: Project development and senior personnel.

National Center for Earth-Surface Dynamics 2: The Past and Future Earth. University of Minnesota with Science Museum of Minnesota. Develop exhibits and educational programs. NSF #1246761, \$2,411,891, PI Paola, 4/1/2013-3/31/2018. Role: Senior personnel.

Nanoscale Informal Science Education Network. Museum of Science with multiple collaborators. Created a national community of researchers and informal science educators dedicated to fostering public awareness, engagement, and understanding of nanoscale science, engineering, and technology. NSF #0532536/0940143, \$41,741,754, PI Bell, 9/1/2005-2/28/2017. Role: Co-principal investigator.

Peer Alliance for Gender Equity (PAGE). Science Museum of Minnesota. Promote awareness and support implementation of research-based, gender-sensitive pedagogical strategies into the community of education reform leaders conducting K-12 professional development in STEM. NSF #0734095, \$166,765, PI Chatman, 9/1/2007-8/31/2010. Role: Project oversight.

Peer Alliance for Gender Equity (PAGE). Science Museum of Minnesota. Build the capacity of district education leaders in STEM to provide professional development to K-12 STEM teachers in research-based, gender-sensitive pedagogical classroom practices. NSF #0734095, \$2,805,354, PI Chatman, 7/1/2011-6/30/2017. Role: Project oversight.

Planet Earth Decision Theater. Science Museum of Minnesota. Create an interactive theater program using Science-on-a-Sphere paired with visitor voting technology. NOAA #NA10SEC0080021, \$504,000, PI Hamilton, 1/7/2010-12/31/2013. Role: Project oversight.

Prairie Science: Integrating Informal Science and History Learning through Family Dialogue. Connor Prairie Interactive History Park, Science Museum of Minnesota, and additional collaborators. Facilitate STEM concept learning by integrating a historical perspective and a science center-based perspective to create interactive exhibits. NSF #1223770, \$2,283,652, PI Ferree, 9/1/2012-8/31/2016. Project development and senior personnel.

Presenting Current Science and Research: A New Model for Exhibit Making. Science Museum of Minnesota. Develop an on-line resource for dialogue around current science news and an infrastructure for creating “fast turnaround” exhibits for the museum floor. NSF #0337389, \$1,547,901, PI Pryor, 4/1/2004-3/31/2011. Role: Co-principal investigator.

RACE Forward: Understanding and Catalyzing Equity-Oriented Change in Museums and Science Centers. University of Wisconsin-Madison, Science Museum of Minnesota, and Garibay Group. Study how and under what circumstances science museums, science centers, and other designed settings for informal science education (ISE) can change so that they will reach more diverse audiences with the full range of their educational activities (NSF #1516255, \$1,228,882, PI Feinstein, 8/15/2015-7/31/2019). Role: Member of leadership team.

Race Programming. The Science Museum of Minnesota. Staff training and community engagement in conjunction with the *RACE: Are We So Different* exhibit. IMLS MA-20-15-0508-15, \$73,182, PI Jones-Rizzi, 9/1/2015-8/31/2017. Role: Project development and senior personnel.

RCN-SEES: Urban Heat Island Network. University of Minnesota with Science Museum of Minnesota. Advance multidisciplinary understanding of urban heat islands, examine how they can be ameliorated through engineering and design practices, and share these new insights with a wide array of stakeholders. NSF #1231325, \$749,732, PI Snyder, 10/1/2012-9/30/2017. Role: Senior personnel.

Science Components of a Major Exhibit on Pacific Islands. Field Museum of Natural History. Science, mathematics, and technology components for a new 17,000 square foot exhibition on the Pacific. NSF #8751766, \$717,242, PI Spock, 5/15/1988-10/31/1991. Role: Project development and senior personnel.

Science-on-a-Sphere (SOS). Science Museum of Minnesota. Presenting NOAA science on SOS at the Maryland Science Center, the Science Museum of Minnesota, and in *H₂O Water Equals Life* national traveling exhibition. NOAA #NA05SEC4691012, \$170,000 and #NA05SEC4691009, \$220,000, PI Hamilton, 9/1/2005-8/31/2008. Role: Project development and oversight.

Sense-Making of Big Data. Indiana University with Science Museum of Minnesota. Study how audiences in a museum setting relate to and make sense of large data displays. NSF#1223698, \$250,000, PI Borner, 7/15/2012-6/30/2015. Role: Co-principal investigator.

SOS Ocean-Atmosphere Literacy Partnership. American Museum of Natural History with Science Museum of Minnesota. Science-on-a-Sphere programming for host sites of *H₂O: Water Equals Life* national traveling exhibition. NOAA #NA08SEC4690037, \$300,000, PI Kinzler, 7/1/2008-6/30/2010. Role: Project development and oversight.

Space and Earth Informal STEM Education (SEISE). Science Museum of Minnesota in collaboration with NASA and multiple other organizations. Develop and distribute STEM educational products to hundreds of informal learning organizations and provide professional development for informal educators. NASA #NNX16AC67A, PI Martin, \$14,500,000, 1/1/2015-12/31/2020. Role: Principal investigator.

STEM Justice: Building Youth Science Capital. Science Museum of Minnesota. Study a long-term, out-of-school program for high school-age youth from groups underrepresented in STEM

academics and careers. The program's STEM Justice model engages youth as learners, teachers, and leaders who address critical community issues through STEM. NSF#1612782, \$739,019, PI McManimon, 9/15/2016-8/31/2019. Role: Project development and oversight.

Traveling Exhibit on Technology, Imagination and the Future Using the Fantasy Technologies in the Star Wars Movies as Examples. Museum of Science with contract for services to Science Museum of Minnesota. Develop a national traveling exhibition and associated programs supporting technological literacy. NSF#0307875, \$2,738,060, PI L. Bell, 9/1/2003-8/31/2006. Role: Project oversight.

Tissues of Life. Science Museum of Minnesota. Long-term exhibition that explores tissues from skin surface to cells. NIH #RR15645, \$972,000, PI Fink, 6/1/2000-5/30/2003. Role: Project development and senior personnel.

Understanding Birds. Cornell Lab of Ornithology with contract for services to Science Museum of Minnesota. Developed and produced a suite of exhibits and related programming in the Lab's new environmental science center in Sapsucker Woods. NSF #0104704, \$1,700,000, PI Bonney, 9/15/2001-2/28/2006. Role: Senior personnel and principal in charge.

Understanding Race and Human Variation: A Public Education Program. American Anthropological Association and Science Museum of Minnesota. Develop a traveling exhibition on human variation and the cultural construct of race. NSF #0307843, \$2,964,744, PI Overbey, 5/1/2004-4/30/2008. Role: Project development and member of leadership team.

Water Planet. Science Museum of Minnesota. Develop a traveling exhibition focusing on the field of Earth system science. NSF #0515599, \$2,399,989, PI Hamilton, 9/25/2005-8/31/2009. Role: Project development and oversight.

Weighing the Evidence: Making Informed Health Care Decisions. Science Museum of Minnesota. Develop a 2,500 square foot exhibition that uses the Museum's collection of questionable medical devices to help visitors explore their health care choices. NIH #5R25OD010544-04, \$1,402,900, PI Fink, 9/1/2012-9/1/2017. Role: Project development and senior personnel.

Window on Catahoyuk: An Archaeological Work in Progress. Science Museum of Minnesota. Educational materials including 4,500 square foot exhibition, a website, instructions for building the interactive archaeology exhibits, and a suite of related classroom activities. NSF #9804040, \$1,550,073, PI Pohlman, 1/1/1999-12/31/2004. Role: Senior personnel.

State Grants

American Indian Collections Purchase, Educational Videoconferencing, and Statewide Public Outreach. Science Museum of Minnesota. Enhance American Indian collections and programming through artifact acquisition and digitization; pilot educational video conferencing; and offer statewide public outreach through workshops and theater presentations. Minnesota Department of Administration Arts and Cultural Heritage Fund Grant, \$891,000, 10/1/2009-6/30/2011. Role: Project development and oversight.

American Indian Programming, School Network. Science Museum of Minnesota. Enhance American Indian collections and programming through exhibits, artifact acquisition, conservation and

digitization; support school network for program delivery to all 87 counties; create online standards database; and implement technical upgrades in the Omnitheater to show digital productions. Minnesota Department of Administration Arts and Cultural Heritage Fund Grant, \$2,178,000, 7/1/2013-6/30/2015. Role: Project development and oversight.

American Indian Programming, School Network. Science Museum of Minnesota. Enhance American Indian collections and programming through exhibits, curriculum development, artifact conservation, and collection digitization; support school network for program delivery to all 87 counties; create online standards database; and provide expanded school program options for the *RACE: Are We So Different?* exhibition. Minnesota Department of Administration Arts and Cultural Heritage Fund Grant, \$1,176,000, 7/1/2015-6/30/2017. Role: Project development and oversight.

American Indian Programming, School Services. Science Museum of Minnesota. Enhance American Indian collections and programming through artifact acquisition, conservation and digitization; improve school services to increase student participation statewide. Minnesota Department of Administration Arts and Cultural Heritage Fund Grant, \$990,000, 7/1/2011-6/30/2013. Role: Project development and oversight.

"Earth Solutions" Science-on-a-Sphere Programs. Science Museum of Minnesota and University of Minnesota. Develop and produce three new programs for Science-on-a-Sphere. Institute on the Environment, \$126,000, PI Hamilton. 1/1/2009-12/31/2011. Role: Project development and oversight.

Kitty Andersen Youth Science Center (KAYSC). Science Museum of Minnesota. Support for Alumni training programs. Minnesota Department of Employment and Economic Development, \$160,000, PI Schreiber, 7/1/14-6/30/16. Role: Project development and oversight.

Corporate and Foundation Grants

Bright Lights Award. Science Museum of Minnesota. Support programming associated with the RACE exhibition. Noyce Foundation, \$150,000, PI Rizzi, 6/12/14-6/30/17. Role: Project development, fundraising, and oversight.

Current Science Initiative Pilot. Science Museum of Minnesota. Pilot project to redefine science for visitors as a dynamic human endeavor that is rich in discovery and relevant to their lives through an online learning community. The Bush Foundation, \$100,000, PI Pryor, 7/1/2001-6/30/2002. Role: Project development, fundraising, and co-principal investigator.

Current Science Initiative Project. Science Museum of Minnesota. Redefine science for visitors as a dynamic human endeavor that is rich in discovery and relevant to their lives by creating the Science Buzz online learning community. The Bush Foundation, \$1,500,000, PI Pryor, 12/1/2002-12/31/2008. Role: Project development, fundraising, and co-principal investigator.

Engineering is Elementary (EiE). Science Museum of Minnesota and Museum of Science. Provide programs to train Minneapolis and Hopkins Public Schools to teach the EiE curriculum, reaching every third, fourth, and fifth grade teacher and students in participating districts.

Cargill Foundation, \$2,500,000, PI Guimond, 9/1/2010-6/30/2014. Role: Project development and oversight.

Engineering is Elementary (EiE). Science Museum of Minnesota. Provide programs to train Minneapolis and Hopkins Public Schools to teach the EiE curriculum, reaching every first and second grade teacher and students in participating districts. Cargill Foundation, \$1,100,000, PI Guimond, 7/1/2014-6/30/2017. Role: Project development and oversight.

Engineering is Elementary (EiE). Science Museum of Minnesota. Provide programs to train Minneapolis, Hopkins, and Richfield Public Schools to teach the EiE curriculum, reaching every sixth grade teacher and student in participating districts. Cargill Foundation, \$1,500,000, PI Guimond, 7/1/2015-6/30/2018. Role: Project development, fundraising, and oversight.

Engineering Studio. Science Museum of Minnesota. Develop and produce a suite of design engineering challenge exhibits. 3M Foundation, \$600,000, PI Newlin, 4/1/11-3/31/2013. Role: Project development, fundraising, and oversight.

Experiment Gallery Renovation. Science Museum of Minnesota. Update the museum's most popular exhibit gallery. 3M Foundation, \$500,000, PI Newlin, 7/1/2002-6/30/2003). Role: Project development, fundraising, and oversight.

Experiment Gallery Renovation. Science Museum of Minnesota. Continue updates to the museum's most popular exhibit gallery. 3M Foundation, \$500,000, PI Newlin, 7/1/2003-6/30/2004. Role: Project development, fundraising, and oversight.

Experiment Gallery Operations and Renovation, Lab Partners program, Managing Light exhibition, and Teacher Resource Center Planning. Science Museum of Minnesota. Support for museum initiatives. 3M Foundation, \$1,000,000, 7/1/05-6/30/2008. Role: Project development, fundraising, and oversight.

Family Conversations and the Nature of Science. Science Museum of Minnesota. Conduct research on family conversations related to the nature of science and build upon that research to renovate the Dinosaurs & Fossils Gallery to create the museum's first family learning gallery. HB Fuller Foundation, \$92,452, PI Ellenbogen, 9/1/08-8/30/10. Role: Project development and oversight.

Family Learning Initiative. Science Museum of Minnesota. Conduct workshops to help parents support their children's science learning in the context of a museum visit. HB Fuller Foundation and MetLife Foundation, \$150,000, PI Ellenbogen, 7/1/2006-6/30/2007. Role: Project development and oversight.

Kitty Andersen Youth Science Center (KAYSC). Science Museum of Minnesota. Operating and staff support. Greater Twin Cities United Way, \$600,000, PI Adamji, 7/1/15-6/30/18. Role: Project development and oversight.

Knight Arts Challenge. Science Museum of Minnesota with Penumbra Theatre. Create theater-based RACE programming for school groups. Knight Foundation, \$58,356, PI Rizzi, 10/01/14-6/30/17. Role: Project development, fundraising, and oversight.

Mentor Buzz Pilot. Science Museum of Minnesota. Develop a collaboration between the museum and the Mentoring Partnership of Minnesota to create an online STEM learning resource via Science Buzz. GE Foundation, \$50,000, PI Pryor, 7/1/2007-6/30/2007. Role: Project development, fundraising, and co-principal investigator.

Mentor Buzz Project. Science Museum of Minnesota and the Mentoring Partnership of Minnesota. Promote the participation of mentors and youth in the *Science Buzz* website devoted to developing, growing, and sustaining an informal online learning community centered on current science topics. GE Foundation, \$1,800,000, PI Pryor, 12/1/2007-6/30/2017. Role: Project development, fundraising, and co-principal investigator.

National Tour Sponsorship for RACE: Are We So Different? Science Museum of Minnesota. Support for local programming at each venue during the national tour of the traveling exhibition. Best Buy Children's Foundation, \$1,000,000, PI Martin, 6/1/07-3/31/2012. Role: Project development, fundraising, and principal investigator.

Opportunity Fund: Because Science is Essential Capital Campaign. Science Museum of Minnesota. Contribution to a fund for investment in revenue generating projects that return earned income to the fund. Medtronic Foundation, \$1,000,000, 4/1/2010. Role: Member of capital campaign leadership team.

Opportunity Fund: Because Science is Essential Capital Campaign. Science Museum of Minnesota. Contribution to a fund for investment in revenue generating projects that return earned income to the fund. General Mills Foundation, \$1,000,000, 8/1/2010. Role: Member of capital campaign leadership team.

RACE: Are We So Different? Local Programming. Science Museum of Minnesota. Programming in conjunction with RACE exhibition. St. Paul Travelers Foundation, \$150,000, PI Rizzi, 1/1/2006-6/1/2007. Role: Project development, fundraising, and oversight.

RACE: Are We So Different? Local Programming. Science Museum of Minnesota. Training for a program facilitators, a subsidized free day, and access to the exhibit for Native American youth. Minneapolis Foundation, Grotto Foundation, and Laura Jane Musser Foundation, \$99,000, PI Rizzi, 11/01/2006-5/30/2007. Role: Project development, fundraising, and oversight.

School-Family-Museum Connections. Science Museum of Minnesota. Support school family nights at the museum. HB Fuller Foundation, \$100,000, PI Bequette, 4/1/14-6/30/16. Role: Project development, fundraising, and oversight.

Sportsology. Science Museum of Minnesota. Create a 5,000 square foot long-term exhibition. Total project \$3,000,000, supported by the Health Partners Foundation (\$1,500,000) and operating funds (\$1,500,000), PI Martin, 1/1/2015-12/31/2017. Role: Project fundraising and oversight.

New building projects and major exhibitions

Art of the Muppets. Jim Henson Productions. Tour management and lighting design for a 6,000 square foot national traveling exhibition. Internally funded, \$1,500,000, 5/1/1981-12/31/1990. Role: Production manager, lighting designer, and tour manager.

Cenote of Sacrifice. Science Museum of Minnesota with the Harvard Peabody Museum. Tour management of a 5,000 square foot national traveling exhibition. Grant funded, \$2,000,000, 7/1/1983-6/30-1987. Role: Tour manager.

Center for Exploration and Mysteries in History. Indianapolis Children's Museum with contract for services to Paul Martin Lighting Design and Consultation. Two 8,000 square foot long-term exhibitions. Internally funded, \$3,000,000, 12/1/1983-12/31/1984. Role: Design consultant and lighting designer.

Coast to Cactus. San Diego Natural History Museum with contract for services to Science Museum of Minnesota. Development, production, and installation of a 15,000 square foot long-term exhibition. State of California, \$5,200,000, 6/1/2012-6/30 2016. Role: Principal in charge, project cultivation, and client relations.

Discovery Place, Charlotte, NC with a contract for services to Paul Martin Lighting Design and Consultation. Lighting design for new 60,000 square foot science center. Capital campaign, \$6,000,000, 6/1/1980-10/31/1981. Role: Lighting designer.

Ecosystems. California Science Center with contract for services to Science Museum of Minnesota. Architectural integration, master planning, and exhibit design and production for 30,000 square feet of long-term exhibitions. Capital campaign and State of California, \$9,000,000, 7/1/2000-6/30/2009. Role: Principal in charge, project cultivation, architectural program consultant, and client relations.

Fossil Mysteries. San Diego Natural History Museum with contract for services to Science Museum of Minnesota. Design detailing and production for a 25,000 square foot long-term exhibition. Private donors, \$2,000,000, 7/1/2003-6/30/2007. Role: Principal in charge, project cultivation, and client relations.

Goosebumps: The Science of Fear. California Science Center with contract for services to Science Museum of Minnesota. Exhibit development, design, and production for a 5,000 square foot national traveling exhibit. Grant funded, \$3,000,000, 7/1/2006, 6/30/2009. Role: Principal in charge, client relations.

If These Walls Could Talk. Science Museum of Minnesota. Exhibition development and tour management of a 5,000 square foot national traveling exhibition. Grant funded, \$2,400,000, 7/1/1996-8/31/1999. Role: Project development and oversight.

Inside Ancient Egypt. Field Museum of Natural History with contract for services to Paul Martin Lighting Design and Consultation for a 20,000 square foot long-term exhibitions. Grants and individual donors, \$6,000,000, 9/1/1983-9/1/1986. Role: Design consultant and lighting designer.

Into the Wild. Field Museum of Natural History. Exhibit design and restoration of 20,000 square foot long-term exhibition. Grant funded, \$1,500,000, 1/1/1989-6/1/1990. Role: Design supervision.

Invention at Play. Lemelson Center for Invention and Innovation, Smithsonian Museum of American History with contract for services to Science Museum of Minnesota. Exhibit development, design, and production for a 5,000 square foot national traveling exhibition. Grant

funded, \$2,500,000, 6/1/2002-5/31/2007. Role: Principal in charge, project cultivation, and client relations.

Living West. History Colorado with a contract for services to the Science Museum of Minnesota. Exhibit development, design, and production for a 12,000 square foot long-term exhibition. Capital campaign, \$3,200,000, 7/1/2010-6/30/2014. Role: Principal in charge, project cultivation, architectural program consultant, and client relations.

Lost Egypt, COSI, Columbus, OH with contract for services to Science Museum of Minnesota. Exhibit development, design, and production for a 5,000 square foot national traveling exhibit. Internally funded, \$3,000,000, 7/1/2007-6/30/2009. Role: Principal in charge, project cultivation, and client relations.

Jim Henson's Magical Wonderland. Jim Henson Productions. Exhibit design, production, and tour management of a 7,000 square foot temporary exhibition in Tokyo, Japan. Internally funded, \$400,000, 5/1/1986-7/31/1986. Role: Production manager, lighting designer, and tour manager.

Maya: Hidden Worlds Revealed. Science Museum of Minnesota with Museum of Science and Denver Museum of Nature and Science. Exhibit development, design, and production for a 17,000 square foot national traveling exhibition. Exhibition budget \$4,000,000 supported through the Science Museum of Minnesota Opportunity Fund (\$2,000,000) and partner investment (\$2,000,000), 7/1/2011-12/31/2013. Role: Principal in charge, partnership cultivation, and partner relations.

Mille Lacs Indian Museum. Minnesota Historical Society. Architectural programming and coordination of a new facility; and exhibit development, design, and production for a 10,000 square foot long-term exhibition. State of Minnesota, \$22,200,000, including \$20,000,000 for the building and \$2,200,000 for the exhibition, 7/1/1992-6/30/1995. Role: Member of building committee and project oversight.

Minnesota History Center. Minnesota Historical Society. New 340,000 square foot facility and exhibit development, design, production, and maintenance for 30,000 square feet of exhibitions including *Minnesota A to Z*, *Manoominikewin: Stories of Wild Ricing*, *Minnesota Almanac*, *Home Place Minnesota*, *Help Wanted*, *Minnesota Communities*, and *Families*. Capital campaign and State of Minnesota, \$66,000,000, including \$60,000,000 for the building and \$6,000,000 for the exhibitions, 5/1/1990-5/30/1996. Role: Head of exhibits, fundraising, project development, and oversight.

Muppets, Monsters and Magic. Jim Henson Productions. Exhibit design, production, and European tour management of a 5,000 square foot traveling exhibition. Internally funded, \$500,000, 1/1/1987-12/31/1989. Role: Production manager, lighting designer, and tour manager.

Museum of Discovery, Little Rock, AK with contract for services to Science Museum of Minnesota. Master planning, redesign, and reinstallation of 25,000 square feet of long-term exhibitions, 2011. Donald W. Reynolds Foundation, \$5,500,000, 7/1/2010-6/30/2014. Role: Principal in charge, project cultivation, architectural program consultant, and client relations.

Museum of the Great Plains, Lawton, OK with contract for services to Science Museum of Minnesota. Redesign and reinstallation of 30,000 square foot museum. Donald W. Reynolds

Foundation, \$3,000,000, 1/1/2012-6/30/2016. Role: Principal in charge, project cultivation, and client relations.

Our Minnesota. Science Museum of Minnesota. Exhibition development for a 5,000 square foot resident exhibition. Grants and individual donors, \$1,000,000, 7/1/1983-6/30/1984. Role: Exhibit developer.

Nano. Science Museum of Minnesota and Sciencenter for the Nanoscale Informal Science Education Network. Exhibit development, design, production, and distribution of 93 copies of a 400 square foot exhibition. Grant funded, \$4,000,000, 10/1/2010-9/30/2015. Role: Co-principal investigator and project oversight.

New Museum Building and Exhibitions. Science Museum of Minnesota. Architectural programming and coordination for a 400,000 square foot facility and exhibit development for 65,000 square feet of exhibitions, including *Mississippi River Gallery*, *Human Body Gallery*, *Collections Gallery*, *Dinosaur and Fossils Gallery*, and *Experiment Gallery*. Total budget \$69,000,000 raised through capital campaign (\$60,000,000 for the building and \$9,000,000 for exhibits), 6/1/1996-12/15/1999. Role: Director of exhibit development, member of staff building committee, and fundraising.

Perot Museum of Nature and Science with contract for services to Science Museum of Minnesota. Master planning, architectural integration, and exhibit development, design, and production for 22,000 square feet of long-term exhibitions, including the *Lamar Hunt Family Sports Hall*, *Moody Family Children's Museum*, *Being Human Hall*, and *Texas Instruments Engineering and Innovation Hall*. Capital campaign, \$9,500,000, 7/1/2010-6/30/2013. Role: Principal in charge, project cultivation, architectural program consultant, and client relations.

Playing with Time. Science Museum of Minnesota. Exhibition development and tour management of a 5,000 square foot national traveling exhibition. Grant funded, \$3,000,000, 8/1/1999-1/31/2003. Role: Project oversight.

RACE: Are We So Different? Science Museum of Minnesota with the American Anthropological Association. Exhibit development, design, production, and tour management for two 5,000 square foot copies and one 1,500 square foot version of a national traveling exhibition. Exhibition budget \$4,500,000 supported by grants (\$3,900,000) and Science Museum of Minnesota Opportunity Fund (\$600,000), 7/1/2002-6/30/2009. Role: Principal in charge, project cultivation, fundraising, and client relations.

Robots and Us. Science Museum of Minnesota. Exhibition development and tour management of a 5,000 square foot national traveling exhibition. Grant funded, \$2,700,000, 9/15/2001-8/31/2005. Role: Project oversight.

The Science of Star Wars. Museum of Science with contract for services to Science Museum of Minnesota. Exhibit, development, design, and production for a Star Wars object theater included in a 10,000 square foot national traveling exhibition. Grant and internal funding, \$900,000, 7/1/2004-6/30/2006. Role: principal in charge, client relations.

Science North: Northern Ontario's Science Centre, Sudbury, Ontario, Canada with a contract for services to Museum Content Builders. Staff, program, and exhibit development, and design for

new facility including 60,000 square feet of long-term exhibitions. Capital campaign, \$40,000,000 (\$30,000,000 for the building and \$10,000,000 for the exhibits), 9/1/1981-10/31/1984. Role: Building programming consultant, client relations, technical design director, and lighting designer.

Space: An Out of Gravity Experience. Science Museum of Minnesota with the California Science Center. Develop, produce, and install a 10,000 square foot national traveling exhibition. Exhibit budget \$6,000,000 with \$2,500,000 supported by grants and individual donors and \$3,500,000 supported by partner investment, 7/1/2011-8/31/2015. Role: Principal in charge, project development, fundraising, partnership cultivation, and partner relations.

Traveling the Pacific. Field Museum of Natural History. Exhibit, lighting, and sound design for a 20,000 square foot long-term exhibition. Grants and individual donors, \$6,000,000, 9/1/1986-12/31/1989. Role: Design director and lighting designer.

Thomas Jefferson Memorial Visitor Center. Thomas Jefferson Memorial Foundation with Ralph Appelbaum Associates and a subcontract to Paul Martin Lighting Design and Consultation. Renovation of a 4,000 square foot long-term exhibition. Privately funded, \$1,000,000, 7/1/1984-12/31/1985. Role: Lighting designer.

Ultimate Dinosaurs. Royal Ontario Museum with Science Museum of Minnesota. Acquisition and upgrading of a 15,000 square foot international traveling exhibition. Science Museum of Minnesota Opportunity fund, \$2,000,000, 6/1/2013-8/31/2014. Role: Principal in charge, partnership cultivation, and partner relations.

Water: H₂O Equals Life. Science Museum of Minnesota with the American Museum of Natural History. Collaborative exhibit development, design, and production of 7,500 square foot national traveling exhibition. Exhibition budget \$4,000,000 supported by grants (\$2,400,000) and partner investment (\$1,600,000), 9/15/2005-8/31/2009. Role: Principal in charge, partnership cultivation, and partner relations.

West Building. Science Museum of Minnesota. Architectural programming and coordination for new construction of a 80,000 square foot facility and 30,000 square feet of exhibitions including *Anthropology Hall*, *Technology Hall*, and special exhibitions gallery. Capital campaign, \$32,500,000 (\$30,000,000 for the and \$2,500,000 for the exhibitions), 6/1/1976-10/31/1981. Role: Member of staff building committee, exhibits production manager, and lighting designer.

Wild Music, Science Museum of Minnesota with the Association of Science-Technology Centers and National Musical Arts. Exhibit development, design, and production for a 5,000 square foot national traveling exhibition. Grant funded, \$2,700,000, 7/1/2004-6/30/2007. Role: Principal in charge, project development, and partnership relations.

The World of the Dark Crystal. Jim Henson Productions. Exhibit design, production, and tour management for a 3,000 square foot temporary exhibition in New York and Los Angeles. Internally funded, \$200,000, 6/30/1983-12/31/1983. Role: Production manager, lighting designer, and tour manager.

Publications and presentations

Book contributions

Martin, P. (2004a). Ample time and money: Bottom line requirement or practical noise? In *Are We There Yet? Conversations about Best Practices in Science Exhibition Development*. K. McLean & C. McEver, Eds. San Francisco, CA: The Exploratorium.

Martin, P. (2004b). Wolves and humans: Coexistence, competition and conflict. In *Are We There Yet? Conversations about Best Practices in Science Exhibition Development*. K. McLean & C. McEver, Eds. San Francisco, CA: The Exploratorium.

Martin, P. (2013). Advocacy for design: Object theater. In *Creating Exhibitions: Collaboration in the Planning, Development, and Design of Innovative Experiences*. P. McKenna Cress & J. Kamien, Eds. Hoboken, NJ: Wiley & Sons, pp. 177-178.

Reports and guides

Bequette, M., Ostman, R., Ellenbogen, K., Zenner Petersen, G., Porcello, D., Livingston, T., Johnson, M., & **Martin, P.** (2012). *Nanoscale Science Informal Learning Experiences: NISE Network Content Map*. Revised version. Saint Paul, MN: Science Museum of Minnesota for the NISE Network.

Ellenbogen, K., Livingston, T., Ostman, R., Bell, L., Garcia-Luis, V., Johnson, M., **Martin, P.**, Porcello, D., & Zenner Petersen, G. (2012). *Nanoscale Science Informal Learning Experiences: NISE Network Learning Framework*. Saint Paul, MN: Science Museum of Minnesota for the NISE Network.

Conference presentations

Martin, P. (2015, May). Chair. National Association of Museum Exhibition (NAME) Exhibition Roundtable. Session conducted at the meeting of the American Alliance of Museums. Atlanta, GA.

Martin, P. (2015, October). The Nanoscale Informal Science Education Network. In E. Siegel (Chair), *Ways and means: How to get big things done*. Session conducted at the meeting of the Association of Science-Technology Centers, Montreal, Canada.

Martin, P. (2015, October). Moderator. In Ostman R. (Chair), *ASTC game jam! Using game thinking to transform science center experiences*. Session conducted at the meeting of the Association of Science-Technology Centers. Montreal, Canada.

Martin, P., Ostman, R. (Chair), & Patten, D. (2015, September). *Transforming museums through gaming*. Workshop conducted at the meeting of MuseumNext, Geneva, Switzerland.

Martin, P. (2014, May). Chair. What's Going On? National Association of Museum Exhibition (NAME) Exhibition Roundtable. Session conducted at the meeting of the American Alliance of Museums. Seattle, WA.

- Martin, P.** (2014, October). Moderator. In Ostman, R. (Chair), *Can gaming show us new ways to create exhibitions?* Session presented at the meeting of the Association of Science-Technology Centers, Raleigh, NC.
- Martin, P.** (2014, October). RACE: Are We So Different? In L. Carlson (Chair), *Risky exhibits: Tackling tough topics.* Session presented at the meeting of the Association of Science-Technology Centers, Raleigh, NC.
- Martin, P.** (2013, May). In or out? In M. Walhimer, (Chair), *The future of in-house design in an outsourcing world.* Session conducted at the meeting of the American Alliance of Museums, Baltimore, MD.
- Martin, P.** (2013, October). Nano mini-exhibition. In C. McCarthy (Chair), *Small spaces: Creating intimate visitor experiences.* Session presented at the meeting of the Association of Science-Technology Centers, Albuquerque, NM.
- Martin, P.** (2012 May). An open source guide for failure. In S. Kelley, (Chair), *Mistakes were made: Sharing cringe-worthy examples.* Session conducted at the meeting of the American Alliance of Museums, Minneapolis, MN.
- Martin, P.** (2012, October). Presenter. In *I love science—do our visitors?* Session presented at the meeting of the Association of Science-Technology Centers, Columbus, OH.
- Martin, P.** (2012, October). Chair. *NISE Net open source materials.* Session presented at the meeting of the Association of Science-Technology Centers, Columbus, OH.
- Martin, P.** (2011, October). Insights from the Science Museum of Minnesota. In C. Trautmann, (Chair), *How can science centers move from being nice to necessary?* Session presented at the meeting of the Association of Science-Technology Centers, Baltimore, ND.
- Martin, P.** (2010, October). Chair. *Strategies for sustainable diversity.* Session presented at the meeting of the Association of Science-Technology Centers, Baltimore, ND.
- Martin, P.** (2010, October). Presenter. In *Humor me: Humor, audience, and the development of exhibitions.* Session presented at the meeting of the Association of Science-Technology Centers. Baltimore, ND.
- Martin, P.** (2009, April). Presenter, “Time for Nano.” Workshop presented at the European Union Economic Development Council, Naples, Italy.
- Martin, P.** (2009, June.) RACE: Are We So Different? In O. Retout, (Chair), *Provocative subjects in exhibitions: A kamikaze operation?* Session presented at the European Network of Science Centres and Museums (Ecsite), Milan, Italy.
- Martin, P.** (2009, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable.* Session conducted at the meeting of the American Association of Museums, Philadelphia, PA.
- Martin, P.** (2008, May). Presenter. In B. Redmond-Jones, (Chair), *Exhibitions that changed my life III: Benchmarks from the past.* Session conducted at the meeting of the American Association of Museums, Denver, CO.

Martin, P. (2008, May) Presenter. In *Using immersive and interactive multimedia to create experiences visitors remember*. Session conducted at the meeting of the American Association of Museums, Denver, CO.

Martin, P. (2008, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Denver, CO.

Martin, P. (2008, October). Presenter. In K. Von Appen, *Alternative revenue generation strategies fit for the public eye*. Session presented at the meeting of the Association of Science-Technology Centers, Philadelphia, PA.

Martin, P. (2008, October). Chair. *What's going on: Exhibit development roundtable*. Session presented at the meeting of the Association of Science-Technology Centers, Philadelphia, PA.

Martin, P. (2007, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Chicago, IL.

Martin, P. (2007, May). Chair. *What's going on: Hot topics in exhibitions*. Session conducted at the meeting of the American Association of Museums. Chicago, IL.

Martin, P. (2006, May). Session Moderator. In D. Foreman, (Chair), *Silver backs and young bloods debate the future of exhibitions*. Session conducted at the meeting of the American Association of Museums, Boston, MA.

Martin, P. (2006, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Boston, MA.

Martin, P. (2006, May). Chair. *What's going on: Hot topics in exhibitions*. Session conducted at the meeting of the American Association of Museums, Boston, MA.

Martin, P. (2005, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Indianapolis, IN.

Martin, P. (2005, May). Chair. *What's going on: Hot topics in exhibitions*. Session conducted at the meeting of the American Association of Museums, Indianapolis, IN.

Martin, P. (2004, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, New Orleans, LA.

Martin, P. (2004, May). Chair. *What's going on: Hot topics in exhibitions*. Session conducted at the meeting of the American Association of Museums, New Orleans, LA.

Martin, P. (2003, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Portland, OR.

Martin, P. (2003, May). Chair. *What's going on: Hot topics in exhibitions*. Session conducted at the meeting of the American Association of Museums, Portland, OR.

Martin, P. (2002, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Dallas, TX.

Martin, P. (2002, May). Chair. *What's going on: Hot topics in exhibitions*. Session conducted at the meeting of the American Association of Museums, Dallas, TX.

Martin, P. (2001, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, St. Louis, MO.

Martin, P. (2001, May). Chair. *What's going on: Hot topics in exhibitions*. Session conducted at the meeting of the American Association of Museums, St. Louis, MO.

Martin, P. (2000, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Baltimore, MD.

Martin, P. (2000, May). Chair. *What's going on: Hot topics in exhibitions*. Session conducted at the meeting of the American Association of Museums, Baltimore, MD.

Martin, P. (1999, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Cleveland, OH.

Martin, P. (1998, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Los Angeles, CA.

Martin, P. (1997, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Atlanta, GA.

Martin, P. (1996, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Minneapolis, MN.

Martin, P. (1995 May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Philadelphia, PA.

Martin, P. (1994, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums. Seattle, WA.

Martin, P. (1993, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Denver, CO.

Martin, P. (1992, May). Chair. *National Association of Museum Exhibition (NAME) Exhibition Roundtable*. Session conducted at the meeting of the American Association of Museums, Baltimore, MD.

Service and other activities

Aging exhibit. Museum of Science. Provide visitors with an engaging and interactive environment in which to explore scientific, personal, and social aspects of aging. NSF #9814955, \$1,546,377, PI Crocker, 10/1/1998-9/30-2001. Role: Project advisor.

Anticipatory Governance Workshop, Arizona State University. The goal of workshop is to explore the role citizens could play in the concept of anticipatory governance, 2/9/2011-2/12/2011. Role: Participant.

Association of Science-Technology Centers Governing Member Retreat, 4/3/2011-4/5/2011. Role: Science Museum of Minnesota representative.

Association of Science-Technology Centers Governing Member Retreat, 3/21/2013-3/24/2013. Role: Science Museum of Minnesota representative

Center for Nanotechnology and Society, All Hands Meeting. Arizona State University. A strategic conversation about the future of the Center beyond the scheduled August 2015 sunset date, 6/11/2011-7/11/2011. Role: Participant.

Conference and Proceedings: Best Practices in Science Exhibition Development. Exploratorium. Identify best practices in conceiving, designing, managing and developing science exhibitions. NSF #0227627, \$166,019, PI McLean, 9/1/2002-9/31/2003. Role: Project advisor and meeting participant.

Dimensions of Public Engagement with Science. Museum of Science. Explore the possibility of new large-scale collaborative public engagement activities. NSF #1010831, \$247,355, PI L. Bell, 9/1/2010. Role: Meeting participant.

Informal STEM Summit. Johns Hopkins University. Workshop to identify skills and experiences required for future graduate and undergraduate programs to best serve the informal STEM field, 3/14/2014. Role: Participant.

Graduate Charrette. University of the Arts, Philadelphia, PA. Graduate Exhibition Design and Development Program, 3/19/2014-3/21/2014. Role: Judge.

Multi-disciplinary Workshop on Scientific Creativity and Societal Responsibility, Arizona State University. Bring together a group of educators in informal science education and multi-disciplinary scholars who study various aspects of the interactions of science, technology and society. NSF #1354287, \$49,997, PI Finn, 4/28/2014-4/30/2014. Role: Group breakout leader.

Next Generation Science Standards. American Museum of Natural History and the Carnegie Corporation of New York. A convening to explore how the Next Generation Science Standards can inform and help shape the practices of informal science institutions, 12/14/2015-12/15/2005. Role: Participant.

Noyce Leadership Institute, cohort 5. Noyce Foundation. The Noyce Leadership Institute hones leadership talents of executives in organizations that seek to engage their communities with science. 6/5/2012-4/26/2013. Role: Sponsor for Bob Breck, Director of Marketing, Science Museum of Minnesota.

Noyce Leadership Institute, cohort 7. Noyce Foundation. The Noyce Leadership Institute hones leadership talents of executives in organizations that seek to engage their communities with science. 5/1/2014-5/8/2015. Role: Sponsor for Joe Imholte, Director of Museum Programs, Science Museum of Minnesota.

The Powers of Nature: A Traveling Exhibition. Franklin Institute Science Museum. National traveling exhibition focusing on earthquakes, severe storms, and volcanoes. NSF #9626958, \$890,350, PI Claiborne, 10/1/1996-3/31/1999. Project advisor.

Project BirdWatch. Cornell Lab of Ornithology. Program that allows elementary and middle school students to participate in scientific research. NSF #9550541, \$897,000, PI Bonney, 9/15/2005-8/31/2000. Role: Project advisor.

Seeing: The Interaction of Physiology, Culture, and Technology. Exploratorium. Exhibit consisting of 60 new and redesigned exhibits. NSF #9725887, \$1,425,214, PI Humphrey, 7/1/1998-1/31/2003. Role: Project advisor.

User Friendly Exhibits: Designing Accessible Exhibits for Science Museums. Association of Science and Technology Centers. Information dissemination project to help make science museums more inviting places for persons with disabilities by fundamentally changing the way science museums are developed and tested. NSF #9906095, \$467,921, PI Middlebrooks, 12/1/1999-9/30/2003. Role: Project advisor.

Visitor Studies Association, board of directors, at large member (July 2017–present)

White House Meeting on the Maker Movement, Office of Science and Technology Policy. Discussion to explore the idea of a national Maker network, sketching out the essential pieces and partners to make such an effort successful. 4/13/2012. Role: Participant.

Workshop to Explore Engaging Broader Publics in Conversations About Assessment of the Societal Implications of New and Emerging Directions in Science and Technology. Museum of Science. Strengthen and expand recent cross-sector network-building activities related to engaging the public in conversations and deliberations about the assessment of the societal implications of science and technology. NSF #1129436, \$49,754, PI Bell, 8/15/2011-7/31/2012. Role: Project advisor and participant.