RAE OSTMAN

Arizona State University
Tempe, AZ 85287-6002
rostman@asu.edu | 607.882.1119

PROFESSIONAL EXPERIENCE

2014– **Faculty, School for the Future of Innovation in Society**
Arizona State University, Tempe, AZ
Research Professor (2021–present)
Co-director, Center for Innovation in Informal STEM Learning (2017–present)
Associate Research Professor (2014–2021)

Collaboratively lead a research center that investigates how people learn science, technology, engineering, and math (STEM) throughout their lifetimes: at school, at home, at work, and in the community. Partner across the university and with local, state, and national organizations to advance education, research, and practice related to informal and lifelong learning. Implement public engagement and professional development efforts that bring together multiple and diverse groups, including educators, publics, and experts, to understand our world and shape the future.

2017– **National Informal STEM Education Network**
Director (2017–present)

Direct a national network of hundreds of organizations and thousand of professionals, located in all 50 states and several US territories, that engages millions people each year in informal STEM learning. Plan, develop, and lead externally funded projects in collaboration with museums, universities, and other organizations.

2014–2017 **Science Museum of Minnesota, St. Paul, MN**
Director of Special Projects, Science Learning (2015–2017)
Consultant (2014–2015)

As director of special projects, conceptualized, initiated, and participated in informal STEM learning projects; and developed a sustainability plan for a nationwide network. As a consultant, co-led a strategic planning process for the museum.

2013–2014 **Royal Ontario Museum, Toronto, CANADA**
Managing Director, ROM Ancient Cultures

As member of senior management team, developed and coordinated long-term programs, communications, projects, exhibitions, and partnerships that supported the mission and goals of the Centre for Ancient Cultures.

2005–2012 **Sciencenter, Ithaca, NY**
Director of National Collaborations (2009–2012)
Director/Manager of Education (2005–2009)

As director of national collaborations, led externally funded projects in partnership with multiple organizations nationwide and served as a member of the leadership group for national network of universities and museums. As director/manager of education, led department and supervised staff and volunteers responsible for public programs, school programs, afterschool programs, camps, and outreach programs; supervised, developed, evaluated, and delivered programs and exhibits; and directed and participated in local and national education and exhibition projects.

2001–2005 **Exploratorium, San Francisco, CA**
Exhibits Group Manager (2004–2005)
Project Manager and Exhibit Area Manager (2001–2003)

As exhibits group manager, supervised staff and volunteers that developed, fabricated, and maintained interactive science museum exhibits at one of the largest and most influential science centers in the world. As project manager, oversaw all aspects of exhibit development projects, including workflow, budget, and reporting. As area manager for Matter/World and Sound & Hearing, planned, developed, and implemented projects and ensured the safe installation and operation of exhibits on the museum floor.

1998–2000 **Acoustiguide Worldwide, New York, NY**
Project Director (full-time and part-time)

Led the creative planning, development, and production of audio tours for art, history, natural history, science, and other types of museums across the US.

1999–2000 **American Museum of the Moving Image, Astoria, NY**
Educator (part-time)

Delivered educational programs, demonstrations, and tours for schools and groups.

1987–1992 **Cornell Botanic Gardens, Ithaca, NY**
Guest Services Staff

Provided information to visitors of the gardens, natural areas, and arboretum (part-time).

EDUCATION

2002 **PhD, Anthropological Archaeology**
1997 **MA, Anthropological Archaeology**
New York University, New York, NY

Investigated the development and change through time of complex societies. Masters thesis studied social status in Viking Age Scandinavia. Dissertation focused on the economy of Volterra, Italy from the Etruscan to late antique periods.

1994 **BA, Cultural Analysis of Arts**
College Scholar Program, College of Arts and Sciences
Cornell University, Ithaca, NY

Graduated *summa cum laude* and with distinction in all subjects. Senior honors thesis examined the changing social, cultural, and political meaning of a Tlingit totem pole that was removed from the northwest coast by the Harriman Expedition and brought to Cornell University (since repatriated).

FELLOWSHIPS, HONORS & AWARDS

2023 **INVEST Fellow, Skills and Learning Research Theme, Finland**

Co-creating Sustainable Futures with Youth and Communities project at the Inequalities, Interventions, and New Welfare State (INVEST) center, University of Turku, funded through the Finnish Institute for Health and Welfare

2022 **President's Medal for Social Embeddedness**

STEM and Social Capital: Advancing Families through Learning and Doing project team led by E. Judson, Arizona State University

2022 **Fulbright Specialist, Finland**

Shared Learning to Shape an Inclusive Future: Building Capacity for Innovative Engagement project, in collaboration with Heureka and the Finnish Science Centre Association and sponsored by the Fulbright Foreign Scholarship Board

2017 **Distinguished Contributions to STS Making & Doing**

People's Choice Award, Society for Social Studies of Science (4S)

1994–1999 **Henry Mitchell MacCracken Fellowship**

New York University graduate fellowship

1999–2000 **Foreign Language and Area Studies Fellowship**
Fieldwork support, United States Department of Education

1997 **Bert Salwen Memorial Fellowship**
Fieldwork support, New York University

1996 **Bea Loveseth Memorial Prize**
Best student paper, Chacmool Archaeology Conference, University of Calgary

1994 **Phi Beta Kappa**
Cornell University chapter of national honor society

1994 **Merrill Presidential Scholar**
Recognition for Cornell University's most outstanding graduating seniors

GRANTS

Projects are listed in reverse chronological order by start date. Note that it is not customary for informal learning organizations to allocate recognition; as a result, this figure is only provided for federally funded ASU awards and subwards.

External funding – current

1. **Co-investigator** (2022–2025). *Engaging Hispanic communities in authentic NASA science: Broadening participation in Science Activation through local partnerships and national networks,* Arizona State University in partnership with the NISE Network. NASA #80NSSC22M0122, PI P. Martin, $5,833,105, 5/2/2022–4/30/2026. As co-I, I direct the co-creation and implementation of interactive, bilingual learning experiences about Earth and space science in the southwestern US border states of California, Arizona, New Mexico, and Texas. Recognition: 50% ($2,499,886).

2. **Collaborator** (2022–2025). *Sparking interest in STEM among Hispanic learners nationwide through meaningful connections to NASA explorations and discoveries,* Museum of Life and Science in partnership with the NISE Network. NASA #80NSSC22M0100, PI M. Cawley, $799,984 award with $24,952 contract to ASU, 1/1/2022–12/31/2025. As NISE Network director, I provide guidance on the co-creation of informal learning materials and professional development resources related to Earth and space exploration and facilitate their distribution through the Network.

3. **Principal investigator** (2022–2024). *Engaging Latinx youth in understanding the science of climate change by developing digital narratives and games,* Arizona State University. NSF #2148016, PI R. Ostman, $359,998, 7/1/2022–6/30/2024. As PI, I oversee all aspects of the project, including youth-created media and inquiry, community engagement, collaborations with diverse collaborators and stakeholders,

research on youth outcomes, and evaluation of project impact. Recognition: 20% ($72,000).

4. **University investigator** (2021–2023). *Explore science: Destination moon,* Sciencenter in partnership with the NISE Network. NASA #80NSSC21M00082, PI M. Kortenaar, $1,000,000 award with $15,000 contract with ASU, 1/1/2021–12/31/2023. As ASU investigator, I provide strategic guidance on the development of an interactive exhibit component and its distribution through the Network.

5. **Principal investigator** (2021–2023). *Barbara Gill Civic Science Fellow: New directions for neuroscience public engagement through a partnership between NISE Network's Changing Brains initiative, Dana Foundation, and the Civic Science Fellows program,* Arizona State University in collaboration with the National Informal STEM Education Network. Dana Foundation, PI R. Ostman, $334,968, 9/1/2021–8/30/2022. As PI, I oversee all aspects of the project, including mentoring a post-doctoral researcher, facilitating collaborations with diverse collaborators and stakeholders, and directing the development and evaluation of public engagement experiences related to neuroscience and society. Recognition: 100% ($335,000).

6. **Principal investigator** (2021–2025). *SciAct STEM ecosystems to broaden participation in authentic STEM learning: Connecting subject matter experts, communities, and learners of all ages,* Arizona State University in collaboration with University of Alaska Fairbanks, Southwestern Community College, and Museum of Science. NASA #80NSSC210007, PI R. Ostman, $4,945,885, 1/1/2021–12/31/2025. As PI, I oversee all aspects of the project, including synthesizing evidence-based principles, strategies, and practices for broadening participation in Earth and space science; creating processes, training, and resources to support their implementation across NASA's Science Activation (SciAct) program; and facilitating the development and strengthening of STEM ecosystems within SciAct projects and across the SciAct portfolio. Recognition: 50% ($2,472,943).

7. **University investigator** (2021–2022). *Build a Mars habitat: Survive and thrive,* Science Museum of Minnesota in partnership with the NISE Network. NASA #80NSSC20M0030, PI C. Dwyer, $1,000,000 award with $20,000 contract to ASU, 1/1/2021–12/31/2022. As ASU investigator and NISE Network director, I provide guidance on the development of an interactive exhibit component and its distribution through the Network.

8. **Collaborator** (2020–2024). *Promoting aspirations in science, technology, engineering, and mathematics through youth and family engagement,* Arizona State University. NSF #2045306, PI E. Judson, $1,275,097, 1/1/2021–12/31/2024. Center staff coordinate project activities and participate in the design and delivery of family programs and research. Recognition: 0% of ASU award ($0).

9. **Co-principal investigator** (2021–2023). *Advancing refugee youths' STEM and social capital through family-focused learning,* Arizona State University. NSF #2003126, PI E.

Judson, $299,807, 1/1/2021–12/31/2023. As co-PI, I participate in the design and delivery of family programs and research. Recognition: 13% of ASU award ($38,975).

10. **Principal investigator** (2020–2023). *Sustainable museums: Professional development to support fieldwide capacity in practice, partnerships, and education for sustainability,* Arizona State University in partnership with the NISE Network. IMLS #MG-245910-OMS-20, PI R. Ostman, $431,443, 9/1/2020–8/31/2023. As PI, I provide overall direction for this project, which is designed to build capacity in sustainability for education across the museum field through professional development experience and a community of practice. Recognition: 50% of ASU award ($215,722).

11. **Co-investigator** (2015–2023). *Space and Earth informal STEM education,* Arizona State University in collaboration with NASA and NISE Network. NASA #80NSSC18M0061, PI P. Martin, $4,332,118, 1/1/2021–12/31/2023. NASA #NNX16AC67A, PI P. Martin, $15,760,114, 1/1/2015–12/31/2023 (originally awarded to Science Museum of Minnesota and transferred to Arizona State University in 2017). This large NISE Network initiative develops and distributes STEM educational products to hundreds of informal learning organizations and provides professional development for informal educators. As co-I and member of leadership team, my role includes directing the public engagement efforts of the project and participating in professional development and dissemination activities. Recognition: 50% of ASU continuation in 2020 ($2,166,059); 45% of ASU award in 2017 ($5,074,102); 90% of ASU subaward in 2015 ($550,198).

External funding – completed

1. **Co-investigator** (2019–2022). *The Moon and beyond: An immersive game for STEM learning in museums and planetariums*, Arizona Science Center in partnership with Arizona State University and NISE Network. NASA #80NSSC18K1219, PI D. Briere, $749,582 total with $184,891 subaward to ASU, 1/1/2019–12/31/2022. As co-investigator, I directed the development of a collaborative, hands-on educational game on lunar exploration for implementation by 350 NISE Network partners across the United States. Recognition: 50% of ASU subaward ($92,446).

2. **Collaborator** (2018–2022). *Citizen Science, Civics, and Resilient Communities: Increasing Resilience Through Citizen-Created Data, Local Knowledge and Community Values.* NOAA #NA18SEC0080008, PI D. Sittenfeld, $500,000 total, $94,941 ASU subaward, 10/1/2018–9/30/2022, Museum of Science in partnership with Arizona State University and the NISE Network. As NISE Network director, I facilitated the participation of Network partners in implementing citizen forums related to climate resilience. Recognition: 33% of ASU subaward ($31,331).

3. **Co-principal investigator** (2016–2021). *ChemAttitudes: Using design-based research to develop and disseminate strategies and materials to support chemistry interest, relevance, and self-efficacy,* Museum of Science in partnership with the American Chemical Society and NISE Network. NSF #1612482, PI L. Bell, $2,930,748 total with

$111,225 subaward to ASU, 10/1/2016–9/30/2021. As co-PI, I served on the leadership team, co-directed the development of hands-on activities, participated in design-based research and dissemination, and helped plan professional development to support learning about chemistry in museum settings. Recognition: 85% of ASU subaward ($94,541).

4. **Co-principal investigator** (2015–2021). *Increasing learning and efficacy about emerging technologies through transmedia engagement by the public in science-in-society activities,* Arizona State University in partnership with NISE Network. NSF #1516684, PI E. Finn, $2,953,905, 8/1/2015–7/31/2021. As co-PI, I led the development of hands-on activities for the Frankenstein200 toolkit, facilitated museum partnerships, collaborated on the development of an interactive digital narrative, and participated in research, evaluation, and dissemination. Recognition: 10% ($295,391).

5. **Program director** (2018–2020). *Sustainability in science and technology museums,* Arizona State University. Rob and Melani Walton Foundation, $175,000 subaward, 6/1/2015–5/31/2018, and $740,000 subaward, 10/1/2018–9/30/2020. In the first phase of the project, I led the development and distribution of a pilot set of hands-on activities distributed to 75 organizations. In the second phase of the project, I led the development of additional sustainability engagement materials and a series of intensive professional development workshops with 100 participating organizations.

6. **Collaborator** (2018). *Planning and partnerships conference for neuroscience public engagement,* The Franklin Institute. Kavli Foundation, $89,705, PI J. Das, 2018. As a member of the planning team, I helped to organize and participated in a strategic planning conference that resulted in a landscape study of neuroscience public engagement efforts and tools to facilitate discussion about ethics among neuroscientists.

7. **Co-principal investigator** (2017–2018). *Libraries as community hubs for citizen science,* Arizona State University. IMLS, $249,900, PI D. Cavalier, 11/1/17–10/31/18. As co-PI, I provided guidance on developing and evaluating citizen science toolkits distributed through public libraries and planning for nationwide scaling of project activities. Recognition: 10% of ASU award ($24,999.40).

8. **Collaborator** (2016–2017). *Maximizing collective impact through cross-sector partnerships: Planning a SENCER and NISE Net collaboration,* National Center for Science and Civic Engagement, SUNY Stony Brook, in partnership with the NISE Network. NSF #1612376, PI W. Burns, $149,987, 9/15/2016–9/14/2017. I participated in the planning and dissemination phases of the project, which explored ways to leverage national networks to encourage civic engagement activities.

9. **Collaborator** (2016–2018). *SusChEM: Focus on sustainability. Integrated approaches to materials for sustainable development,* University of California Berkeley. NSF #1619487, PI A. White, $73,334, 3/15/2016–2/28/2018. I served on the

sustainability steering committee and co-organized a symposium and special programming about sustainable development at the 2016 Materials Research Society Spring Meeting & Exhibit in Phoenix.

10. **Program director** (2015–2018). *True stories well told: Using narrative to search for harmonies between science and religion,* Arizona State University. John Templeton Foundation, $871,749, PI L. Gutkind, 9/1/2015–8/3/2018. I coordinated the development of public programs in five cities that were designed to promote dialogue about the relationship of science and religion and participated in the project's culminating festival. Recognition: 20% ($174,349.80).

11. **Collaborator** (2014–2018). *Multi-site public engagement with science – Synthetic biology,* Museum of Science in partnership with the NISE Network. NSF #1421179, PI L. Bell, $2,288,713, 10/1/2014–9/30/2018. I participated in the development and distribution of hands-on activities and professional resources designed to promote multidirectional dialogue and learning between scientists and members of the public related to the societal implications of synthetic biology.

12. **Collaborator** (2014–2018). *Networks for characterizing chemical life cycle: Life cycle of nanomaterials (LCnano),* Arizona State University. Environmental Protection Agency / National Science Foundation # RD835580 and EPA STAR program #RD83558001, $5,000,000, PI P. Westerhoff, 3/19/2014–11/30/2018. As NISE Network director, I coordinated the development and distribution of a hands-on activity to 125 museums and university outreach programs nationwide.

13. **Collaborator** (2010–2013). *21-Tech: 21st century exhibit facilitators and personal mobile technologies,* Children's Museum of Houston. IMLS, $440,000, PI C. McCallum, 10/1/2010–9/30/2013. As Sciencenter PI, I supervised the development and evaluation of strategies, resources, and supports to integrate mobile apps into exhibition facilitation.

14. **Collaborator** (2008–2012). *C3: Communicating climate change,* Association of Science-Technology Centers. NSF #0813135, $2,998,311, PI W. Staveloz, 9/15/2008–12/31/2012, with multiple collaborating organizations. As Sciencenter project director, I oversaw a partnership with the school district and Cornell Lab of Ornithology to engage youth in citizen science projects related to climate change.

12. **Collaborator** (2008–2012). *Here to the ocean,* Sciencenter. NOAA, $750,000, PI C. Trautmann, 6/1/2008–9/30/2012. I participated in the development and evaluation of a traveling exhibition on watersheds.

13. **Collaborator** (2008–2011). *DragonFly TV GPS: Investigating the nanoworld*, Twin Cities Public Television. NSF#0741749, $1,982,391, PI R. Hudson, 5/1/2008–4/30/2011. I participated in the planning and production of an educational television episode on advances in nanoscale science and nanotechnology featuring our museum and programming, part of the DragonFly TV GPS (Going Places in Science) series.

14. **Principal investigator** (2007–2010). *Science museum chemistry programs for school*

and family audiences, Sciencenter. The Henry and Camille Dreyfus Foundation, PI R. Ostman, $31,000, 1/1/2007–12/30/2010. As PI, I directed and managed all aspects of the project, including developing and evaluating hands-on activities, youth programs, and a summer camp framework to engage science center visitors in learning about chemistry.

15. **Project director** (2007–2009). *Climate change activity toolkit,* Sciencenter. IMLS, $75,000, PI C. Trautmann, 10/1/2007–9/30/2009. I directed the development and implementation of hands-on activities, portable discovery kits, an interactive public forum, and a field trip program focused on climate science.

16. **Project leadership** (2005–2017). *Nanoscale Informal Science Education Network,* Museum of Science. NSF #0532536 and #0940143, $41,741,754 total award, PI L. Bell, 9/1/2005–2/28/2017. With over 10 years of funding, this center-level grant created a national community of researchers and informal science educators dedicated to fostering public awareness, engagement, and understanding of nanoscale science, engineering, and technology. As a member of leadership team, I directed the project's public engagement efforts—including exhibits, programs, media, and initiatives in support of diversity, equity, inclusion, and access—and led the transition to an ongoing identity as the National Informal STEM Education Network.

17. **Project manager** (2001–2005). *Going APE: Achieving active, prolonged engagement with science center exhibits,* Exploratorium. NSF #0087844, $1,284,590, PI T. Humphrey 06/01/2001–12/31/2005. I managed the budget and workflow and participated in the leadership of this project, which developed and studied hands-on science museum exhibits designed to encourage extended engagement and inquiry.

18. **Project manager** (2003–2005). *Listening: Making sense of the sonic soup,* Exploratorium. NSF #0307925, $2,098,873, PI T. Humphrey 09/01/2003–8/31/2007. I served as project manager for an exhibition and related programming to encourage close listening and experimentation with sound.

Internal funding – current

1. **Co-investigator** (2021–2023). *Flavor stories: An affective-cognitive approach to breaking down generational and cultural barriers to sustainable futures.* Global Futures Laboratory & College of Global Futures Collaborative Grants Program, $9,999.33. PI C. Spackman, 6/1/2021–5/30/2023. I advise this pilot project, which seeks to use food science, storytelling, and other innovative approaches to explore potential climate futures.

Internal funding – completed

1. **Collaborator** (2017–2022). *Climates of inequality: Stories of environmental justice.* Humanities Action Lab, 2017–2022. I participated in project planning and oversight for the collaboration among ASU faculty and students, the Arizona Heritage Center, and additional community partners. This effort is part of an international coalition for public

history, which co-created a traveling exhibition and associated programming with over 20 communities around the world. Local programming included teacher professional development focused on education for sustainability.

2. **Project co-director.** *Becoming human.* School for the Future of Innovation in Society in collaboration with the Institute of Human Origins, 2017–2018. I co-led the development of the public engagement materials to engage families, teachers, and students in hands-on learning about human evolution.

3. **Project director.** *ROM Game Jam!* Royal Ontario Museum, University of Toronto, and other collaborating organizations, 2013–2015. As the co-founder and original project director of the ROM Game Jam, I worked with a cross-institutional team to conceive, plan, and implement this innovative initiative. The original jam was an annual event where game development teams worked intensively over a weekend to create digital games around a theme related to the museum's research and collections. Over time, the initiative evolved to focus on game development programs for schools.

4. **Project manager.** *Sound and hearing*. Exploratorium Capital Campaign, $750,000, 2001–2003. I participated in project leadership, coordinated work, and managed the budget and timeline for a project that reconceived and refurbished hands-on physics exhibits.

MAJOR PRODUCTS

Programs and activities

Selected products from different projects, listed in alphabetical order by title.

1. **Building with Biology** hands-on activity kits designed to create mutual learning among scientists and members of the public related to synthetic biology and genetic engineering. The kit includes six hands-on activities, one public forum, videos, posters, and educator training materials, distributed to 200 communities across the US in 2016: https://www.nisenet.org/building-with-biology-kit

2. **Changing Brains** activities designed to promote conversation among members of the public, scientists, educators, and policymakers related to the ethics of emerging neurotechnologies and directions in neuroscience. The digital collection was completed in 2023: https://www.nisenet.org/brain

3. **Explore Science: Earth & Space** activity kits exploring Earth and space science and providing hands-on opportunities to participate in STEM processes and practices. From 2017 to 2020, 1,200 kits were distributed to around 425 NISE Network partner organizations, engaging 12.7 million people in authentic STEM learning. Each kit includes around 10 hands-on activities, videos, posters, and educator training materials: https://www.nisenet.org/earthspacekit

4. **Explore Science: Let's Do Chemistry** is a kit of hands-on activities designed to support

learners' interest, sense of relevance, and feelings of self-efficacy related to chemistry. In 2018, 250 communities across the United States used the kits as part of National Chemistry Week events and other programming: https://www.nisenet.org/chemistry-kit

5. **Explore Science: Zoom into Nano** resource kits focused on building and strengthening partnerships among museums and other community organizations. In 2016, 100 NISE Network partners used the educational materials and professional resources to form local collaborations to reach audiences traditionally underserved by STEM educational institutions and underrepresented in STEM fields. The kit includes four modules with 3–6 activities each, as well as educator training materials: https://www.nisenet.org/explorescience-nano
6. **Frankenstein200** hands-on activity kits and alternate reality game focused on promoting creativity, scientific exploration, and consideration of responsible innovation. In 2018, 50 NISE Network partners used the project's educational materials and professional resources in programming celebrating the 200th anniversary of the publication of Mary Shelly's *Frankenstein:* https://www.nisenet.org/frankenstein
7. **Moon Adventure** is a collaborative game distributed to 350 NISE Network partners in 2021. Players work together to solve a series of hands-on challenges related to living and doing research on the moon, grounded in real science: https://www.nisenet.org/moongame
8. **NanoDays** hands-on activity kits for informal STEM education. From 2009 to 2015, 1,650 NanoDays kits were distributed to 460 informal learning institutions across the United States, engaging 8 million people in learning about nanoscale science, engineering, and technology. Each kit includes around a dozen activities, related media, and educator training materials: https://www.nisenet.org/nanodays/archive
9. **Nanoscale Informal Science Education Network** public program collection includes over 100 programs designed for use in museum settings, including theater presentations, discussion-based forums, and demonstrations. The programs were distributed to NISE Network partners beginning in 2008: https://www.nisenet.org/
10. **Science and Religion** public programs are based on creative nonfiction stories that provide opportunities for reflection and conversation about the relationship between science and religion: https://scienceandreligion.thinkwritepublish.org/resources/
11. **sustainABLE** hands-on activity kits. Beginning in 2016, these kits have been distributed to over 200 museums through the NISE Network and Arizona State University's fellowship program for museum professionals. It includes six hands-on activities and supporting professional resources: https://www.nisenet.org/sustainable-kit
12. **Sustainable Futures** collection of public programs includes games, activities connecting sustainability and creativity, and other formats. Each program is available as a free download, including a complete set of digital resources, preparation instructions, and training materials: https://www.nisenet.org/sustainable-futures

Exhibitions and media

Selected products from different projects, listed in alphabetical order by title.

1. **DIY nano** is a prize-winning app that features videos and activities exploring nanoscale science, engineering, and technology. The app has been featured in the Apple store and was downloaded over 250,000 times: https://apps.apple.com/us/app/diy-nano/id520611568. The activities are also collected in a book: https://www.nisenet.org/catalog/diy-nano-book
2. **Climates of Inequality: Stories of Environmental Justice** is a multimedia traveling exhibition created by a coalition of students, educators, and community leaders in over 22 cities. The installation and related programming provide multiple ways to learn about environmental issues affecting various communities, the historical roots of these issues, and strategies to transition from extractive environments to generative ones. The project launched in Newark, NJ, in October 2019 and is traveling to participating sites: http://climatesofinequality.org/
3. **Going APE (Active, Prolonged Engagement)** is a collection of 30 permanent exhibits at the Exploratorium that support self-directed, extended inquiry into the physical sciences: https://www.exploratorium.edu/vre/ape/ape_intro.html
4. **Listen: Making Sense of Sound** is a collection of permanent exhibits at the Exploratorium that allow visitors to focus on subtle and profound aspects of hearing, experiment with new ways of listening deeply and carefully, and think about how others hear the world: https://www.exploratorium.edu/listen/
5. **Mission Future: Arizona 2045** is a 2,500 square foot interactive exhibition that opened in 2023 at the Arizona Science Center. The exhibition integrates authentic Earth and space science, imaginative storytelling, an immersive environment, and hands-on activities to explore what Arizona might be like in the year 2045.
6. **Nano**, a 500 square foot exhibition produced in 93 copies, has been on long-term display at over 150 sites beginning in 2012. The exhibition is conservatively estimated to engage 10 million people each year in learning about nanoscale science, engineering, and technology: https://www.nisenet.org/catalog/exhibits/nano_mini-exhibition
7. **Nanotechnology: What's the Big Deal?** is a collection of 12 hands-on exhibit components that were permanently installed in several museums across the US: https://www.nisenet.org/catalog/nanotechnology-whats-big-deal-exhibition
8. **Sun, Earth, Universe** is a 600 square foot exhibition produced in 52 and scheduled for long term display at over 100 organizations beginning in 2019. The exhibition is conservatively estimated to engage 7 million people each year in learning about Earth and space science, including groups that are underserved by STEM institutions and underrepresented in STEM fields: https://www.nisenet.org/catalog/sun-earth-universe-exhibition

Professional development

Selected resources from different projects, listed in alphabetical order by title.

1. **Nano & Society** professional development workshops, training resources, and educational products to increase capacity of informal educators to engage public audiences in meaningful conversations about current science and technology and their relationship to society. Around 100 educators participated in a series of workshops in 2012: https://www.nisenet.org/events/other/nano-society-workshop
2. **Sustainability Fellowship** professional development workshops and resources to support museum professionals in carrying out sustainability projects at their organizations. Over 200 educators participate in a series of workshops and community of practice 2019–2022: https://www.nisenet.org/sustainability-fellowship
3. **NISE Network partner meetings** include regional (2013, 2012, 2011, 2010, 2008–2009) and nationwide meetings (2022, 2019, 2015, 2009, and 2007) with hundreds of participants: https://www.nisenet.org/event-type/network-wide-and-regional-meetings

Websites

Information and repositories for NISE Network and CIISL projects.

1. **National Informal STEM Education Network (NISE Network)** has a comprehensive website for our professional partners, including educators and scientists. It includes an online digital library of educational materials and professional development resources for those working in the field of informal science education: https://www.nisenet.org/
2. **Center for Innovation in Informal STEM Learning (CIISL)** has a microsite with information on center personnel and projects: https://globalfutures.asu.edu/ciisl/

PUBLICATIONS

Publications are listed in reverse chronological order.

Peer reviewed articles and chapters

1. Ostman, R., Nagy, P., Mawasi, A., Finn, E., & Wylie, R. (2022, November). Exploring responsible research and innovation in museums through hands-on activities. *Curator: The Museum Journal* 65(2), pp. 1–29. https://doi.org/10.1111/cura.12530.
2. Ostman, R., Zirulnik, M. & McCullough Cosgrove, J. (2019, April). Storytelling, science, and religion: Promoting reflection and conversation about societal issues. *Curator: The Museum Journal* 62(2), pp. 117–134. https://doi.org/10.1111/cura.12301.
3. Ostman, R., Chu, S. & Mader, M. (2018). Interpreting objects through digital games: The ROM Game Jam. *Exhibition* 37(1), pp. 40–51.
4. Ostman, R. (2017). Conversations about technology and society: Techniques and

strategies to encourage civic engagement in museums. *Science Education and Civic Engagement: An International Journal* 9(2), pp. 47–58.

5. Ostman, R. & McCarthy, C. (2015). *Nano*: Creating an exhibition that is inclusive of multiple and diverse audiences. *Exhibitionist* 34(2), pp. 34–39.
6. Ostman, R., Herring, B., Jackson, A., Bennett, I., & Wetmore, J. (2013). Making meaning through conversations about science and society. *Exhibitionist* 32(1), pp. 42–47.
7. Long, S. & Ostman, R. (2012). Using theatre and film to engage the public in nanotechnology. In *Little by Little: Expansions of Nanoscience and Emerging Technologies.* H. van Lente et al. (Eds.) Heidelberg: Akademische Verlagsgesellschaft/IOS Press, pp. 59–64.
8. Ostman, R. (1996/1997). "Our land is great and rich, but there is no order in it": Re-evaluating the process of Russian state formation. *Archaeological News* 21/22, pp. 73–91.

Invited articles and chapters

1. Bell, J. & Ostman, R. (In press). Informal STEM learning: Introduction and opportunities for Broader Impacts partnerships. In L. A. Van Egeren & S. Renoe, *The handbook of Broader Impacts. Vol. II: Practices and approaches for Broader Impacts.* Michigan State University Press.
2. Reich, C., Pattison, S., Olney, V., Bequette, M., Cohn, S., Kollmann, E. K., & Ostman, R. (2019). NISE Net team-based inquiry. In L. W. Martin, L. Tran, & D. Ash (Eds.), *The Reflective Museum Practitioner: Expanding Practice in Science Museums.* New York: Routledge, pp. 53–63.
3. Ostman, R. (2019). Creating conversation, not controversy. *Museum* (March/April 2019), pp. 34–39.
4. Ostman, R. (2019). Small museums, big role: Powering the NISE Network. ASTC Dimensions (Spring), pp. 35–39.
5. Ostman, R. (2018). Contributed annotations to the digital edition. In D.H. Guston, E. Finn, and J. S. Roberts (Eds.), *Frankenstein: Annotated for scientists, engineers, and creators of all kinds.* Tempe, AZ and Cambridge, MA: Arizona State University, MIT Press, and MIT Media Lab. https://www.frankenbook.org/
6. Ostman, R. (2010). Short stories of nano programs. *Hand to Hand* (Summer), p. 5.
7. Ostman, R. (2009). Lessons learned from "Snowflakes—nano at its coolest." In *Universal design guidelines for public programs in science museums.* Boston, MA: Museum of Science for the NISE Network, pp. 20–21.
8. Ostman, R. (2004). The city and complexity: Change and continuity in Late Antique Volterra. In *Exploring the Role of Analytical Scale in European Archaeology,* J. R. Mathieu and R. E. Scott, Eds. Oxford: British Archaeological Reports, pp. 59–66.

9. Ostman, R. (2004). Clothing and textiles. In *Ancient Europe, 8000 B.C. to A.D. 1000: An encyclopedia of the Barbarian world,* P. I. Bogucki and P. J. Crabtree, Eds. New York: Charles Scribner's Sons, pp. 433–435.
10. Ostman, R. (2004). Etruscan Italy. In *Ancient Europe, 8000 B.C. to A.D. 1000: An encyclopedia of the Barbarian world,* P. I. Bogucki and P. J. Crabtree, Eds. New York: Charles Scribner's Sons, pp. 260–268.
11. Ostman, R. (2004). Migration Period Peoples: Rus. In *Ancient Europe, 8000 B.C. to A.D. 1000: An encyclopedia of the Barbarian world,* P. I. Bogucki and P. J. Crabtree, Eds. New York: Charles Scribner's Sons, pp. 406–408.
12. Ostman, R. (2004). Russia/Ukraine. In *Ancient Europe, 8000 B.C. to A.D. 1000: An encyclopedia of the Barbarian world,* P. I. Bogucki and P. J. Crabtree, Eds. New York: Charles Scribner's Sons, pp. 563–568.
13. Ostman, R. (2004). Staraya Ladoga. In *Ancient Europe, 8000 B.C. to A.D. 1000: An encyclopedia of the Barbarian world,* P. I. Bogucki and P. J. Crabtree, Eds. New York: Charles Scribner's Sons, pp. 568–571.
14. Ostman, R. (2003). Archaeology in context: History, nationalism and the old Russian state. In *The Entangled Past: Integrating History and Archaeology.* M. Hendrickson, M. Boyd, and J. Erwin, Eds. Calgary: University of Calgary.
15. Ostman, R. (2002). Considering technology, gender, and social status in Viking Age Scandinavia. In *Eureka! The Archaeology of Innovation and Science. Proceedings of the twenty-ninth annual conference of the Archaeological Association of the University of Calgary: Chacmool.* R. Harrison, M. Gillespie, and M. Peuramaki-Brown, Eds. Calgary, AB: University of Calgary.

Books, guides, reports, and features

1. Ostman, R., & Weichselbaum, C. (2022, December). Civic science sparks with…NISE Network. Interview for *Civic Science Fellows Stories.* https://civicsciencefellows.org/stories/civic-science-sparks-with-nise-network/
2. Ostman, R. (2022). Frankenstein200 project page. In *Imagination in STEM: A Project Index.* Museum of Science, Boston.
3. Weller, N., & Ostman, R. (2021). *Sustainability and museums: A workbook for improving operations, engaging communities, and creating partnerships.* Tempe, AZ: Arizona State University for the NISE Network.
4. Ostman, R., Barnard, W., & Bell, L. (2018). *Informal STEM education policy. Brief submitted to the Royal Thai Government.* Bangkok, Thailand: Kenan Institute Asia.
5. Ostman, R. (2018). *Let's Do Chemistry: A framework and strategies to encourage positive attitudes toward learning chemistry in museums and informal settings. A NISE Network research to practice guide.* Tempe, AZ: Arizona State University for the NISE Network.

6. Porcello, D., McCarthy, C., & Ostman, R. (2017). *Gaming and the NISE Network: A gameful approach to STEM learning experiences.* Saint Paul, MN: Science Museum of Minnesota for the NISE Network.
7. Ostman, R. (2017). *National Informal STEM Education Network report to partners: 2005–2016.* Saint Paul, MN: Science Museum of Minnesota for the NISE Network.
8. Lass, K. & Ostman, R. (2016). Public and community engagement study aid. In: *Resources for science and engineering ethics.* Available from National Academy for Engineering Online Ethics Center: http://www.onlineethics.org/Resources/35318/39577.aspx. *Authors are listed alphabetically.*
9. NISE Network. (2016). *DIY Nano: Do-it-yourself science activities that investigate the nanoscale—the scale of atoms and molecules!* Ithaca, NY: Sciencenter for the NISE Network. I was the lead developer for the majority of the 25+ collected activities and resources.
10. NISE Network. (2016). *NanoDays collection: A compendium of NanoDays activities and resources from the Nanoscale Informal Science Education Network.* Ithaca, NY: Sciencenter for the NISE Network. *I was the lead developer for the majority of the 25+ collected activities and resources.*
11. Ostman, R. (2016). *NanoDays: A NISE Network guide to creating activity kits, building community, and inspiring learning.* Saint Paul, MN: Science Museum of Minnesota for the NISE Network.
12. Ostman, R. (2016). *NISE Network program development: A guide to creating effective learning experiences for public audiences.* Saint Paul, MN: Science Museum of Minnesota for the NISE Network.
13. Ostman, R. (2015). *NISE Network Nano exhibition: Creating a small footprint exhibition with big impact.* Saint Paul, MN: Science Museum of Minnesota for the NISE Network.
14. Ostman, R. (2014). *Nanoscale Informal Science Education Network report to partners: 2005–2014.* Saint Paul, MN: Science Museum of Minnesota for the NISE Network.
15. 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.* Saint Paul, MN: Science Museum of Minnesota for the NISE Network.
16. 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.
17. Ostman, R., Maletz, E., Jensen, K., & Jackson, A. (2012). *Bilingual design guide.* Ithaca, NY: Sciencenter for the NISE Network.

18. Jensen, K., Nunez, V., Garcia-Luis, V., Ostman, R., & Lindgren-Streicher, A. (2011). *Translation process guide.* Portland, OR: OMSI for the NISE Network.
19. Ostman, R. & Maletz, E. (2011). *Engaging the public in nano: Key concepts in nanoscale science, engineering, and technology.* Ithaca, NY: Sciencenter for the NISE Network.
20. Ostman, R. (2004). *The city and complexity: Volterra, Italy. Pottery production during the Hellenistic Etruscan period and the late Roman to late Antique period.* Oxford: British Archaeological Reports.

WORKSHOPS, PRESENTATIONS & POSTERS

Activities are listed in reverse chronological order. For each entry, the chair or presenting author is listed first and other presenters and authors follow in alphabetical order.

Professional Conferences

1. Ostman, R. (Chair), Anderson, A., Atwood, A., Auclair, M., Buffington, C., Cass, M., Jackson, A., Kollmann, L., Mannis, K., Martin, P., Neff, R., Peake, L., Sparrow, E., & VanDenbergh, S. (2023, May). Partnerships and programs to broaden participation in STEM: Insights from NASA's Science Activation program. Full-day design studio presented at the STEM Learning Ecosystem Community of Practice convening.
2. García Guerrero, M. (Chair), Ostman, R., Díaz, J., & Oliveira, D. (Discussant). (2023, April). Action networks for science communication: Building abilities for change. Roundtable discussion at the Public Communication of Science and Technology conference.
3. Ostman, R., & Weller, N. (2022, December). Building capacity for sustainability at museums and cultural organizations. Poster presented at the 2022 virtual NSF Nanoscale Science and Engineering Grantees Conference.
4. Bell, J. (Chair), Jackson, A., Garibay, C., Mayas, R., & Ostman, R. (2022, September). Reflections on equity: Holding a mirror to organizational practices. Session presented at the meeting of the Association of Science and Technology Centers, Pittsburgh, PA.
5. Ostman, R., & Weller, N. (2022, July). Strategies for impactful sustainability projects at museums and cultural organizations. Poster presented at the annual meeting of the Visitor Studies Association.
6. Thoma Emmons, C. (Chair), Foutz, S., Ostman, R., & Zalut, L. (2021, July). Productive discomfort: Exploring sensitive subject matter in evaluations. Session presented at the virtual meeting of the Visitor Studies Association.
7. Kollmann, L. (Chair), Anderson, A., Mesiti, L. A., Todd, K., & Ostman, R. (2021, May). How to make your museum great: Evaluation your team can do to improve your educational offerings. Intensive workshop presented at the virtual meeting of the

Association of Children's Museums.

8. Ostman, R. (Chair), Johnston, R., Laubenthal, D., Weller, N. & Wouk, K. (2020, October). Sustainable futures: Science centers and community partners working together for people and the planet. Preconference workshop presented at the virtual meeting of the Association of Science and Technology Centers.
9. Ostman, R. (Chair), Flynn, C., Frias, D., Haahr, N., Jorge, M., Porcello, D. & Weller, N. (2020, August). Sustainable futures: Museums and communities working together. Webinar presented for the Association of Children's Museums.
10. Zirulnik, M. (Presenter), McCullough Cosgrove, J., & Ostman, R. (2019, November). Science and religion. Paper presented at the Religious Communication Association, Baltimore, MD.
11. Bell, J. (Chair), Barriault, C., Besley, J., Ostman, R., & Yeo, S. (2019, September). Informal STEM education and science communication: Branches of the same tree, invasive species, or complementary niches in an ecosystem? Session presented at the meeting of the Association of Science and Technology Centers, Toronto, ON, Canada.
12. Ostman, R. (Chair), Colton, J., Custer, S., Das, J., Martin, P., & Porcello, D. (2019, September). Moonshots in the museum: Creative ways to engage museum audiences in big challenges. Session presented at the meeting of the Association of Science and Technology Centers, Toronto, ON, Canada.
13. Ostman, R. (Chair), Bishop, P., Doby, M., & Tankersley, J. (2019, September). Playing with the future: Creating exhibits and programs that immerse visitors in futures thinking. Preconference workshop presented at the meeting of the Association of Science and Technology Centers, Toronto, ON, Canada.
14. Sittenfeld, D. (Chair), Galvan, P., Hostetler, E., Kollmann, E., & Ostman, R. (2019, September). "Let's Do Chemistry": Designing and facilitating chemistry activities to increase interest, relevance, and self-efficacy. Preconference workshop presented at the meeting of the Association of Science and Technology Centers, Toronto, ON, Canada.
15. Velazquez, H. (Chair), Haupt, G., Petrich, M., & Ostman, R. (2019, September). Tinkering with maker and chemistry activity facilitation frameworks. Poster presented at the meeting of the Association of Science and Technology Centers, Toronto, ON, Canada.
16. Ostman, R. (2019, June). Sustainability in science and technology museums. In C. Paca (Convener), *Project showcase.* Presentation at the meeting of Ecsite, Copenhagen, Denmark.
17. Ostman, R. (Chair), Herring, B., Jackson, A. & Lindsey, C. (2019, May). Creating fun and guiding learning! Techniques for excellent facilitation. Session presented at the meeting of the Association of Children's Museums, Denver, CO.

18. Ostman, R. (2019, February). Putting research into practice to support positive attitudes about learning chemistry. In L. Bell (Chair), Scaling up research-based applications for better informal science communication. Symposium presented at the meeting of the American Association for the Advancement of Science, Washington, DC.
19. Ostman, R. (Chair), Colton, J., Hostetler, E., Long, S., Porcello, D., Sava, M., & Zirulnik, M. (2018, September). True stories and thoughtful conversation: Exploring science and religion in museum programs. Session presented at the meeting of the Association of Science-Technology Centers, Hartford, CT.
20. Ostman, R. (Chair), Cavalier, D., Colton, J., Cox, T., Grinnell, C., Hurst, A., LaConte, K., & La Valle, D. (2018, September). Museum and library partnerships: Hands-on STEM learning for everyone. Session presented at the meeting of the Association of Science-Technology Centers, Hartford, CT.
21. Ostman, R. (Chair), McCullough Cosgrove, J., & Zirulnik, M. (2018, July). Engaging with values and beliefs: Programs exploring science and religion. Poster presented at the meeting of the Visitor Studies Association, Chicago, IL.
22. Jackson, A. (Chair), Herring, B., Martin, P., Ostman, R., & Thompson, N. (2018, May). Best program ever! Tools and techniques to create great programs. Two-part workshop conducted at the Association of Children's Museums, Raleigh, NC.
23. Ostman, R. (2018, May). Games and STEM learning. In H. Wechsler (Chair), *What do games get us? Exploring learning research to inform our practice.* Session conducted at the American Alliance of Museums, Phoenix, AZ.
24. Ostman, R. (Chair), & Chu, S. (2018, April). Gaming in museums: How to level up your museum's public engagement. Workshop conducted at the meeting of Museums and the Web, Vancouver, BC.
25. Ostman, R. (Chair) & Wylie, R. (2018, April). Frankenstein200: Transmedia learning in creativity and responsible innovation. Demonstration session conducted at the meeting of Museums and the Web, Vancouver, BC.
19. Ostman, R. (2017, October). Data-based decision making in the NISE Network. In C. Trautmann (Chair), *The anti-fragile museum.* Session conducted at the meeting of the Association of Science-Technology Centers, San Jose, CA.
20. Ostman, R. (2017, October). Frankenstein200: Increasing learning and efficacy about emerging technologies through transmedia engagement. In J. Burba (Chair), *Happy birthday, Frankenstein!* Session conducted at the meeting of the Association of Science-Technology Centers, San Jose, CA.
21. Ostman, R. (2017, October). Museum and community partnerships. In R. Ostman (Chair), *STEM community partnerships: Strategies and resources for developing collaborations and reaching new audiences.* Session conducted at the meeting of the Association of Science-Technology Centers, San Jose, CA.

22. Ostman, R. (2017, September). Frankenstein200: Engaging the public in transmedia learning. In R. Wylie (Chair), *Narratives of science and scientists: Heroes, monsters, and victims.* Session conducted at the meeting of the Society for Social Studies of Science, Boston, MA.
23. Ostman, R. (Chair), Bennett, I., Long, S., Sittenfeld, D., & Wetmore, J. (2017, September). STS approaches to public engagement with science: Synthetic biology. In *Making & Doing.* Session conducted at the meeting of the Society for Social Studies of Science, Boston, MA.
24. Ostman, R. (2017, May). Crash course in program development. In B. Herring (Chair), *Best program ever! Tools and techniques to create great programming.* Session conducted at the meeting of the Association of Children's Museums, Pasadena, CA.
25. Ostman, R. (2017, May). Museum and community partnerships. In R. Ostman (Chair), *Engaging all audiences: Partnerships and programs to reach diverse audiences.* Session conducted at the meeting of the Association of Children's Museums, Pasadena, CA.
26. Bell, L. (Chair), Martin, P., McCarthy, C., & Ostman, R. (2016, September). New national collaborative network provides opportunities for US museums and science centers on STEM topics. Paper presented at the meeting of the Association of Science-Technology Centers, Tampa, FL.
27. Ostman, R. (2016, September). NISE Network. In J. Bell (Chair), Evolving landscape of opportunity: Informal education and STEM research working together. Session conducted at the meeting of the Association of Science-Technology Centers, Tampa, FL.
28. Beard, B., Finn, E., Lande, M., Ostman, R., & Wylie, R. (2016, May). Monster collaborations: Approaching the Frankenstein bicentennial through the humanities and informal STEM learning. Paper presented at the meeting of the Humanities, Arts, Science, and Technology Alliance and Collaboratory, Tempe, AZ.
29. Ostman, R. (2016, May). Museums and community partnerships. In R. Ostman (Chair), Museums and community partnerships: Leveraging resources and increasing impact. Session conducted at the meeting of the Association of Children's Museums, Stamford, CT.
30. Ostman, R. (2016, May). NISE Net Museum & Community Partnerships project. In C. McCarthy (Chair), *Tools for collaboration: Increasing your museum's local impact through partnerships.* Session conducted at the meeting of the Association of Children's Museums, Stamford, CT.
31. Ostman, R. (2016, May). Public outreach at science museums. Paper presented at the meeting of the Materials Research Society, Phoenix, AZ.
32. Ostman, R. (Chair), Martin, P., & Patten, D. (2016, April). Using principles and tools from gaming to create innovative museum experiences. Session conducted at the

meeting of Museums and the Web, Los Angeles, CA.

33. White, A. (Chair), Abelson, J., Iguiar, I., & Ostman, R. (2016, March). Materials for sustainable development—Integrated approaches. Symposium conducted at the meeting of the Materials Research Society, Phoenix, AZ.
34. Ostman, R. (Chair), Bennett, I., & Wetmore, J. (2015, October). Nano and society: Engaging the public in science, technology, and society. In *Making & Doing.* Session conducted at the meeting of the Society for Social Studies of Science, Denver, CO.
35. Ostman, R. (Chair) (2015, October). ASTC Game Jam! Using game thinking to transform science center experiences. Paper presented at the meeting of the Association of Science-Technology Centers, Montreal, Canada.
36. Ostman, R. (2015, October). Games and programs. In S. Long (Chair), *Why should I care? Making science center programs relevant to visitors.* Session conducted at the meeting of the Association of Science-Technology Centers, Montreal, Canada.
37. Ostman, R. (2015, October). NISE Network public engagement. In C. Bauedrie (Chair), *Social systems and governance.* Symposium conducted at the meeting of the Sustainable Nanotechnology Organization, Portland, OR.
38. Ostman, R. (Chair), Martin, P., & Patten, D. (2015, September). Transforming museums through gaming. Workshop conducted at the meeting of MuseumNext, Geneva, Switzerland.
39. Ostman, R. (Chair), Ostfeld, K., & Thompson, N. (2015, May). Gaming the way to learning around the world. Session conducted at the meeting of the Association of Children's Museums, Indianapolis, IN.
40. Ostman, R. (2015, May). NISE Network. In L. Bell (Chair), *Partnerships with science museums for public engagement and science communication professional development for early career scientists.* Session presented at the meeting of the National Alliance for Broader Impacts Summit, Madison, WI.
41. Herring, B. (Chair), Barnes, H., Bennett, I., Dilley, K., Long, S., Ostman, R., & Wetmore, J. (2014, October). *From demonstration to conversation: Engaging visitors in technology and society.* Preconference workshop conducted at the meeting of the Association of Science-Technology Centers, Raleigh, NC.
42. Ostman, R. (2014, October). *Game design.* In R. Ostman (Chair). *Can gaming show us new ways to create exhibitions?* Session presented at the meeting of the Association of Science-Technology Centers, Raleigh, NC.
43. Ostman, R. (Chair), Ostfeld, K., & Moynihan, N. (2014, May). *Gaming the way to learning.* Session conducted at the meeting of the Association of Children's Museums, Phoenix, AZ.
44. Ostman, R. (2014, March). *ROM Game Jam! Foretelling the past.* In R. Ostman (Chair), *Centres of Discovery at the ROM: A catalyst for new ideas about community*

engagement. Session conducted at the meeting of the Canadian Museums Association, Toronto, Canada.

45. Ostman, R. & Schippers, B. (2013, October). *Lessons from the ROM Game Jam and ancient arcade.* Paper presented at The Interactive and Games Conference, Gamercamp (Canada's Game Festival), Toronto, Canada.

46. Ostman, R. (2013, May). Evaluation and decision making: NISE Net. In R. Korn (Chair), *Evaluation as learning.* Session conducted at the meeting of the American Alliance of Museums, Washington, DC.

47. Ostman, R. (2013, February). Nanotechnology and society: Building societal and ethical implications into informal education. In L. Bell (Chair), *In the eye of the beholder: Engaging the public in societal implications of science.* Symposium conducted at the meeting of the American Association for the Advancement of Science, Boston, MA.

48. Ostman, R. (2012, December). *Engaging the public in the societal, ethical, and environmental implications of nanotechnology.* Paper presented at the meeting of the National Science Foundation Nanoscale Science and Engineering Grantees Conference, Arlington, VA.

49. Herring, B. & Ostman, R. (2012, November). Concepts and educational approaches for engaging the public in nanotechnology and society. In K. Chen, R. Nanjundaswamy, & A. Ramirez (Chairs), *Communicating social relevancy in materials science and engineering education*. Symposium conducted at the meeting of the Materials Research Society, Boston, MA.

50. Ostman, R. (Chair), Barnes, H., Dilley, K., Herring, B., Jackson, A., Kusiak, F., Liljeholm, A., Long, S., Ostfeld, K., Pattison, S., & Thate, K., (2012, October). *Really great programming: Best practices in development, delivery, and evaluation.* Preconference workshop conducted at the meeting of the Association of Science-Technology Centers, Columbus, OH.

51. Ostman, R. (Chair), Bowman, S., Kusiak, F., Nardone, E., Porcello, D., (2012, October). *There's an app for that! Developing apps for science museums.* Session conducted at the meeting of the Association of Science-Technology Centers, Columbus, OH.

52. Ostman, R. (2012, October). NanoDays. In L. Bell (Chair), *Adding unfamiliar current research to science museums.* Session conducted at the meeting of the Association of Science-Technology Centers, Columbus, OH.

53. Ostman, R. (2012, May). Achieving goals related to visitor learning. In R. Ostman (Chair), *Prototyping exhibits for high impact and fun.* Session conducted at the meeting of the Association of Children's Museums, Portland, OR.

54. Ostman, R. (2012, May). 1x20. In Orselli, P. (Chair), *20x20 Portland.* Pecha kucha conducted at the meeting of the Association of Children's Museums, Portland, OR.

55. Ostman, R. (2012, February). Tapping into the resources of the NISE Network. In L. Bell

(Chair), *Sharing science with the public: Resources for outreach and informal education.* Symposium conducted at the American Association for the Advancement of Science annual meeting, Washington, DC.

56. Long, S. & Ostman, R. (2011, November). Using theater and film to engage the public in nanotechnology. Plenary paper presented at the meeting of the Society for the Study of Nanoscience and Emerging Technologies, Tempe, AZ.

57. Ostman, R. (Chair). (2011, November). *Demonstrations to engage the public in nanotechnology.* Session conducted at the meeting of the Society for the Study of Nanoscience and Emerging Technologies, Tempe, AZ.

58. Ostman, R. (2011, November). NISE Network. In R. Ostman (Chair), *Engaging the Public in Nanotechnology: Strategies, Approaches, and Resources.* Panel conducted at the meeting of the Society for the Study of Nanoscience and Emerging Technologies, Tempe, AZ.

59. Ostman, R. (Chair), Barnes, H., Herring, B., Higbee, M., Jackson, A., Kusiak, F., Liljeholm, A., Long, S., Ostfeld, K., & Reich, C. (2011, October). *Really great programming: Best practices in development, delivery, and evaluation.* Preconference workshop conducted at the meeting of the Association of Science-Technology Centers, Baltimore, MD.

60. Ostman, R. (2011, October). NanoDays. In K. Ostfeld (Chair), *Indie styles that work!* Session conducted at the meeting of the Association of Science-Technology Centers, Baltimore, MD.

61. Ostman, R. (2011, October). Planning, development, and documentation. In A. Liljeholm (Chair), *Educational program development: Simple best practices for great presentations.* Session conducted at the meeting of the Association of Science-Technology Centers, Baltimore, MD.

62. Maynard, A. (Moderator), Bell, L., Erickson, B., Ostman, R., & Sutcliffe, H. (2011, September). Risk, uncertainty, and social engagement—How can we do better? Panel conducted at the symposium *Risk, uncertainty and sustainable innovation: New perspectives on emerging challenges,* Risk Science Center, University of Michigan, Ann Arbor, MI.

63. Ostman, R. (2011, May). Nano. In C. McCarthy (Chair), *Creating a comprehensive mini-exhibition.* Session conducted at the meeting of the Association of Children's Museums, Houston, TX.

64. Ostman, R. (2011, May). NanoDays: Simple STEM for 21st century learning skills. Paper presented at the Association of Children's Museums Annual Conference, Houston, TX.

65. Ostman, R. (2011, May). Sciencenter exhibits and programs. K. Ostfeld (Chair), *Implementing nano in children's museums.* Pre-conference workshop conducted at the Association of Children's Museums annual conference, Houston, TX.

66. Ostman, R. & G. Zenner Petersen. (2010, November). Content map for informal education in nanoscale science, engineering, and technology. In *Materials education development and outreach: K–grad*. Symposium conducted at the meeting of the Materials Research Society, Boston, MA.

67. Ostman, R. (2010, October). Discrepant events. In A. Fernandez (Chair), *Wow, I didn't expect that! Powerful techniques for teaching science.* Session conducted at the meeting of the Association of Science-Technology Centers, Honolulu, HI.

68. Ostman, R. (Chair). (2010, October). *Effective partnerships and networks: Making current science relevant.* Session conducted at the meeting of the Association of Science-Technology Centers, Honolulu, HI.

69. Ostman, R. (2010, October). NISE Network: Public engagement in nanoscale science, engineering, and technology. In L. Bell (Chair), *Public engagement and civic discourse: Charting a course for science centers.* Session conducted at the meeting of the Association of Science-Technology Centers, Honolulu, HI.

70. Ostman, R. (2010, October). Sciencenter and NISE Network. In R. Ostman (Chair), *Thinking big when you're a small museum.* Session conducted at the meeting of the Association of Science-Technology Centers, Honolulu, HI.

71. Ostman, R. (2010, May). Current science and global issues. In S. Long (Chair), *Bridging the borders: engaging visitors in global issues through innovative programming.* Session conducted at the meeting of the American Association of Museums, Los Angeles, CA.

72. Ostman, R. (2010, May). *Let's get hands-on with science!* Paper presented at the Association of Children's Museums annual conference, Saint Paul, MN.

73. Ostman, R. (2010, May). Nanotechnology: Small science, big deal. In K. Ostfeld (Chair), *Big thoughts about super-small: Nano in children's museums.* Preconference workshop conducted at the Association of Children's Museums annual conference, Saint Paul, MN.

74. Long, S. & Ostman, R. (2010, March). Nanoscale science demonstrations and activities for K–12 students and museum visitors. In *Informal Education Share-a-Thon,* conducted at the meeting of the National Science Teacher Association, Philadelphia, PA.

75. Ostman, R. (Chair). (2009, November). *Engage any audience: Effective outreach strategies for nanoscience and materials education.* Panel presented at the meeting of the Materials Research Society, Boston, MA.

76. Ostman, R. (Chair). (2009, November). *Innovative ways to connect: University, museum, and public partnerships for nanoscience and materials education.* Panel presented at the meeting of the Materials Research Society, Boston, MA.

77. Goldstein, E. & Ostman, R. (Chairs). (2009, October). *Put the "M" back in STEM.*

Session conducted at the meeting of the Association of Science-Technology Centers, Fort Worth, TX.

78. Ostman, R. (Chair). (2009, October). *Creative programming and current science learning.* Session conducted at the meeting of the Association of Science-Technology Centers, Fort Worth, TX.

79. Ostman, R. (2009, October). Creative STEM activities. In K. Ostfeld (Chair), *Indie style gets creative.* Session conducted at the meeting of the Association of Science-Technology Centers, Fort Worth, TX.

80. Ostman, R. (2009, October). Dragonfly TV nanosilver investigation. In C. McCarthy (Chair), *Science alliance: Advancing science communication by bridging diverse organizations.* Session conducted at the meeting of the Association of Science-Technology Centers, Fort Worth, TX.

81. Ostman, R. (Chair). (2009, October). *Public engagement in current science and global issues.* Session conducted at the meeting of the Association of Science-Technology Centers, Fort Worth, TX.

82. Ostman, R. (2009, October). Professional development for elementary school teachers. In I. Frank & R. Ostman (Chairs), *Big educational impact, small programming resources.* Session conducted at the meeting of the Association of Science-Technology Centers, Fort Worth, TX.

83. Bell, L., Bennett, I., Kusiak, F., Long, S., Ostman, R., & Wetmore, J. (2009, September). *Nanotechnology and Society.* Demonstrations at the Pacific Science Center and the annual meeting for the Society for the Study of Nanoscience and Emerging Technologies, Seattle, WA.

84. Manner, M. & Ostman, R. (2009, May). *Dirty hands: The hands-on science impact.* Paper presented at the Association of Children's Museums annual conference, Philadelphia, PA.

85. Kimber, L. & Ostman, R. (2008, October). *Programs and partnerships on a small budget.* Paper presented at the meeting of the Association of Science-Technology Centers, Philadelphia, PA.

86. Ostman, R. (2008, October). Applying universal design guidelines. In C. Reich (Chair), *Programs that are inviting and accessible to all.* Session conducted at the meeting of the Association of Science-Technology Centers, Philadelphia, PA.

87. Ostman, R. (Chair). (2008, October). *Chemistry programs that get great reactions.* Session conducted at the meeting of the Association of Science-Technology Centers, Philadelphia, PA.

88. Ostfeld, K. & Ostman, R. (Chairs). (2008, October). *Doing Math and Science "Indie-Style."* Session conducted at the meeting of the Association of Science-Technology Centers, Philadelphia, PA.

89. Silberman, R. (Presenter), Merkel, S., & Ostman, R. (2008, July). *Activities for young children at a science museum.* Paper presented at the Biennial Conference of Chemical Education, Bloomington, IN.
90. McCarthy, C., Ostfeld, K., & Ostman, R. (2008, May). How nano exhibits and programs can foster play and promote learning. In M. Stafne (Chair). *(Math + Science) x Play = Museum Fun!* Session conducted at the meeting of the Association of Children's Museums, Denver, CO.
91. Ostman, R. (2007, October). Hands-on STEM activities. In K. Ostfeld (Chair). *Doing Science and Math—Indie Style!* Session conducted at the meeting of the Association of Science-Technology Centers, Los Angeles, CA.
92. Ostman, R. (Chair). (2007, October). *Nanoscale science program showcase.* Session conducted at the meeting of the Association of Science-Technology Centers, Los Angeles, CA.
93. Ostman, R. (2007, October). NISE Net programs. In S. Koch (Chair), *Nanotech studio tour: A showcase of stories to tell and props to help tell them.* Session conducted at the meeting of the Association of Science-Technology Centers, Los Angeles, CA.
94. Ostman, R. (2006, October). *Invigorating the front line.* Paper presented at the meeting of the Association of Science-Technology Centers.
95. Ostman, R. (2000, March). *The city and complexity: Change and continuity in Late Antique Volterra.* Paper presented at the meeting of the Society for American Archaeology, Chicago, IL.
96. Ostman, R. (1998, November). "The Tale of Bygone Years: Archaeology, nationalism, and Russian state formation." Paper presented at the meeting of the American Anthropological Association, Philadelphia, PA.
97. Ostman, R. (1997, November). *Archaeology in context: History, nationalism, and the old Russian state.* Paper presented at the 30th Annual Conference of the Archaeological Association of the University of Calgary, Calgary, Canada.
98. Gray, T., Ostman, R., & Stanislawski, B. (1997, January). *The early medieval emporium at Wolin.* Poster presented at the meeting *Medieval Europe: Brugge 1997,* Bruges, Belgium.
99. Ostman, R. (1997). *Merchant graves and identity construction at Birka, a Viking Age town.* Paper presented at the meeting Surviving at the Margins, Rutgers University, New Brunswick, NJ.
100. Ostman, R. (1996, November). *Considering technology, gender, and social status in Viking Age Scandinavia.* Paper presented at the 29th Annual Conference of the Archaeological Association of the University of Calgary, Calgary, Canada.

Invited presentations and workshops

1. Ostman, R., & Martin, P. (2022, June). Building new knowledge and strengthening

practices for informal STEM learning: Recent projects by a national network in the United States. Lecture presented at the University of Turku, Finland.

2. Ostman, R., & Martin, P. (2022, June). Equity and science capital. Intensive seminar for the Finnish Science Center Association, Finland.
3. Ostman, R. & Martin, P. (2022, June). What we've learned: Reflections and suggestions for the network. Online workshop for the Finnish Science Center Association, Finland.
4. Ostman, R., & Martin, P. (2022, June). National networks for informal learning. Online workshop for the Finnish Science Center Association, Finland.
5. Ostman, R. (2021, May). Informal science education. Keynote talk for the virtual workshop *Public Engagement with Science and Philosophy of Science.* Organized by the University of Cincinnati Center for Public Engagement with Science with funding from the National Science Foundation.
6. Ostman, R. & Martin, P. (2019, May). Empowering communities to shape the future. New Tools for Science Policy Seminar Series. Center for Science, Policy & Outcomes, Arizona State University, Washington, DC.
7. Ostman, R. (2018, October). Informal STEM learning: Empowering communities to shape the future. Enlightening lunch presentation. School for the Future of Innovation in Society, Arizona State University, Tempe, AZ.
8. Devaney, S., Dzirasa, K., & Ostman, R. (Moderator). (2018, September). Alan J. Friedman Science Center Dialogues. Moderator for plenary panel discussion at the meeting of the Association of Science-Technology Centers, Hartford, CT.
9. Ostman, R., Martin, P., & Colton, J. (2018, February). Innovation in informal STEM learning: Empowering communities to shape their own futures. Poster presented at Arizona State University Learning Innovation Showcase, Tempe, AZ.
10. Ostman, R. & Colton, J. (2017, January). Science and society: Engaging museum visitors in conversations about current research and emerging technologies. Poster presented at Arizona State University Learning Innovation Showcase, Tempe, AZ.
11. Finn, E., Gano, S., Guston, D., Lande, M., Ostman, R. (Presenter), & Wylie, R. (2016, May). Transmedia museum. Poster presented at the Center for the Advancement of Informal Science Education (CAISE) Principal Investigator meeting, Arlington, VA.
12. Bell, L., Herring, B., Martin, P., McCarthy, C., Ostman, R., & Semper, R. (2015, May). *Nanoscale Informal Science Education Network* (*NISE Network).* Poster presented at the Center for the Advancement of Informal Science Education (CAISE) Principal Investigator meeting, Arlington, VA.
13. Bell, L., Martin, P., McCarthy, C., Olney, V., Ostman, R., & Semper, R. (2014, May). *NISE Network: Building a national network, engaging the public, and increasing professional capacity.* Multiple posters presented at the Center for the Advancement of Informal Science Education (CAISE) Principal Investigator meeting, Arlington, VA.

14. Ostman, R. (2012, December). *Nanotechnology and society: Educational products and professional resources.* Poster presented at the meeting of the National Science Foundation Nanoscale Science and Engineering Grantees Conference, Arlington, VA.
15. Ostman, R. (2012, April). Developing effective hands-on learning experiences. Workshop presented at the GK–12 Fellows Program, Cornell University, Ithaca, NY.
16. Horton, L., Long, S., & Ostman, R. (2011, November). Public outreach. In R. Ostman (Chair), *Museum-research center partnerships to engage the public.* Panel conducted at the Congress on Teaching Social and Ethical Implications of Research, Arizona State University, Tempe, AZ.
17. Ostman, R. (2011, January). NISE Network: Engaging the public in nano and society experiences. Paper presented at the all-hands meeting of the Center for Nanotechnology and Society, Arizona State University, Tempe, AZ.
18. Herring, B., Horton, L., Kusiak, F., Long, S., Ostman, R., & Sittenfeld, D. (2010, May). University-museum partnerships for engaging the public in nano and society, Consortium for Science Policy Outcomes, Arizona State University, Tempe, AZ.
19. Ostman, R. (Chair). (2010, February). University-museum partnerships for engaging the public in nano and society. Tabletop salon presented at the conference *The Rightful Place of Science,* Consortium for Science, Policy & Outcomes, Arizona State University, Tempe, AZ.
20. Ostman, R. (2008, December). NISE Net programs for engaging the public in nano. Demonstration organizer and presenter. National Center for Learning and Teaching Global Workshop on Nanoscale Science and Engineering Education, Arlington, VA.
21. Koch, S., Liljeholm, A., & Ostman, R. (2007, December). *NISE Net exhibits and programs for engaging the public in nano.* Poster presented at the National Center for Learning and Teaching Workshop on Nanoscale Science and Engineering Education, Arlington, VA.

Other presentations and workshops

1. Jackson, A., Johnson, A., Kusiak, F., Leavell, C., McCarthy, C., Ostman, R., Porcello, D., Weichselbaum, C., & Weller, N. (2022, June). Reconnect and re-engage with the NISE Network. Online networking opportunity for museum educators, NISE Network.
2. Weller, N., Ostman, R., et al. (2021–2022). Sustainable museums: Sustainability Fellowship program. Online professional development fellowship for informal educators. Three cohorts of 30 educators, each participating in a six-month program. Arizona State University in partnership with the NISE Network.
3. Herring, B. (Chair), Jackson, A., Kusiak, F., Leavell, C., McCarthy, C., & Ostman, R. (2021, June). Reconnect and re-engage with the NISE Network. Online networking opportunity for museum educators, NISE Network.
4. Kollmann, L. (Chair), Anderson, A., & Ostman, R. (2021, November). Evaluating

educational experiences during times of limited social interaction: Adventures in team-based inquiry. Online workshop for museum educators, NISE Network.

5. Weller, N., Ostman, R., et al. (2021, January and February). NISE Network sustainability program. Two-part online workshop for museum educators, NISE Network.
6. Weller, N., & Ostman, R. (2020, March). Building sustainable futures through museums and cultural institutions. Presentation at the Social Embeddedness Network Conference, Arizona State University, Tempe, AZ.
7. Ostman, R., Weller, N., et al. (2019–2020). Sustainable Futures: Sustainability in Science & Technology Museums Fellowship program. Blended professional development fellowship for informal educators, including online sessions, in-person intensive workshop, and online workspace. Three cohorts of 30 educators, each participating in a five-month program. Arizona State University, Tempe, AZ.
8. Sittenfeld, D. (Chair), Jackson, A., & Ostman, R. (2019, September). Making chemistry matter to your public audiences: Using hands-on activities to stimulate interest, relevance, and self-efficacy. Online professional development workshop for museum educators, NISE Network.
9. Ostman, R. (Chair), Sittenfeld, D., Beyer, M., Anderson, A., Weitzman, O., Galvan, P., Horwitz, D., & Hostetler, E. (2019, September). Explore Science: Let's Do Chemistry. Online professional development workshop for museum educators, NISE Network.
10. Ostman, R. (Chair), Horwitz, D., Sittenfeld, D., & Jackson, A. (2018, October). Celebrate National Chemistry Week. Online professional development workshop for museum educators, NISE Network.
11. Ostman, R. (Chair), Anderson, J., Benne, M., Coats, V., & Sittenfeld, D. (2018, May). Changing the conversation about climate. Online professional development workshop for museum educators, NISE Network.
12. Sittenfeld, D. (Chair), Ostman, R., & Jackson, A. (2018, April). Explore Science: Let's Do Chemistry. Online professional development workshop for museum educators, NISE Network.
13. Ostman, R. & Martin, P. (2018, January). National Informal STEM Education Network collaboration with NASA Science Mission Directorate. Presentation at NASA Headquarters, Washington, DC.
14. Ostman, R. (Chair), Colton, J., Spencer, J., Taylor, A., Cotman, E., & Fiordalis, V. (2017, December). Frankenstein200 project. Online professional development workshop for museum educators, NISE Network.
15. Ostman, R., Colton, J., Lande, M., Spencer, J., & Taylor, A. (2017, October). Frankenstein200: Museum partner workshop. Professional development workshop for 35 museum educators, San Jose, CA.
16. Ostman, R. & Martin, P. (2017, June). Innovation in informal STEM learning.

Presentation at NASA Headquarters, Washington, DC.

17. Ostman, R. (2015, May). Museum and community partnerships. Workshop presented at the network-wide meeting of the NISE Network, Saint Paul, MN.
18. Ostman, R. (2015, May). Small footprint exhibitions. Workshop presented at the network-wide meeting of the NISE Network, Saint Paul, MN.
19. Ostman, R., Bennett, I., Herring, B., & Wetmore, J. (2012, December). Engaging the public in conversations about nano and society. Workshop presented at the network-wide meeting of the NISE Network, Boston, MA.
20. Barnes, H., Bennett, I., Cohn, S. Dilley, K., Hartshorn, S., Herring, B., Higbee, M., Jackson, A., Long, S., Nicholas, B., Pattison, S., Ostman, R., & Wetmore, J. (2012, September–October). Engaging visitors in nanotechnology and society. Workshops presented in Berkeley, CA, Houston, TX, Portland, OR, and Saint Paul, MN.
21. Ostman, R. (2012, January). Universal design. Presented at the program workshop for the NISE Network, Portland, OR.
22. Ostman, R. (2011, September). NISE Network update. Presented at the regional meeting for the NISE Network, Ithaca, NY.
23. Ostman, R. (2011, September). Societal and ethical implications of nanotechnologies. Roundtable presented at the regional meeting for the NISE Network, Ithaca, NY.
24. Ostman, R., Ellenbogen, K., Garcia-Luis, V., Johnson, M., Livingston, T., Martin, P., Petersen, G., Porcello, D., & Reich, C., (2011, January). Societal and ethical implications of nanotechnology. Workshop planned and delivered for the NISE Network, Portland, OR.
25. Ostman, R., Bennett, I., Correa, J., Liljeholm, A., Lisensky, G., Long, S., & Ostfeld, K. (2010, October). Nano 101. Workshop presented at the network-wide meeting of the NISE Network, San Francisco, CA.
26. Ostman, R. (2009, September). Educational products. Discussion section at the NISE Network Annual Meeting, San Francisco, CA.
27. Ostman, R. (2009, July). NISE Net programs. Workshops facilitated at the Marian Koshland Science Museum and the Diversity, Equity, and Access meeting of the NISE Network, Washington, DC.
28. Ostman, R., Grack Nelson, A., Liljeholm, A., Miller, T., Pollard, K., Zenner, G., et al. (2008, July). Planning and delivery for NISE Network regional workshops, Ithaca, NY, Portland, OR, Raleigh, NC, and Saint Paul, MN.
29. Ostman, R. (2008, March). Snowflakes to nano-ice: Universal design guidelines and techniques for making programs inclusive. Presented at the program workshop for the NISE Network, Portland, OR.
30. Ostman, R. (2007, December). Snowflakes to nano-ice: Self-assembly in nature and

nanotechnology. Program presented at the NISE Network Accessible Programs Workshop, Boston, MA.

STUDENT MENTORING

Undergraduate supervision

Encinas, Z. (Fall 2021–Spring 2022). *Bee-longing in STEM: Refining and evaluating movement-based activities for bee conservation science engagement and education for middle schoolers.* Director of undergraduate honors thesis. Awarded Outstanding Graduate of Barrett, The Honors College and Dean's Medalist in English, College of Liberal Arts and Sciences, Arizona State University.

Postdoctoral supervision

Weichselbaum, C. (Fall 2021–Spring 2023). Mentor for externally funded research focused on neuroscience and society through the Civic Science Fellows program. Postdoctoral research completed and successfully competed for a position as science engagement specialist at the Allen Institute.

Weller, N. (Fall 2019–Spring 2023). Mentor for externally funded research focused on sustainability in museums and similar cultural organizations. Resulted in two federally funded grants (IMLS #MG-245910-OMS-20 and NSF #2148016), multiple conference presentations, and a suite of online resources. Postdoctoral research successfully completed and advanced to assistant research professor, Arizona State University.

SERVICE & OTHER PROFESSIONAL ACTIVITIES

Activities are listed in approximate reverse chronological order by start date.

Professional service

Editorial board member (2022–2025). *Cambridge Elements in Public Engagement with Science,* published by Cambridge University Press in partnership with University of Cincinnati Center for Public Engagement with Science.

Advisor (2022–2024). *Advancing the conversation on scaling national informal STEM programs.* National Girls Collaborative Project (NSF #2214449, PI T. Cox).

Board committee member (2022–2024). Association of Science and Technology Centers, Leadership and Field Development Committee.

Advisor (2022–2023). *Planning grant for Dana Centers for Neuroscience & Society,* Dana Foundation (PIs A. Wechsler and M. Farah), University of Pennsylvania.

Workshop participant (2022, July). *Working session: Concepts and proposals for public engagement in climate change,* convened by the Association of Science and Technology

Centers (ASTC) in partnership with the American Geophysical Union (AGU).

Host site (2021–2023). *Civic Science Fellows Program* supported by The Burroughs Wellcome Fund, the Chan Zuckerberg Initiative, The David and Lucile Packard Foundation, the Gordon and Betty Moore Foundation, The Kavli Foundation, and the Rita Allen Foundation.

Advisor (2021–2022). *Dream tomorrow today,* DoSeum (IMLS # MA-249635-OMS-21, PI M. Doby).

Facilitator (2021, October). *Developing and sustaining equitable, knowledge-building partnerships.* National Science Foundation Advancing Informal STEM Learning (AISL) Awardee Meeting.

Review committee (2021, July). *Communicating the future: Engaging the public in basic science* conference, organized by Science Public Education Partnership and supported by The Kavli Foundation and the U.S. Department of Energy.

Member (2020 to present). Leaders in Science and Technology Engagement Networks (LISTEN), sponsored by the Association of Science and Technology Centers and The Kavli Foundation.

Advisor (2020–2023). *Empowering informal educators to prepare future wireless generations through a spectrum of STEM learning opportunities about radio,* BCBS Science Learning (NSF #2005784, PI S. Hsi).

National summit participant (2020, October). *New frontiers in science, technology, learning, and community engagement toward a more equitable tomorrow: Virtual national summit* organized by the Association of Science and Technology Centers (ASTC).

Workshop participant (2020, September). *Community science models, attributes, and principles,* facilitated by the Association of Science and Technology Centers (ASTC) Community Science initiative, supported by the Chan-Zuckerberg Initiative and the Gordon and Betty Moore Foundation.

Workshop participant (2020, September). *Public dialogue and deliberation,* facilitated by the Association of Science and Technology Centers (ASTC) Community Science initiative, supported by the Chan-Zuckerberg Initiative and the Gordon and Betty Moore Foundation.

Workshop participant (2020, August). *Science and public engagement,* facilitated by the Day One Project, an initiative of the Federation of American Scientists, in partnership with Advancing Research Impact in Society (ARIS) and Leaders in Science and Technology Engagement Networks (LISTEN), with support from The Kavli Foundation.

Workshop discussant (2020, July). *Civic Science Fellows Program,* supported by The Burroughs Wellcome Fund, the Chan Zuckerberg Initiative, The David and Lucile Packard Foundation, the Gordon and Betty Moore Foundation, The Kavli Foundation, and the Rita Allen Foundation.

President and board member (2015–2021). Visitor Studies Association. Past president and

member of the board of directors (July 2019–2021). President of the board of directors (July 2017–2019). President-elect and member of the board of directors (December 2015–June 2017).

Editorial board member (2019). *Dimensions*, published by the Association of Science and Technology Centers.

Workshop facilitator (2019, December). Research and Practice task force, *CAISE (Center for the Advancement of Informal Science Education* (NSF#1612739, PI J. Bell).

Advisor (2019–2023). *LabVenture: Revealing systemic impacts of a 12-year statewide field trip program,* Gulf of Maine Research Institute (NSF #1811452, PI L. Peake).

Advisor (2019–2023). *Conference: Interdisciplinary perspectives on imagination in informal STEM environments,* Museum of Science (NSF#1906899, PI R. Kipling).

Meeting participant (2023, April). *Space STEM forum,* hosted by the National Space Council.

Meeting participant (2018, October). *Meta-network workshop: Connecting science engagement and communication networks,* sponsored by The Kavli Foundation, the Gordon and Betty Moore Foundation, The David and Lucile Packard Foundation, and the Rita Allen Foundation.

Meeting participant (2017, October). *Support systems for scientists' communication and engagement: An exploration of the people and institutions empowering effective impact,* sponsored by The Kavli Foundation, the Gordon and Betty Moore Foundation, The David and Lucile Packard Foundation, and the Rita Allen Foundation.

Liaison to NISE Network and museum practitioners (2016–2022). *Center for the Advancement of Informal STEM Education (CAISE)*, the resource center for NSF's Advancing Informal Science Learning (AISL) program, Association of Science and Technology Centers (NSF #1612739, PI J. Bell).

Committee member (2012–2016). Focus on Sustainability, Materials Research Society.

University service

Personnel committee (AY 2021–2022). College of Global Futures, Arizona State University.

Faculty reviewer (AY 2019–2020). Graduate College Completion Fellowship, Arizona State University.

Faculty reviewer (AY 2020–2021). Interdisciplinary Enrichment Fellowship, Arizona State University.

Faculty annual review committee (AY 2017–2018, 2020–2021), School for the Future of Innovation in Society, Arizona State University.

Field meeting participant (2011, May). *Dimensions of public engagement with science* (NSF #1010831, PI L. Bell).

Grant review

Institute for Museum and Library Services (2012, 2015, 2017): Museums for America and National Leadership Grants for Museums.

National Institute of Health (2015, 2018, 2019): Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR).

National Science Foundation (2011, 2022, 2023): Advancing Informal STEM Learning; Discovery Research PreK-12; Racial Equity in STEM Education; and Science and Technology Centers.

Journal review

Citizen Science: Theory and Practice (2019)

Curator: The Museum Journal (2022, 2023)

Leonardo (2019)

Sustainability (2019, 2020)

Professional society review

American Alliance of Museums (annual meeting)

Association of Children's Museums (annual meeting)

Association of Science and Technology Centers (awards)

Visitor Studies Association (annual meeting)

Professional development

Reflecting on Practice, Lawrence Hall of Science, online (Spring, 2021)

Design Futures Training, Institute for the Future, Palo Alto, CA (December 10–11, 2019)

Research + Practice Workshop, Research + Practice Collaboratory, Washington, DC (July 10–12, 2017)

Continuing education

Photo Editing: Narrative / Non-Narrative, Arizona State University (Spring, 2023)

Photography and Sustainability, Arizona State University (Fall, 2022)

What is the Story?, International Center of Photography (Summer, 2022)

Digital Photography Capstone, Arizona State University (Spring, 2022)

Identity and Representation in Photography, Arizona State University (Spring, 2022)

Practical Guide to Creating One's Reality, International Center of Photography (Fall, 2021)

Advanced Digital Photography, Arizona State University (Fall, 2021)

Digital Photography I, Arizona State University (Summer, 2021)

Digital Photography II, Arizona State University (Summer, 2021)