

KEVIN CROWLEY

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Kevin Crowley is a professor of Education and a Senior Scientist at the Learning Research and Development Center where he co-directs the University of Pittsburgh Center for Learning in Out-of-School Environments (UPCLOSE). Crowley studies informal learning and its connection to learning ecosystems. His work connects research, practice, and community, and recognizes that informal learning invites people to co-construct experiences that reflect their values, needs, strengths, and hopes. Crowley's work has often focused on children's science learning and explored the role of educators and caregivers who know how to facilitate children's learning and development through collaboration, conversation, and brokering new learning opportunities. Working in research/practice partnerships, Crowley employs a range of research and evaluation methodologies to directly impact practice while simultaneously building generalizable knowledge about informal learning. Recent projects focus on community-based networks to support climate change education in rural areas, the role of interest and identity in shaping life-long learning pathways, and designing partnerships and networks that can bring museums and community-based organizations together in support of family learning and literacy. Committed to building the field of informal learning, he is co-editor of Visitor Studies and served 15-years as co-lead of the Center for Advancing Informal Science Education.

RESEARCH INTERESTS

Informal learning, learning ecosystems, museums, interest-driven learning, family learning, science and climate change education

EDUCATION + TRAINING

Postdoctoral Fellow, Psychology, University of California, Santa Cruz, 1994-1997

Ph.D., Psychology, Carnegie Mellon University, 1994

M.S., Psychology, Carnegie Mellon University, 1991

B.A., Psychology and Education, Swarthmore College, 1989

FACULTY POSITIONS @ UNIVERSITY OF PITTSBURGH

Assistant Professor, School of Education, 1997-2003

Research Scientist, Learning Research & Development Center, 1997-2013

Associate Professor, School of Education, 2004-2012

Full Professor, School of Education, 2013-present

Senior Scientist, Learning Research & Development Center, 2013-present

Co-lead, University of Pittsburgh Center for Learning in Out-of-School Environments (UPCLOSE), 2003-present

Associate Dean for Faculty & Research, School of Education, 2018-2022

Interim Department Chair, Department of Administrative and Policy Studies, 2019–2020

Program Chair, Learning Sciences and Policy, 2015–2018

Program Chair, Cognitive Studies, 2002-2008

AWARDS + FELLOWSHIPS + VISITING POSITIONS

Adjunct Professor of Education, University of Oslo, Norway, 2016-2020

Visiting Professor, University of Tokyo, 2013

William T. Grant Foundation Distinguished Fellow, 2010-2013

Visiting Professor, University of Tokyo, 2006

Roy L. Shafer Leading Edge Award, Association of Science and Technology Centers, in recognition of the UPCLOSE partnership with the Children's Museum of Pittsburgh, 2005

MetLife Promising Practice award from the Association of Children's Museums, in recognition of the UPCLOSE partnership with the Children's Museum of Pittsburgh, 2004

Visiting Professor, Nagoya University, Summer 2003

Japan Society for the Promotion of Science Visiting Fellow, Nagoya University, 1995

SELECTED SERVICE

University of Pittsburgh School of Education scientific reviewer for IRB, 2019-present

University of Pittsburgh Provost Area Promotion and Tenure Committee, 2022 and 2023

Executive Committee member, University of Pittsburgh School of Education, 2015-2022 and Learning Research and Development Center, 2003-2007 and 2015-2017

Co-founded and from 2007 to 2022 was a co-lead for the NSF-funded Center for the Advancement of Informal Science Education (CAISE) that worked to strengthen and connect the informal science education community by catalyzing conversation and collaboration across the field with a focus on improving practice, documenting evidence of impact, and communicating the contributions of informal science education to various stakeholders and communities.

UPCLOSE developed the primary international location for sharing research and evaluation focused on informal learning, www.informalscience.org. The repository includes informal learning citations, white papers and policy documents, a database of informal science projects around the world, social networking for the field as well as archives of evaluation reports from National Science Foundation informal science education projects. The repository is currently maintained by NSF's Advancing Informal Science Learning resource center.

Member of the National Academy of Sciences' Study Panel on Learning Science, Kindergarten through Eight Grade, 2004-2005. Invited speaker at National Academy of Sciences panels focusing on informal learning in 2015 (How People Learning II), 2014 (Out-of-School Time Learning), and 2005 (Learning Science in Informal Environments)

Executive Committee and co-author: Building a Collaborative Learning Research Agenda for Natural History Museums, a project of Kings College, London and the Natural History Museum, London, United Kingdom. 2013-2016

Executive Committee, 21st Century Learning in Natural History Museums, Smithsonian Museum of Natural History, Washington DC, 2012

Member of a delegation from the Association of Science and Technology Centers and the National Science Foundation to Sri Lanka for meetings to plan the National Science Center of Sri Lanka, Colombo, Sri Lanka, January, 2014

Director of Research and Evaluation, Children's Museum of Pittsburgh, 2003-2006

JOURNAL EDITOR

Visitor Studies Journal: Co-editor, 2018 to present

Journal of the Learning Sciences: Founding editor of the out of school learning strand 2009-2012; Editorial board, 2015-present.

American Educational Research Journal: Section on Teaching Learning and Human Development, Associate Editor, 2001-2004

Guest editor with T. Okada, special issue on collaborative cognition, Cognitive Studies: The Bulletin of the Japanese Cognitive Science Society, 3 (4), 1996. (Issue awarded an Editorial Award by the Japanese Cognitive Science Society)

CONFERENCE ORGANIZER

Co-organizer, Advancing Informal Science Learning (AISL) NSF Awardee meetings, Washington DC, 2008; 2010; 2012; 2014; 2016; 2019; 2021

Co-organizer, The Tokyo Symposium for Learning through Art, Tokyo, 2016

Advisory Board, International Conference of the Learning Sciences, Boulder, CO, 2011.

Advisory Committee, The Learning Value of Children's Museums: Research Agenda Symposium, Washington, DC, 2013

Co-organizer, Activating Inspiration and Creativity: The Tokyo International Symposium for Informal Learning in Art, Science, and Technology. University of Tokyo, Japan. Nov, 2013

Co-Chair, Practice and Research Convening for Informal STEM Education, Washington, DC, 2013

Co-Chair, Visitor Studies Association annual meeting, 2006

Co-Chair, Creativity and Cognition, Modern Ceramic Art, Conference and Exhibition, Gifu, Japan. This conference led to recognition as a collaborator on a G-Mark Good Design Award, Special Prize of the Chairman Jury awarded to NHK and the Museum of Modern Ceramic Art, 2003

Program Committee, Fifth International Conference of the Learning Sciences, 2002

Co-Chair, Division C4b (out-of-school learning environments), Annual Meeting of the American Educational Research Association, April 2001

Co-Chair, Designing for Science, an invitational conference focused on the psychology of scientific thinking in everyday, classroom, and professional contexts. Learning Research & Development Center, University of Pittsburgh, April 1998

PEER REVIEWER

American Educational Research Association (conference)

American Educational Research Association, Division K, Outstanding Dissertation Award Committee

American Educational Research Journal
British Journal of Educational Psychology
Child Development
Child Development Perspectives
Cognition & Instruction
Cognitive Psychology
Cognitive Science
Computer Human Interaction (conference)
Curator: The Museum Journal
Department of Education Institute for Education Sciences
Developmental Psychology
Discourse Processes
Equity & Excellence in Education
Human Development
Institute for Museum and Library Services
International Conference for the Learning Sciences
Journal of Cognition and Development
Journal of Creativity Research
Journal of Educational Psychology
Journal of Experimental Child Psychology
Journal of the Learning Sciences
Journal of Research on Science Teaching
Journal of Science Education and Technology
Merrill Palmer Quarterly
National Science Foundation
PLOS ONE
Science
Science Education
Social Development
Spencer Foundation
Strategic Science Fund, Government of Canada
Visitor Studies Conference
Visitor Studies Journal
William Penn Foundation
W.T. Grant Foundation

INVITED ADDRESSES

Academies of Youth Scientists
American Museum of Natural History
American Public Gardens Association
Association of Children's Museums
Association of Science & Technology Centers
Australian Museum, Sydney, Australia
Carnegie Museum of Natural History
Children's Museum of Pittsburgh
Conner Prairie Interactive History Park
ECSITE: The European network of science centres and museums
ExperienceSTEM, University of Colorado
Indiana University
Informal Science Education Association of Texas
Jackson Hole Symposium
Leibniz-Institut für Wissensmedien, Tübingen, Germany
Nagoya University, Japan
National Academy of Sciences
Natural History Museum London
Naturalis, Leiden, Netherlands
New York Hall of Science
Northwestern University
Roskilde University, Denmark
Science Museum London
Science Museum of Minnesota
Smithsonian Institute
Texas A&M University
University of Oslo
University of Tokyo
University of Washington, Seattle
University of Western England, Bristol, UK
Visitor Studies Group, UK

ADVISORY BOARDS + CONSULTING

American Museum of Natural History
Astronomical Society of the Pacific

Association of Children's Museums
Association of Science and Technology Centers
Bay Area Discovery Museum
Brown University
Carnegie Libraries of Pittsburgh
Carnegie Museum of Natural History
Carnegie Science Center
Chicago Children's Museum
Children's Discovery Museum of San Jose
Children's Museum of Pittsburgh
Children's Museum Research Center, Beijing, China
Conner Prairie Interactive History Park
Digital Promise
Family Communications, Inc.
Franklin Institute
Institute for Learning Innovation
Kent State University
Knology
Lawrence Hall of Science, University of California, Berkeley
Longitudinal Study of American Youth
Montshire Museum of Science
NASA
Natural History Museum London
New Knowledge Organization, Ltd.
New York Hall of Science
Northwestern University
Oregon Museum of Science and Industry
Oregon State University
Scholastic, Inc.
Science Museum of Minnesota
Smithsonian Institute
SRI International
Stanford University
TERC
The Andy Warhol Museum
Twin Cities Public Television

University of Washington, Seattle
William Penn Foundation

UNIVERSITY TEACHING

Practitioner Inquiry 2 (EdD)
Practitioner Inquiry 3 (EdD)
Practitioner Inquiry 4 (EdD)
Informal Learning: Theory and Foundations (EdD)
The Future of Informal Learning (EdD)
Organizations, Networks, and Policy in Informal Learning (EdD)
Learning Sciences and Educational Change (PhD)
Informal Learning (PhD)
Professional Writing Seminar (PhD)
Applied Cognitive Science (PhD)
Instructional Explanations (PhD)
Instruction and Learning (PhD)
Museums as an Educational Resource (MEd/MAT)
Educational Psychology (MEd/MAT)
Designing & Using Informal Learning Environments in Science (MEd/MAT)
Technology for Elementary Education (MEd/MAT)
Growing up with New Media (MEd/MAT)
Cognitive Development (BA)
Introduction to Child Development (BA)

DOCTORAL COMMITTEES CHAIRED

Lisa Scott, Ph.D., 2000
Roger Taylor, Ph.D., 2004
Jodi Galco Fender, Ph.D., 2004
Kyung Youn Kim, Ph.D., 2009
Catherine Eberbach, Ph.D., 2009
Camellia Sanford, Ph.D., 2009
Debra Bernstein, Ph.D., 2010
Sasha Palmquist, Ph.D., 2012
Lisa Brahms, Ph.D., 2014
Lauren Allen, Ph.D., 2016
Mary Ann Steiner, Ph.D., 2016

Kaleen Povich, Ph.D., 2016
Rachel Bonnette, Ph.D., 2020
Marijke Hecht, Ph.D., 2020
Pamela Petro Ott, Ed.D., 2020
Kim Bambauer, Ed.D., 2020
Harriet Wortzman, Ed.D., 2020
Valeria McCrary, Ed.D., 2020
K.T. Todd, Ed.D., 2022
Karen Avery, Ed.D., 2023
Audrey Sykes, Ed.D., 2023
Rita Mukherjee Hoffstadt, Ed.D., 2023
Nanyamkah Mars, Ed.D., 2024 (expected)
Juliet Crowell, Ed.D., 2024 (expected)
Sarah Dunifon, Ed.D., 2024 (expected)
Jennifer Tan 2024, Ed.D., (expected)
Alice Anderson, Ed.D., 2025 (expected)
Joseph Bleehash, Ed.D., 2025 (expected)
Julie Kozak, Ed.D., 2025 (expected)

FUNDING

FEDERAL

National Science Foundation (DRL 1906368). Climate Rural Systems Partnership (CRSP), \$794,923, Crowley (PI), Steiner (Co-PI). 2019-2023. Collaborative proposal with the Carnegie Museum of Natural History, \$1,254,205, Giarrantani (PI), Heller (Co-PI). Total: \$2M.

National Science Foundation, Center for the Advancement of Informal Science Education (CAISE). 2007-2023. \$15,000,000. Bell (PI); Crowley (Co-PI); Garaby (Co-PI); Mayas (Co-PI); Storcksdiek (Co-PI). 2007-2022. *Funded through multiple AISL grants and supplements over the years that also included Pollock (PI), Ellenbogen (Co-PI), Falk (Co-PI), Friedman (Co-PI), McCann (Co-PI).*

National Science Foundation, Remake Making: Understanding Adoption and Adaptation of Facilitated Making in Libraries, \$299,495, Akiva (PI), Bowler (Co-PI), Crowley (Co-PI), Wardrip (Co-PI). 2017-2019.

National Science Foundation, Learning to See, Seeing to Learn: A Sociotechnical System Supporting Taxonomic Identification Activities in Volunteer-Based Water Quality Biomonitoring. \$1,690,278, 2015-2019. Louw (PI), Crowley (Co-PI).

National Science Foundation (IIS 1735945), Smart Spaces for Making: Networked Physical Tools to Support Process Documentation and Learning, \$132,450, Crowley, K. (PI), 2017-2019. [Collaborative Grant with M. Louw and D. Byrne at Carnegie Mellon University] Total \$350,000.

National Science Foundation, Climate Change Education Partnership-II: Climate and Urban Systems Partnership (CUSP). \$5,600,000, 2012–2018. PI team: Schneider/Ehlich (PI), Crowley (Co-PI), & Horton (Co-PI). 2012-2019.

National Science Foundation, Intelligent Science Exhibits: Transforming Hands-on Exhibits into Mixed-Reality Learning Experiences, \$299,827, 2016-2019. Koedinger (PI), Crowley (Co-PI), Hudson (Co-PI).

National Science Foundation, Collaborative Research: Energy, Environment and Society Learning Network (ENERGY NET): Enhancing opportunities for learning using an Earth systems science framework. \$600,000, 2012-2014. Elliot (PI), Bain (Co-PI), Crowley (Co-PI); Steiner (Co-PI).

National Science Foundation, Gigapixel cyberinfrastructure for participatory science learning. \$569,000, 2011-2015. Louw (PI), Crowley (Co-PI), Nourbakhsh (Co-PI), Steiner (Co-PI).

National Science Foundation, Building Informal Science Education: Supporting Evaluation of Exhibitions and Programs with an informalscience.org research network. \$1,400,000, 2010-2013. Crowley (PI), Knutson (Co-PI), Ellenbogen (Co-PI).

National Science Foundation, Urban climate education partnership, \$911,000, 2010-2012. Schneider (PI), Crowley (Co-PI), Horton (Co-PI).

National Science Foundation, City as Learning Lab: Spreading Technological Fluency Through Creative Robotics, \$1,900,000, 2008-2013. Crowley (PI), DiSalvo (Co-PI), Nourbakhsh (Co-PI).

Institute for Museum and Library Services, Improving outcomes in art museums: Supporting family learning on the gallery floor, \$100,000, 2009-2012. Knutson (PI) & Crowley (Co-PI).

National Science Foundation, InformalScience.org: Building a Web Community for Informal Science, \$675,348, 2006-2008. Crowley (PI), Louw (Co-PI).

National Science Foundation, Supplemental funding for Conceptualizing and Assessing Web-based Informal Science Learning, \$120,000, 2006. Crowley (PI).

National Science Foundation, Conceptualizing and Assessing Web-based Informal Science Learning, \$665,615, 2002-2005. Crowley (PI); Leinhardt (Co-PI).

National Science Foundation, Explanatoids: Gender-Sensitive Signage to Seed Science Talk in Public Places, \$900,000, 2002-2005. Stocks (PI), Crowley (Co-PI), Hughes (Co-PI).

National Science Foundation, Responding to the Gender Gap in Informal Science Education, ESI-9815021, \$585,548, 1999-2003. Crowley (PI).

U.S. Department of Agriculture, Learning to teach science by doing science: The educational consequences of teacher participation in a botanical field survey, 58-3148-8-096, \$47,643, 1998-2000. Crowley.

Institute for Museum and Library Services, National Science Foundation, National Endowment for the Arts, National Endowment for the Humanities, The Museum Learning Collaborative \$1,000,000 (1997-2003). Leinhardt, Crowley, & Schauble.

FOUNDATIONS

William Penn Foundation, Supporting the Informal Learning Initiative, Phase II, Crowley & Knutson, 2019-2023, \$624,000.

Spencer Foundation, The 21st Century Naturalist: A research-practice collaboration for informal science education, \$400,000, Crowley, Knutson, Giarrantani, & Tonsor, 2015-2019.

William Penn Foundation, Supporting the Informal Learning Initiative, \$365,670, Crowley, Knutson, Russell, 2017-2019.

Grable Foundation, Designing Regional Learning Pathways, \$198,780, 2013-2014. Crowley & Schunn.

Gordon & Betty Moore Foundation, Activated Young Science Learner, \$4,000,000, 2011-2013. Schunn, Dorph, Crowley, & Shields.

William T. Grant Foundation, Distinguished Fellows Program: Finding a place for museums in the learning lives of youth, \$200,000, 2011-2013. Crowley.

Gordon & Betty Moore Foundation, Activated Young Science Learner Planning Grant, \$380,000, 2010-2011. Schunn, Dorph, & Crowley

Heinz Endowments, Creating a Place for Family Learning: The Transformation of a Children's Museum, \$303,000, 2003-2006. Crowley & Knutson.

Heinz Endowments and the Pittsburgh Children's Museum, Documenting Culture and Practice in a Children's Museum, \$24,500, 2002-2003. Crowley & Knutson.

Heinz Endowments, Explanatoids: Signage to Seed Science Talk in Pittsburgh's Public Places, \$50,000, 2001-2002, Stubbs, Stocks, Crowley, & Vogel.

Mitsubishi Bank Foundation, Multidisciplinary Collaboration in Cognitive Science, \$54,000, 1994-1998. Okada, Crowley, Schunn.

Sato Toy & Culture Foundation, A Developmental Study of Children's Scientific Thinking, \$4,000. Okada, Crowley.

PARTNERSHIPS/OTHERS

Carnegie Science Center, Using data for reflective practice, Steiner & Crowley, \$78,082, 2021-2024, [Subcontract from an Institute for Museum and Library Services grant to the museum.] Total \$240,697.

Digital Promise, A Research and Practice Agenda for a Regional Learning Network, \$10,000. Crowley. 2017.

Children's Museum of Pittsburgh, Make Shop Research Partnership, \$120,000, Crowley (PI). 2013 to 2017.

American Educational Research Association, Making and Learning, Research conference grant, \$35,000. 2015-2017. Wardrip, Brahms, & Crowley.

Sprout Fund, Pathways for Activation in Pittsburgh, \$25,000, 2013. Crowley & Schunn.

Carnegie Libraries of Pittsburgh, Teen Spaces for Out-of-School Learning, \$50,000, 2013-2015, Knutson (PI), Crowley (Co-PI).

Carnegie Museum of Natural History, Natural History Museum Research Fellows. \$72,500, 2012-2015. Crowley (PI).

Sprout Fund, Activation for Learning Science and Art, \$25,000, 2012. Crowley & Schunn

Children's Museum of Pittsburgh, Children's Museum Research Fellow. \$43,000, 2011-2012. Crowley (PI).

Learning Research and Development Center Faculty Research Award, School/Community Partnerships in the 21st Century: How Digital Technologies Can Build a Culture of Learning That Extends Beyond School \$75,000, 2010-2011. Gomez, Gomez, Matsumura, & Crowley.

Learning Research and Development Center Faculty Research Award, School/Community Partnerships in the 21st Century: How Digital Technologies Can Build a Culture of Learning That Extends Beyond School \$75,000, 2009-2010. Crowley, Gomez, & Gomez.

Learning Research and Development Center Faculty Research Award, The Ecology of Educational Opportunities in Pittsburgh, \$75,000, 2009-2010 with J. Russell, K. Knutson, & W. Bickel.

Manchester Craftsmen's Guild, Understanding the student and community impact of arts-based youth programs, \$216,248. 2008-2010. PI's: Crowley & Knutson.

Carnegie Mellon University, Neighborhood Nets, \$25,000, 2007-2008. Crowley (PI). [Subaward from an Intel grant]

Carnegie Mellon University, Robot 250, \$61,000, 2007-2008. Crowley (PI). [Subaward from a Heinz Endowments grant]

Carnegie Mellon University, Robot Diaries II, \$40,000, 2007-2008, Crowley. [Subaward from a Heinz Endowments grant]

Children's Museum of Pittsburgh, How People Make Things, \$180,000, 2006-2009. Subcontract to Crowley from a National Science Foundation grant to the Children's Museum of Pittsburgh.

Carnegie Mellon University, Robot Diaries, \$10,000, 2006. Crowley (PI) [Subaward from a Heinz Endowments grant]

J. Paul Getty Trust, How do family rooms impact art gallery experience? \$32,301, 2006-2007. Crowley (PI) & Knutson (Co-PI).

Mattress Factory, Artistic process, individual, and community change: A study of museum outreach. \$12,000. 2006-2008. Knutson (PI) & Crowley (Co-PI).

Carnegie Museum of Natural History, Understanding minerals and gems: A visitor study, \$15,024, January 1, 2006 to April 30, 2006. Crowley (PI) & Knutson (Co-PI).

Carnegie Museum of Natural History, Biotechnology in a natural history museum, \$15,000, January 1, 2006 to October 31, 2006. Crowley (PI).

Carnegie Museum of Natural History, Learning Research and Evaluation for Dinosaurs in Their World. 2005-2007, \$200,000. Crowley (PI) & Palmquist (Co-PI).

Arts Education Collaborative, Research partnership to examine professional development for art teaching, \$50,000, 2005. Knutson & Crowley.

Children's Museum of Pittsburgh, Developing web games to facilitate home-museum synergy, \$51,083, 2004-2006. [Subcontract to Crowley from a larger IMLS award to the museum.]

Carnegie Mellon University, Learning about Mars, Autonomous Robots, and the Nature of Life: Studies of the Personal Exploration Rover Exhibit, \$10,000, 2004-2005. (Subcontract to Crowley from a NASA award to CMU).

Setting Priorities for the Retirement Years (SPRY), Intergenerational learning with older adults and children in museums, on the web, and in programs, \$85,000, 2004-2005. A subcontract to Crowley & Knutson from an NSF grant to SPRY.

The Andy Warhol Museum, Research on Re-Installing the Permanent Collection and Teen Programs, \$12,000, 2004. Knutson & Crowley.

Setting Priorities for the Retirement Years (SPRY), Evaluation of organizational aspects of the Science Across the Generations Project, \$8500, 2004-2005. Knutson & Crowley.

Carnegie Museum of Natural History, Expertise and museum learning: Studies of learning in Dinosaur Hall. 2004, \$20,000.

The Tech Museum of Innovation, Learning with TechTags, \$15,000, 2004. Eberbach & Crowley

National Wildlife Federation, Review of Botanical Reasoning Strategies, \$5000, 2003. Eberbach & Crowley.

- Children's Museum Pittsburgh, Family learning on the web, \$11,000, 2003-2004.
- Family Communications, Professional development learning in a train-the-trainers workshop, \$40,000, 2002-2003. Crowley & Blessing.
- University of Pittsburgh Central Research Development Fund, Robot City: What children learn about artificial and human intelligence from interacting with autonomous mobile robots, \$15,486, 2000 to 2002. Crowley.
- Pittsburgh Children's Museum, Facilitating Parent Support of Young Children's Learning in a Children's Museum, \$4,000, 1999.
- Children's Discovery Museum of San Jose, Parent-child scientific thinking: Studies of family learning at the "Take Another Look" interactive science exhibition \$31,000, 1995-1997.

PUBLICATIONS

JOURNAL ARTICLES (* indicates student author)

- Steiner, M.A., Knutson, K., Crowley, K., Heller, N., McGill, Bonnie, Giarratani, Russell, J., & Nelson, T. (under review). Taking Time to Listen and Learn: A museum partnership designed to engage rural audiences in climate change conversations. *Museums and Social Change*.
- Yannier, N.*, Crowley, K., Do, Youghwook, Hudson, S.E., & Koedinger, K.R. (2022) Intelligent Science Exhibits: Transforming Hands-on Exhibits into Mixed-Reality Learning Experiences. *Journal of the Learning Sciences*, DOI: [10.1080/10508406.2022.2032071](https://doi.org/10.1080/10508406.2022.2032071)
- Knutson, K. & Crowley, K. (2022). Museums and community-based organizations partnering to support family learning and literacy. *Afterschool Matters*, 35, 17-28.
- Hecht, M.* & Crowley, K. (2020) Unpacking the learning ecosystems framework: Lessons from the adaptive management of biological ecosystems, *Journal of the Learning Sciences*, 29:2, 264-284.
- Bonnette, R. N.*, & Crowley, K. (2020). Legitimate Peripheral Participation in a Makerspace for Emancipated Emerging Adults. *Emerging Adulthood*, 8(2), 144–158.
- Hecht, M.*, Knutson, K., Crowley, K., Lyon, M., McShea, P., and Giarrantani, L. (2020). "How could dinosaurs be so close to the future?": How natural history museum educators tackle deep time. *Curator*. 63 (1). 39-54.
- Hecht, M. *, Knutson, K., & Crowley, K. (2019). Becoming a naturalist: Interest development across the learning ecology. *Science Education*, 103 (3), 691-713.
- Bonnette, R.N.*, Crowley, K., & Schunn, C.D. (2019). Falling in love and staying in love with science: Ongoing informal science experiences support fascination for all children. *International Journal of Science Education*, 41(12), 1626-1643.
- Akiva, T., Russell, J., Hecht, M.*, & Crowley, K. (2018). Leadership in Out-of-School Learning: The Educational Doctorate Program at the University of Pittsburgh. *International Journal for Research on Extended Education*
- Eberbach, C.E.* & Crowley, K. (2017) From Seeing to Observing: How Parents and Children Learn to See Science in a Botanical Garden, *Journal of the Learning Sciences*, 26:4, 608-642.
- Dorph, R., Schunn, C., & Crowley, K. (2017). Crumpled molecules and edible plastic: Science learning Activation in Out-of-School Time. *Afterschool Matters*, 25, pp. 18-28.

- Allen, L. B.* & Crowley, K. (2017). Moving beyond scientific knowledge: Leveraging participation, relevance, and interconnectedness for climate education. *International Journal of Global Warming*. 12 (3 & 4), 299-312.
- Knutson, K, Lyon, M., Crowley, K., & Giarratani, L. (2016). Flexible interventions to increase family engagement at Natural History museum dioramas. *Curator: The Museum Journal*. 59 (4), 339-352.
- Tison Povis, K.* & Crowley, K. (2015). Family learning in object-based museums: The role of joint attention. *Visitor Studies*. 18 (2), 168-182.
- Allen, L. B.* & Crowley, K. (2014). How museum educators change: Changing notions of learning through changing practice. *Science Education*, 98 (1), 84-105.
- Steiner, M.A.* & Crowley, K. (2013). The natural history museum: Taking on a learning research agenda. *Curator: The Museum Journal*. 56(2): 267-272.
- Russell, J., Knutson, K., & Crowley, K. (2013). Informal learning organizations as part of an educational ecology: Lessons from collaboration across the formal/informal divide. *Journal of Educational Change* 14(3): 259-281.
- Louw, M. & Crowley, K. (2013). New ways of looking and learning in natural history museums: The use of gigapixel imaging to bring science and publics together. *Curator: The Museum Journal* 52(1): 87-104.
- Giarrantani, L., Parikh, A.*, Di Salvo, B., Knutson, K. & Crowley, K. (2011). Click!: Pre-teen girls and a mixed reality role playing game for science and technology. *Nordic Journal of Digital Literacy*, 3.6, 121-138.
- Knutson, K., Crowley, K., Russell, J., & Steiner, M.A.* (2011). Approaching art education as an ecology: Exploring the role of museums. *Studies in Art Education*, 52 (4), 310-322.
- Eberbach, C.E.* & Crowley, K. (2009). From Everyday to Scientific Observation: How Children Learn to Observe the Biologist's World. *Review of Educational Research*, 79 (1), 39-69.
- Knutson, K. & Crowley, K. (2006). Bridging the gap between museums and visitors: A response to Meszaros's 'The evil "Whatever" interpretation.' *Visitor Studies*, 9(3), 16-17.
- DiSalvo, B.J., Crowley, K. & Norwood, R.* (2008). Learning in Context: Digital games and young black men, *Games and Culture* 3, 131-141.
- Bernstein, D.* & Crowley, K. (2008). Searching for Signs of Intelligent Life: An Investigation of Young Children's Beliefs About Robot Intelligence. *Journal of the Learning Sciences*, 17:2, 225-247.
- Sanford, C.*, Knutson, K., & Crowley, K. (2007). We Always Spend Time Together on Sundays: Grandparents and Informal Learning. *Visitor Studies*, 10(2), 136-151.
- Palmquist, S.D.* & Crowley, K. (2007). From teachers to testers: How Parents Talk to Novice and Expert Children in a Natural History Museum. *Science Education*, 91(5), 712-732.
- Fender, J. G.* & Crowley, K. (2007). How parent explanation changes what children learn from everyday scientific thinking. *Journal of Applied Developmental Psychology*, 28, 189-210.
- Bernstein, D.*, Crowley, K. & Nourbakhsh, I. (2007). Working with a robot: Exploring relationship potential in human-robot systems. *Interaction Studies*, 8 (3), 465-482.
- Nourbakhsh, I., Hamner, E., E. Ayoob, Porter, E., Dunlavey, B., Bernstein, D.*, Crowley, K., Lotter, M., Shelly, S., Hsiu, T., & Clancy, D. (2006). The personal exploration rover: Educational assessment of a robotic exhibit for informal learning venues, *The International Journal of Engineering Education*, Vol. 22, No. 4, pp 777-791.
- Nourbakhsh, I., Crowley, K., Bhave, A., Hamner, E., Hsiu, T., Perez-Bergquist, A., Richards, S., Wilkinson, K. (2005). The Robotic Autonomy Mobile Robotics Course: Robot Design, Curriculum Design and Educational Assessment, *Autonomous Robots Journal*, 18 (1), 103-127.

- Eberbach, C.E.* & Crowley, K. (2005). From living to virtual: Learning from museum objects. *Curator*, 48 (3), 317-338.
- Ellenbogen, K. & Crowley, K. (2005). Outside the walls: New directions in family learning research. *ASTC Dimensions*, November/December, pp. 13-14.
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