

Scott Pattison
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EDUCATION

- Ph.D. Science Education, Oregon State University** **2014**
Thesis: *Exploring the Foundations of Science Interest Development in Early Childhood*
Minor: Integrated minor with a focus on advanced research methods and data analysis
- M.S. Science Education, Oregon State University** **2011**
Thesis: *Investigating the Dynamics of Staff-Visitor Interactions at a Science Center*
Minor: Sociology with a focus on research methods and data analysis
- B.S. Environmental Science, University of Oregon** **2003**
Thesis: *The Restoration Ecology of Festuca Roemerii*
Minor: Robert D. Clark Honors College

RECENT PROFESSIONAL EXPERIENCE

- Principal Investigator, TERC, 4/18–Present**
- Director of Research, Institute for Learning Innovation, 2/17–Present**
- Research & Evaluation Strategist, Oregon Museum of Science and Industry (OMSI), 1/12–5/17**
- Director of Administration, Institute for Learning Innovation, 3/14–2/17**
- Research & Evaluation Associate, OMSI, 2/10–1/12**
- Senior Exhibit Developer, OMSI, 12/07–2/10**
- Exhibit Developer, OMSI, 9/05–12/07**
- Museum Educator, OMSI, 10/03–9/05**
- Assistant Field Instructor, University of Oregon Natural History Museum, 1/02–6/03**

AWARDED GRANTS

- Leap into Science: Cultivating a National Network for Informal Science and Literacy.*** National Science Foundation (NSF), Advancing Informal STEM Education and Learning. \$2,105,734. Co-principal investigator. 2017–2021.
- Head Start on Engineering: Supporting Engineering and Science Learning for Low-Income Families.*** Joint funding provided by Oregon Community Foundation, Collins Foundation, Boeing Corporation, Juan Young Trust, and University of Notre Dame. \$75,000. Principal investigator. 2017–2018.
- Head Start on Engineering: Supporting Engineering Interest Development in Early Childhood.*** NSF, Advancing Informal STEM Education and Learning. \$299,070. Principal investigator. 2015–2018.

Conference on Integrating Math into Informal Building Learning Environments (Math in the Making). NSF, Advancing Informal STEM Education and Learning. \$248,237. Co-principal investigator. 2015–2017.

Interpreters and Scientists Working On Our Parks (iSWOOP). NSF, Advancing Informal STEM Education and Learning. \$1,411,492. Subaward project director. 2015–2019.

Designing Our World: A Community Envisioning Girls as Engineers. NSF, Advancing Informal STEM Education and Learning. \$2,108,572. Co-principal investigator. 2013–2018.

Researching the Value of Educator Actions for Learning (REVEAL). NSF, Advancing Informal STEM Education and Learning. Co-principal investigator. \$866,793. Co-principal investigator. 2013–2018.

Complex Adaptive Systems as a Model for Network Evaluations (CASNET). NSF, Promoting Research and Innovations in Methodologies for Evaluation. \$799,881. Co-principal investigator. 2012–2016.

Science on the Move: Everyday Encounters with Science. NSF, Advancing Informal STEM Education and Learning. \$249,942. Lead researcher. 2012–2015.

Access Algebra. NSF, Advancing Informal STEM Education and Learning. \$3,006,642. Grant writer, lead program developer. 2007–2013.

Salmon Camp Research Team: A Native American Technology, Research and Science Career Exposure Program. NSF, Innovative Technology Experiences for Students and Teachers. \$728,561. Lead grant writer. 2003–2008.

RECENT PUBLICATIONS

Pattison, S., Gontan, I., Ramos-Montañez, S., & Moreno, L. (In press). Identity negotiation within peer groups during an informal engineering education program: The central role of leadership-oriented youth. *Science Education*.

Pattison, S., Rubin, A., Benne, M., Gontan, I., Andanen, E., Shagott, T., Francisco, M., Ramos-Montañez, S., Bromley, C., & Dierking, L. D. (In press). The impact of facilitation by museum educators on family learning at interactive exhibits: A quasi-experimental study. *Visitor Studies*.

Lawrenz, F., Kollmann, E. K., King, J. A., Bequette, M., Pattison, S., Nelson, A. G., ... Francisco, M. (In press). Promoting evaluation capacity building in a complex adaptive system. *Evaluation and Program Planning*.

Falk, J., Pattison, S., Meier, D., Bibas, D., & Livingston, K. (2018). The contribution of science-rich resources to public science interest. *Journal of Research in Science Teaching*, 55(3), 422–445.

Pattison, S., Randol, S., Benne, M., Rubin, A., Gontan, I., Andanen, E., Bromley, C., Ramos-Montañez, S., & Dierking, L. D. (2017). A design-based research study of staff-facilitated family learning at interactive math exhibits. *Visitor Studies*, 20(2), 138–164.

Pattison, S., Svarovsky, G., Gontan, I., Corrie, P., Benne, M., Weiss, S., Núñez, V., & Ramos-Montañez, S. (2017). Teachers, informal STEM educators, and learning researchers collaborating to engage low-income families with engineering. *Connected Science Learning*, 4. Retrieved from <http://csl.nsta.org/2017/10/head-start-engineering/>

Andanen, E., Rubin, A., Pattison, S., Gontan, I., & Bromley, C. (2017). *REVEAL responsive museum facilitation: A video-based reflection guide for engaging with families at interactive exhibits*. Portland, OR: Oregon Museum of Science and Industry. Retrieved from <https://external-wiki.terc.edu/display/Reveal/Educator+Resources>

Pattison, S., Rubin, A., & Wright, T. (2017). *Mathematics in informal learning environments: A summary of the literature (updated)*. Retrieved from <http://www.informalscience.org/mathematics-informal-learning-environments-summary-literature>

Svarovsky, G. N., Pattison, S., Verbeke, M., Benne, M., & Corrie, P. (2017). *Head Start on Engineering: Early findings (work in progress)*. Paper presented at the ASEE Annual Conference & Exposition, Columbus, OH: American Society for Engineering Education. Retrieved from <https://www.asee.org/public/conferences/78/papers/20296/view>

Pattison, S., Rubin, A., & Wright, T. *Math in the making: Reflections for the field*. Retrieved from <http://www.informalscience.org/news-views/math-making-reflections-field>

Pattison, S., Svarovsky, G., Corrie, P., Benne, M., Núñez, V., Dierking, L., & Verbeke, M. (2016). *Conceptualizing early childhood STEM interest development as a distributed system: A preliminary framework*. Retrieved from

<http://www.informalscience.org/conceptualizing-early-childhood-stem-interest-development-distributed-system-preliminary-framework>

Cardiel, C., Pattison, S., Benne, M., & Johnson, M. (2016). Science on the Move: A design-based research study of informal STEM learning in public spaces. *Visitor Studies*, 19(1), 1-22.

Gontan, I., Pattison, S., Brandon, S., Rubin, A., Andanen, E., & Benne, M. (2016). REVEALing findings from the field: Experiences developing and implementing a staff facilitation model at two science centers. *Informal Learning Review*, 138(May/June), 15-17.

Cardiel, C., Pattison, S., Bequette, M., Grack Nelson, A., Kollmann, E., Cohn, S., Reich, C., & Ostgaard Eliou, G. (2016). *Building evaluation capacity in a complex world: Practical lessons for organization and project leaders*. Retrieved from <http://www.informalscience.org/building-evaluation-capacity-complex-world-practical-lessons-organization-and-project-leaders>

Pattison, S., & Shagott, T. (2015). Participant reactivity in museum research: The effect of cueing visitors at an interactive exhibit. *Visitor Studies*, 18(2), 214-232.

Pattison, S. (2014). *Exploring the foundations of science interest development in early childhood* (Doctoral dissertation). Oregon State University, Corvallis, OR. Retrieved from <http://hdl.handle.net/1957/54783>

Pattison, S., & Dierking, L. (2013). Staff-mediated learning in museums: A social interaction perspective. *Visitor Studies*, 16(2), 117-143.

Pattison, S., Cohn, S., & Kollmann, E. (2013). *Team-based inquiry: A practical guide for using evaluation to improve informal education experiences*. Retrieved from http://www.nisenet.org/catalog/tools_guides/team-based_inquiry_guide

Pattison, S., Ewing, S., & Frey, A. (2012). Testing the impact of a computer guide on visitor learning behaviors at an interactive exhibit. *Visitor Studies*, 15(2), 171-185.

Pattison, S., & Dierking, L. (2012). Exploring staff facilitation that supports family learning. *Journal of Museum Education*, 37(3), 69-80.

Pattison, S. (2011). Investigating the nature of staff-facilitated learning at a science center. *Proceedings of the Oregon Academy of Sciences*, 25, 68-69.

Pattison, S., Benne, M., & LeCompte-Hinely, J. (2011). *2010 delivery and reach study: NISE Network 2010 summative evaluation*. Retrieved from <http://www.nisenet.org/catalog/evaluation/deliveryandreach>

Pattison, S. (2010). *Access Algebra staff facilitation: A formative evaluation report*. Retrieved from <http://www.oms.edu/sites/all/FTP/files/evaluation/algebrastafffacilitation.pdf>

MANUSCRIPTS IN REVIEW OR PREPARATION

Reich, C., Pattison, S., Olney, V., Bequette, M., Cohn, Kollmann, E., & Ostman R. (2018). *Nanoscale Informal Science Education Network: Team-based inquiry*. Chapter manuscript in review.

Grack Nelson, A., King, J., Lawrenz, F., Reich, C., Bequette, M., Pattison, S. A., ... Francisco, M. (2018). *Using a complex adaptive systems perspective to illuminate the concept of evaluation capacity building in a network*. Manuscript in review.

Pattison, S., & Dierking, L. D. (2017). *Early childhood science interest among low-income families: Variation in interest pathways and parent-child interactions*. Manuscript in review.

Pattison, S., Gontan, I., Ramos-Montañez, S., Shagott, T., Francisco, M., & Dierking, L. D. (2017). *The Identity-Frame Model: A framework to describe situated identity negotiation for adolescent girls participating in an informal engineering education program*. Manuscript in review.

Pattison, S., Gutwill, J., Auster, R., & Cannady, M. (2017). *Experimental and quasi-experimental designs in visitor studies*. Chapter manuscript in review.

Pattison, S., Svarovsky, G. N., Ramos-Montañez, S., Gontan, I., Weiss, S., Smith, C., Corrie, P., Benne, M., & Núñez, V. (2018). *Understanding early childhood engineering interest development as a family phenomenon: Findings from the Head Start in Engineering project*. Invited manuscript in preparation.

RECENT PRESENTATIONS

Engineering in early childhood: Describing family-level interest development systems. Presentation at the NARST Annual International Conference, Atlanta, GA, March 10–13, 2018.

Head Start on Engineering: Activities to get families excited about engineering at home and in the classroom. Presentation at the Oregon Head Start Association Fall Conference, Salem, OR, November 1–3, 2017.

Finding the math in making: Exploring approaches to integrating mathematics with making and tinkering experiences. Presentation at the Association of Science-Technology Centers Annual Conference, San Jose, CA, October 20–24, 2017.

Mathematical reasoning in museums: Defining success and facilitating learning. Invited presentation at the Oregon State University 2017 Ambitious Math and Science Summer Institute, Corvallis, OR, July 3, 2017.

Investigating pathways to STEM identity in free-choice learning environments. Presentation at the Visitor Studies Association Annual Conference, Columbus, OH, July 18–22, 2017.

Developing a descriptive framework of situated identity negotiation for adolescents participating in an informal engineering education program. Presentation at the NARST Annual International Conference, San Antonio, TX, April 22–25, 2017.

Approaches to video analysis: Studying learning and catalyzing reflection. Presentation at the Visitor Studies Association Annual Conference, Boston, MA, July 19–23, 2016.

Generating causal evidence in visitor studies: The potential of quasi-experimental designs. Presentation at the Visitor Studies Association Annual Conference, Boston, MA, July 19–23, 2016.

Studying and supporting the work of informal STEM educators. Presentation at the NARST Annual International Conference, Baltimore, MD, April 14–17, 2016.

Head Start on Engineering: Supporting engineering interest development in early childhood. Presentation at the NARST Annual International Conference, Baltimore, MD, April 14–17, 2016.

Small changes, big impact: Hacking your best activities to bring in the girls. Presentation at the Association of Science-Technology Centers Annual Conference, Montreal, QC, Canada, October 17–20, 2015.

Moving the field forward through evaluation capacity building. Presentation at the Association of Science-Technology Centers Annual Conference, Montreal, QC, Canada, October 17–20, 2015.

Team-based inquiry: A practical evaluation approach for non-evaluators. Presentation at the Association of Science-Technology Centers Annual Conference, Montreal, QC, Canada, October 17–20, 2015.

The role of informal experiences in supporting STEM interest. Presentation at the National Association for Research in Science Teaching Annual International Conference, Chicago, IL, April 11–14, 2015.

Data-driven changes in design/maker spaces. Presentation at the Association of Science-Technology Centers Annual Conference, Raleigh, NC, October 18–21, 2014.

Reflective practice as professional development for informal educators. Presentation at the Association of Science-Technology Centers Annual Conference, Raleigh, NC, October 18–21, 2014.

Asset-based perspectives on parents in science centers. Presentation at the Association of Science-Technology Centers Annual Conference, Raleigh, NC, October 18–21, 2014.

Evaluation capacity building: Current initiatives and future directions. Presentation at the Association of Science-Technology Centers Annual Conference, Raleigh, NC, October 18–21, 2014.

Math engagement in exhibits: What are we learning? Presentation at the Visitor Studies Association Annual Conference, Albuquerque, NM, July 15–19, 2014.

An open discussion of design-based research in visitor studies. Presentation at the Visitor Studies Association Annual Conference, Albuquerque, NM, July 15–19, 2014.

How to lead evaluation capacity building efforts using team-based inquiry. Workshop presented at the Visitor Studies Association Annual Conference, Albuquerque, NM, July 15–19, 2014.

Parent-child interactions that foster science interest before school. Poster presented at the Visitor Studies Association Annual Conference, Albuquerque, NM, July 15–19, 2014.

Building an institutional culture of evaluation and learning. Presentation at the American Association of Museums Annual Meeting, Seattle, OR, May 18–21, 2014.

How well do you know your visitors? Presentation at the American Association of Museums Annual Meeting, Seattle, OR, May 18–21, 2014.

Informal math learning: What do we know? Presentation at the Association of Science-Technology Centers Annual Conference, Albuquerque, NM, October 19–22, 2013.

Team-based inquiry: A practical evaluation approach for non-evaluators. Preconference workshop presented at the Association of Science-Technology Centers Annual Conference, Albuquerque, NM, October 19–22, 2013.

Practical approaches to evaluating informal science learning. Invited talk at the American Association of Physics Teachers Annual Meeting, Portland, OR, July 13–17, 2013.

Reflective practice as professional development for informal educators. Presentation at the American Educational Research Association Annual Meeting, San Francisco, CA, April 27–May 1, 2013.

Team-based inquiry: Making evaluative thinking part of your work. Presentation at the Nanoscale Informal Science Education (NISE) Network Network-Wide Meeting, Boston, MA, December 11–13, 2012.

Exhibit evaluations. Invited talk at the Oregon Museum Association Annual Conference, Ashland, OR, October 28–30, 2012.

We are all learners here: Becoming a critically reflective practitioner. Presentation at the Association of Science-Technology Centers Annual Conference, Columbus, OH, October 13–16, 2012.

Really great programming: Best practices in development, delivery, and evaluation. Presentation at the Association of Science-Technology Centers Annual Conference, Columbus, OH, October 13–16, 2012.

Involving practitioners in research and evaluation. Presentation at the Visitor Studies Association Annual Conference, Raleigh, NC, June 24–20, 2012.

Mediated discourse: Shaping the future of visitor studies research. Presentation at the Visitor Studies Association Annual Conference, Raleigh, NC, June 24–20, 2012.

Making logic models work for you and your team. Workshop presented at the Visitor Studies Association Annual Conference, Raleigh, NC, June 24–20, 2012.

Using evaluation as a tool for professional inquiry learning. Presentation at the American Association of Museums Annual Meeting, Minneapolis, MN, April 29–May 2, 2012.

Visitor studies 101. Presentation at the American Association of Museums Annual Meeting, Minneapolis, MN, April 29–May 2, 2012.

Revisiting the basics: How cueing impacts visitor learning behaviors at exhibits. Poster presentation at the American Association of Museums Annual Meeting, Minneapolis, MN, April 29–May 2, 2012.

Supporting family learning through research. Presentation at the Association of Children's Museums Annual Conference, Portland, OR, May 10–12, 2012.

Evaluating the impacts of ISE projects. Invited talk at the Girls RISE Network National Institute Meeting, Baltimore, MD, October 17–19, 2011.

Doing stuff together: A forum on coordinated national outreach partnerships. Presentation at the Association of Science-Technology Center Annual Conference, Baltimore, MD, October 15–18, 2011.

Facilitation that works: Research-based strategies for museum educators. Presentation at the Association of Science-Technology Center Annual Conference, Baltimore, MD, October 15–18, 2011.

Established and emerging educational leaders: A roundtable of ideas for the next generation. Presentation at the Western Museum Association Annual Meeting, Portland, OR, October 17–20, 2010.

Elevating practice with video: Strategies for educators and exhibit developers. Presentation at the Association of Science-Technology Centers Annual Conference, Honolulu, HI, October 2–5, 2010.

Fostering and assessing math learning in science centers. Presentation at the Visitor Studies Association Annual Conference, Phoenix, AZ, July 27–31, 2010.

The facilitated family experience. Invited talk at the Family Learning Workshop, Portland, Oregon, May 17, 2010.

Making logic models work for you and your team. Presentation at the Visitor Studies Association Regional Workshop, Portland, OR, March 16, 2010.

OTHER PROFESSIONAL ACTIVITIES

Current or past member of the National Association for Research in Science Teaching, American Evaluation Association, Association of Science-Technology Centers, American Alliance of Museums, and Visitor Studies Association

Editorial board member for the *Visitor Studies* journal, 2013–Present

Proposal reviewer for IMLS Sparks! and Museums for America grant programs, 2010–2012, 2015, 2017

Invited member of the Center for the Advancement of Informal Science Education (CAISE) wiki edit-a-thon meeting, Seattle, OR, March 15–16, 2015

Board member for the Committee on Audience Research and Evaluation, American Alliance of Museums, 2013–2014

Invited member of the CAISE practice-and-research initiative working group meeting, Pittsburgh, PA, April 19–20, 2013

Editorial review panel member for the *Journal of Museum Education*, 2011–2013

Session proposal reviewer for Visitor Studies Association Regional Conference, 2011