

PROFESSIONAL WORK EXPERIENCE**Academic Experience**

1. Assistant Professor, Science Education – University of Louisville (Louisville, KY)
 - Early Childhood and Elementary Education

RESEARCH AND SCHOLARLY CONTRIBUTION**A. Journal Articles (crefereed)**

1. ***McFadden, J.** & Roehrig, G. H. (2018). Engineering design in the elementary science Classroom: Discourse practices and dilemmas. *International Journal of Technology and Design Education*. <https://doi.org/10.1007/s10798-018-9444-5>
2. ***McFadden, J.**, & Roehrig, G. H. (2017). Exploring teacher design team endeavors while creating an elementary-focused STEM-integrated curriculum. *International Journal of STEM Education*, 4(1), 21.\
3. *Jung, K. & **McFadden, J.** (accepted) Student justifications in engineering design descriptions: Examining authority and legitimation. *International Journal of Education in Mathematics, Science and Technology (IJEMST)*.
4. ***McFadden, J.**, Thornburgh, W., & Robinson, B. (accepted). Using the 5E instructional model to accomplish multiple performance expectations. *Science and Children*.
5. *Thornburgh, W., **McFadden, J.**, & Robinson, B. (accepted). 5E instruction focusing on the NGSS' engineering practices. *Science and Children*.
6. *Ellis, J., **McFadden, J.**, Anwar, T., & Roehrig, G. (2015). Investigating the social interactions of beginning teachers using a video annotation tool. *Contemporary Issues in Technology & Teacher Education*, 15(3) Retrieved from <http://www.citejournal.org/vol15/iss3/general/article1.cfm>.
7. **McFadden, J.** (2015). Teachers as Designers: The iterative process of curriculum design focused on STEM integration. Retrieved from the University of Minnesota Digital Conservancy, <http://hdl.handle.net/11299/175257>.
8. ***McFadden, J.**, Ellis, J., Anwar, T., & Roehrig, G. (2014). Beginning science teachers' use of a digital video annotation tool to promote reflective practices. *Journal of Science Education and Technology*, 23(3), 458-470.
9. ***McFadden, J.** (2014). Why can't teachers work in the cloud: An examination of science teacher online professional development using Ning. *EdTechnology Ideas*, 1(3). Retrieved from <http://edtechnologyideas.com/education-technology-journal-issue-3>.

B. Scientific Papers Published in Conference Proceedings (*refereed)

1. *Dare, E., Ortmann, L., Anwar, T., Ellis, J., **McFadden, J.**, Chidhachack, S., Moore, T., Roehrig, G., & Guzey, S. (January 2015). From professional development to classroom implementation: Exploring STEM integration in K-12 science education. Association of Science Teacher Education (ASTE) – Portland, OR.
2. *Ellis, J., Roehrig, G., **McFadden, J.**, Billington, B., & Anwar, T. (January 2014). The teacher induction network (TIN). Association of Science Teacher Education (ASTE) – San Antonio, TX.

C. International and National Conference Presentations (*refereed)

1. ***McFadden, J.** (accepted). An exploratory study of video-based coaching and a virtual community of practice on a beginning science teacher. Association of Science Teacher Education (ASTE) – Baltimore, MD.
2. *Philipp, S., **McFadden, J.** (accepted). Working towards NGSS-aligned instruction through development of multi-dimensional formative assessments (*pre-conference workshop*). Association of Science Teacher Education (ASTE) – Baltimore, MD.
3. *Tretter, T., **McFadden, J.**, Robinson, B. (accepted) Influential factors impacting the design and use of three-dimensional, formative assessments in elementary science classrooms. National Association for Research in Science Teaching (NARST) Conference – Atlanta, GA.

4. *King, K., Fuselier, L., & **McFadden, J.** (accepted). Characterizing epistemic beliefs among scientists. National Association for Research in Science Teaching (NARST) Conference – Atlanta, GA.
5. ***McFadden, J.**, Fuselier, L., & King, K. (accepted). Characterizing graduate teaching assistant epistemic beliefs as they emerge in the biology laboratory. National Association for Research in Science Teaching (NARST) Conference – Atlanta, GA.
6. ***McFadden, J.**, Works, P., Johnson, D., & Tretter, T. (accepted). Classroom-embedded assessments (CEAs): 3-D assessments for learning in elementary and middle school classrooms. National Science Teaching Association National Conference – Atlanta, GA.
7. *King, K., Fuselier, L., & **McFadden, J.** (2017). Characterizing epistemic beliefs among scientists. Society for the Advancement of Biology Education Research National Conference – Twin Cities, MN.
8. *Fuselier, L., & **McFadden, J.** (2017). Connecting instructor epistemic beliefs to student understanding of science in argument-driven labs. Society for the Advancement of Biology Education Research National Conference – Twin Cities, MN.
9. ***McFadden, J.** & Roehrig, G.H. (2017**). Exploring Teacher Design Teams Endeavors while Creating an Elementary-focused STEM-Integrated Curriculum. National Association for Research in Science Teaching (NARST) Conference – San Antonio, TX
10. **McFadden, J.** (2017**). How Should an Engineer Talk? Exploring the Language Demands of an Engineering Design in an Elementary Science Classroom. National Association for Research in Science Teaching (NARST) Conference – San Antonio, TX
11. **McFadden, J.** (August, 2016) Exploring the language demands of engineering design in an elementary science classroom. P12 Engineering & Design Education Research Summit – Chicago, IL.
12. Roehrig, G., Andzeng, S., & **McFadden, J.** (November, 2015). Service learning in high school environmental science classrooms. National Science Teachers Association (NSTA) Conference– Kansas City, MO.
13. **McFadden, J.** (October, 2015). Elementary teachers as designers: STEM-Integrated curriculum design with coaches. Mid-Atlantic, Association of Science Teacher Education (MA-ASTE) Regional Conference – Lore City, OH.

D. Regional, State & Local Presentations

1. **McFadden, J.**, Works, P., & Johnson, D. (2017). Classroom embedded assessment: Making student thinking visible. Kentucky Science Teachers Association Annual Conference – Lexington, KY.
2. **McFadden, J.**, Philipp, S., Mark, S., & Tretter, T. (2017). Developing grade K-2 & 3 -5 Classroom embedded assessments. Kentucky Science Teachers Association Annual Conference – Lexington, KY.
3. **McFadden, J.** (2017). An Exploratory Study of Video-based Coaching and a Virtual Community of Practice on a Beginning Science Teacher. Mid-Atlantic, Association of Science Teacher Education (MA-ASTE) Regional Conference – Prestonsburg, KY.
4. Michaels, M., **McFadden, J.**, & Fuselier, L. (2016). Infusing and sustaining critical thinking pedagogy in introductory biology courses. 2016 Ideas to Action (i2a) Institute: Sustaining and Deepening Critical Thinking Pedagogy – Louisville, KY.
5. **McFadden, J.** (2015). Elementary teachers as designers: STEM-Integrated curriculum design with coaches. Mid-Atlantic, Association of Science Teacher Education (MA-ASTE) Regional Conference – Lore City, OH.

E. Manuscripts in Progress

1. **McFadden, J.** (in preparation). Transitions in the perpetual beta of NGSS: One science teacher's beliefs and attempts for instructional change. *Journal of Science Teacher Education*.
2. **McFadden, J.** (in preparation). Coaching support for science instruction at the boundary of integrated STEM. *Science Education*.

3. **McFadden, J.**, Fuselier, L. (in preparation). Teasing out the social and environmental factors of pill bug behavior: Explorations in the laboratory with scientific argumentation. *Journal of College Science Teaching*.
4. **McFadden, J.** (in preparation). Influential factors impacting the design and use of three-dimensional, formative assessments in elementary science classrooms. *Journal of Research in Science Teaching*.
5. **McFadden, J.**, Fuselier, L., & King, K. (in preparation). Characterizing graduate teaching assistant epistemic beliefs as they emerge in the biology laboratory. *Science Education*.

Graduate Students

Ph.D. Student	Program Committee Role/Work	Dissertation Committee Role/Work	Student's Status
William Thornburgh	Member	Reader for Written Examinations	Graduate – Spring 2017
Melisa Michaels	Member	Reader for Written Examinations	Data Collection – Dissertation
Terri Tinnell	Member	TBD	Taking Courses
Marsha Buerger	Member	Reader for Written Examinations	Graduate – Summer 2017
Bo Lowrey	N/A	Reader for Comprehensive Examinations	N/A
Sarah Spaulding	Member	Reader for Comprehensive Examinations	Developing Dissertation
Mary Mills	Member	Reader for Comprehensive Examinations	Taking Courses
Jessie Newhouse	Member	TBD	Taking Courses

AWARDS AND DISTINCTIONS

2014 – Association for Science Teacher Education (ASTE). Award IV: Innovations in Teaching Science Teachers. *If You Can't Say Something Nice: A Design-Based Research Approach Investigating the Social Interactions of New Science and Math Teachers Using a Video Annotation Tool*.

EDUCATION

University of Minnesota – Minneapolis, MN
2015

- **Ph.D.** – STEM Education
- Department of Curriculum and Instruction
- Dissertation – *Teachers as Designers: The Iterative Curriculum Design Process of Science Teachers Focused on STEM Integration*.
Advisor: Dr. Gillian Roehrig

University of Minnesota – Minneapolis, MN
2012

- **M.A.** – Science Education
- Department of Curriculum and Instruction
- Thesis – *Why Can't Teachers Work in the Cloud: An Examination of Science Teacher Online Professional Development Using Ning*.
Advisor: Dr. Gillian Roehrig

Minnesota State University Moorhead – Moorhead, MN
2006

- **B.S.** – Biology and Life Science Education
- Department of Biosciences

RESEARCH ACTIVITY

FUNDING

Project Name	Investigators	Source	Amount Funded*	Year(s)
Connecting Epistemic Beliefs to Pedagogical Practice and Student Discourse in Inquiry Labs	Fuselier, L. & McFadden, J.	Spencer Small Grant: Teaching, Learning, and Instructional Resources	\$49,920	2015
Infusing and Sustaining Critical Thinking Pedagogy in Biology Laboratory Courses	McFadden, J. & Fuselier, L.	Ideas to Action (<i>University of Louisville</i>)	\$5,000*	2016
ASSESS – Assessments of Science Enabling Successful Students	Tretter, T., McFadden, J. , Robinson, B.	Kentucky Department of Education (<i>Math Science Partnership</i>)	\$409,884*	2016 – 18
Play-based STEM: Utilizing an Informal Science Institution to Connect Young Children’s Play and Learning Across Formal and Informal Contexts [pb-STEM]	Norton-Meyer, L., McFadden, J. , Philipp, S., Jacobi-Vessels, J., Tretter, T.	National Science Foundation: Advancements for Informal Science Learning – <i>Innovations in Development.</i>	\$2.9 Million	2016
An Exploratory Study of the Influences that Video-based Coaching and a Virtual Community of Practice have on a Beginning Science Teacher’s Classroom Practice	McFadden, J.	Research and Faculty Development Grant (<i>College of Education and Human Development, University of Louisville</i>)	\$1,400*	2016 – 2017
Connecting epistemic beliefs to pedagogical practice in argument-driven labs.	Fuselier, L. & McFadden, J.	Spencer Small Grant: Teaching, Learning, and Instructional Resources	\$49,920*	2017 – 2018
Utilizing Outdoor Learning Spaces and Digital Technologies in Urban Schools to Leverage Diverse Students’ Cultural Assets for Meaningful STEM Learning	McFadden, J. , Cunningham, H., & Fitzpatrick, R.	Siemens Industry, Inc. (Building Technologies Division)	\$39,200*	2017 – 2018
Strengthening Understanding of Science Teachers Abilities to Implement NGSS - (<i>SUSTAIN</i>)	McFadden, J. , DeCaro, M., Philipp, S., & Tretter, T.	James S. McDonnell Foundation - Understanding Teacher Change and Teachers as Learners in K-12 Classrooms	\$2.4 million	2017
Transdisciplinary Epistemology Science Studies Education Teaching Practice	Fuselier, L. & McFadden, J.	The Center for Ethics and Education: Research Grant	\$39,215	Pending
Epistemic Insights and Evidence-Based Practice	Fuselier, L. & McFadden, J.	Lyle Spencer Research Award: Letter of Intent	\$250,000-500,000	Pending
Reinvigorating Energy Teaching (RET) via Research with Engineers	Robinson, B., & McFadden, J.	National Science Foundation: Research Experiences for Teachers (RET) in Engineering and Computer Science Supplements and Sites	\$596,998	Pending

Play-based STEM: Utilizing an Informal Science Institution to Connect Young Children's Play and Learning Across Formal and Informal Contexts [pb-STEM]	Norton-Meyer, L. McFadden, J. , Philipp, S., Jacobi-Vessels, J. Tretter, T.	National Science Foundation: Advancements for Informal Science Learning – <i>Research in Service to Practice.</i>	\$1.8 million	Pending
--	--	---	---------------	---------

TEACHING EXPERIENCE

College/University

1. Instructor – University of Louisville (Louisville, KY)
 - **Education: Advanced Practitioner: *Learning Theories & Classical Research in STEM Education***
2. Instructor – University of Louisville (Louisville, KY)
 - **Education: Teacher Preparation 582: *Technology Applications for Science Teachers*** (Online)
3. Instructor – University of Louisville (Louisville, KY)
 - **Education: Teacher Preparation 201: *The Teaching Profession***
4. Instructor – University of Louisville (Louisville, KY)
 - **Education: Teacher Preparation 324/605: *Elementary Science Methods***

High School

1. Science Teacher – 2006 to 2012
 - Mounds View Public Schools (New Brighton, MN)
 - Foley Public Schools (Foley, MN)
 - Crookston Pubic Schools (Crookston, MN)
 - Humboldt Senior High (St. Paul, MN)

SERVICE ACTIVITIES

Entity	Role	Scope
CEHD	Member, Committee on Committee	College
CEHD	Member, Technology Committee	College
CEHD	Member, Planning and Budget Committee	College
ECEE	Member, Math Education Faculty Search Committee	College
CEHD	Member, Grawemeyer Award Committee	College
Arts and Sciences	Member, Innovative Teaching Award Committee	College
CEHD	General Education Assessment Reader	College
CEHD	Judge, Robo-Challenge Xtreme (http://rcxrobot.org/)	Community
CEHD	Judge, Junior Science and Humanities Symposium	Community
CEHD	Member, Engineering Faculty Learning Community	University
CEHD	Representative, JCPS Education Career Academy	College
State	Member, Presidential Awards for Excellence in Mathematics and Science Teaching Selection Committee	National
NARST	Member, Publication Advisory Board Committee, Scholarship Subcommittee	National
CITE	Contemporary Issues in Technology and Teacher Education – Editorial Review Board Member	Profession
NSF	Panel Review Committee Member: Discovery Research K-12	National
KSTA	Kentucky Science Teachers Association – Board of Directors: Jefferson County District Director	State

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

National Association of Research in Science Teaching (NARST)	2013 - Present
Association of Science Teacher Education (ASTE)	2013 - Present
North-Central Association of Science Teacher Education (N-ASTE)	2012 – 2015
Mid-Atlantic Association of Science Teacher Education (MA-ASTE)	2015 - Present