

MARTHA M. CANIPE, PH.D.

Department of Teaching and Learning
College of Education
Northern Arizona University
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EDUCATION

- 2016 Ph.D., Teaching and Teacher Education
University of Arizona
Focus: Science Education
Dissertation: Preservice Elementary Teachers' Actual and Designated
Identities as Teachers of Science and Teachers of Students
Chair: Kristin L. Gunckel
- 1997 Graduate Study, Zoology
University of New Hampshire
- 1995 B.S., Biology
University of North Carolina – Chapel Hill

EXPERIENCE

University Research and Teaching

- 2016 – present Assistant Professor of Elementary Science Education
Northern Arizona University
Department of Teaching and Learning
- 2016 Instructor – Introduction to Education Research
University of Arizona
Department of Teaching, Learning, and Sociocultural Studies
- 2015 – 2016 Graduate Research Associate – Secondary Science Teaching with English
Language and Literacy Acquisition (SSTELLA); NSF:DRK-12
University of Arizona
Department of Teaching, Learning, and Sociocultural Studies
- 2012 – 2016 Elementary Science Methods Course Instructor
University of Arizona
Department of Teaching, Learning, and Sociocultural Studies
- 2014 Graduate Teaching Assistant – Action Research
University of Arizona
Department of Teaching, Learning, and Sociocultural Studies
- 2012 - 2015 Graduate Research Associate – Beyond Bridging: Co-Education of
Preservice and Inservice Elementary Teachers in Science and Mathematics;
NSF:DRK-12
University of Arizona
Department of Teaching, Learning, and Sociocultural Studies
- 2012 Graduate Teaching Assistant – Mathematics and Science Curriculum
Foundations
University of Arizona
Department of Teaching, Learning, and Sociocultural Studies

- 2011 - 2012 Graduate Research Assistant – Teachers in Industry
University of Arizona
Department of Teaching, Learning, and Sociocultural Studies
- 2011 Graduate Teaching Assistant – Elementary Methods Science Course
University of Arizona
Department of Teaching, Learning, and Sociocultural Studies
- 1995 – 1997 Graduate Teaching Assistant – Field Limnology; Human Anatomy and Physiology
University of New Hampshire
Department of Zoology
- 1994 – 1995 Undergraduate Teaching Assistant – Introductory Biology Lab
University of North Carolina – Chapel Hill
Department of Biology

K – 12 Teaching

- 2010 – 2011 Middle School Science Teacher (Grades 6 – 8) and Elementary Science Specialist (Grades K – 5)
Wildcat School, Tucson, Arizona
- 1997 – 2009 Middle School Science Teacher (Grades 6 – 8), Elementary Science Specialist (Grades K – 5), and Technology Coordinator
B’nai Shalom Day School, Greensboro, North Carolina

Fellowships and Institutes

- 2015 Sandra K. Abell Institute for Doctoral Students
- 2009 – 2010 Albert Einstein Distinguished Educator Fellow
National Science Foundation, Arlington, Virginia

Evaluation

- 2012 – 2016 Lunar Workshop for Educators Program Evaluator
Planetary Science Institute, Tucson, Arizona

Course Development

- 2011 Course Developer
Walden University
- 2010 Subject Matter Expert for Course Development Team
Walden University

PUBLICATIONS

Book Chapters

- Canipe, M. (2011). Silence, Thoreau, and a covenant. In P. Whalen-Levitt (Ed.), *Only the sacred: Transforming education in the twenty-first century*. Center for Education, Imagination, and the Natural World.

Refereed Journal Articles

- Canipe, M., & Gunckel, K.L. (in press). Imagination, brokers, and boundary objects: Interrupting the mentor-preservice teacher hierarchy when negotiating meanings. *Journal of Teacher Education*.
- Canipe, M. (in press). What did you notice? Simple questions lead to evidence and explanations. *Science and Children*.
- Canipe, M., & Tolbert, S. (2016). Many ways of knowing: A multilogical science lesson on climate change. *Science Teacher*, 83(4), 31–35. https://doi.org/10.2505/4/tst16_083_04_31

Conference Proceedings

- Canipe, M. (2017). Finding the Goldilocks zone: Supporting preservice elementary teachers in developing an ambitious and approachable vision of themselves as teachers of science. In D. Stroupe & H. Kang (Eds.), *Proceedings of the Science Education at the Crossroads Conference* (pp. 8-9). San Antonio, TX. Available online at www.sciedxroads.org/proceedings2017.html.
- Jones, A. J. P., Bleacher, L. V., Buxner, S., Canipe, M., & Joseph, E. C. S. (2017). The Lunar Reconnaissance Orbiter's Lunar Workshop for Educators: 7 years of exemplary professional development for science teachers. In *Lunar and Planetary Science Conference* (Vol. 48). The Woodlands, TX.
- Jones, A. J. P., Bleacher, L. V., Buxner, S., & Canipe, M. (2015). LRO's Lunar Workshops for Educators: A proven model of exceptional professional development for teachers. In *Lunar and Planetary Science Conference* (Vol. 46, p. 1898). The Woodlands, TX.
- Buxner, S., Canipe, M., Wenger, M., Hsu, B., Jones, A., & Hessen, K. (2014). The Impact of Lunar Reconnaissance Orbiter Education and Public Outreach Programs. In J. G. Manning, M. K. Hemenway, J. B. Jensen, and M. G. Gibbs (Eds.), *Ensuring Stem Literacy: A National Conference On Stem Education And Public Outreach* (Vol 483, pp 361 – 364) San Jose, CA: Astronomy Society of the Pacific Conference Series.
- LaConte, K., Shipp, S., Shupla, C., Shaner, A., Buxner, S., Canipe, M., & Jaksha, A. (2014). Tested tools and techniques for promoting STEM programming in libraries: Fifteen years of the Lunar and Planetary Institute's Explore Program. In G. Schultz, S. Buxner, L. Shore, & J. Barnes (Eds.), *Celebrating Science: Putting Education Best Practices to Work* (Vol. 500, p. 27). Burlingame, CA.
- Jones, A. J. P., Hsu, B. S., Hessen, K., Buxner, S., & Canipe, M. (2013). Lunar workshops for educators: Evaluation results from year three. Presented at the 44th Lunar and Planetary Science Conference, Houston, Texas.

Work in progress

- Canipe, M. (in preparation). Exploring the gap between preservice elementary teachers' actual and designated identities as teachers of science. *Journal of Science Teacher Education*
- Canipe, M. (in review). Unmoderated focus groups as tools for narrative inquiry. *Qualitative Research*
- Canipe, M. & Coronado Verdugo, J. (in preparation). Influence of a Science Methods Course on Preservice Elementary Teachers' Visions of Science Teaching. *Teaching and Teacher Education*.

PRESENTATIONS

Conference Presentations (refereed)

- Canipe, M. (2019). *Negotiating dissonant identities as a teacher of science during student teaching*. Paper presented at the Annual International Conference of the National Association for Research in Science Teaching, Baltimore, MD.
- Canipe, M. & Coronado Verdugo, J. (2018). *Influence of a science methods course on preservice elementary teachers' visions of science teaching*. Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

- Canipe, M., (2017). *Exploring the gap between preservice elementary teachers' actual and designated identities as teachers of science*. Paper presented at the Annual International Conference of the National Association for Research in Science Teaching, San Antonio, TX.
- Canipe, M., (2017). *Finding the Goldilocks zone: Supporting preservice elementary teachers in developing an ambitious and approachable vision of themselves as teachers of science*. Presentation at Science Education at the Crossroads Conference, San Antonio, TX.
- Buxner, S., Jones, A. P., Bleacher, L., Shaner, A. J., Day, B. H., Wenger, M., ... Canipe, M. (2016). *World-Wide Outreach through International Observe the Moon Night*. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA.
- Buxner, S., Jones, A. J., Bleacher, L., Wenger, M., Shaner, A., Joseph, E., Day, B., Canipe, M. InOMN Coordinating Committee. (2016). *Seven years of world-wide participation in International Observe the Moon Night*. Presented at the American Astronomical Society, Division of Planetary Sciences Meeting, Pasadena, CA.
- Canipe, M., (2016). *Preservice elementary teachers' actual and designated identities as teachers of science and teachers of students*. Poster presented at the Annual International Conference of the National Association for Research in Science Teaching, Baltimore, MD.
- Canipe, M., & Gunckel, K.L., (2015). *Practical considerations: Elementary preservice teachers' uses of principle-based inquiry in planning and teaching science*. Paper presented at the Annual International Conference of the National Association for Research in Science Teaching, Chicago, IL.
- Canipe, M., Buxner, S., Jones, A., Hsu, B., Shaner, A., & Bleacher, L. (2014). *Providing effective professional development for teachers through the Lunar Workshops for Educators (LWE)*. Poster presented at the Annual Meeting of the Division for Planetary Sciences of the American Astronomical Society, Tucson, AZ.
- Canipe, M., (2014). *Outcomes and lessons learned from evaluation of Explore Library Program*. Poster presented at the Annual Meeting of the Visitors Studies Association, Albuquerque, NM.
- Canipe, M., & Gunckel, K.L., (2013). *Risk taking in joint spaces and its impact on preservice-mentor teacher hierarchies*. Paper presented at the Annual International Conference of the National Association for Research in Science Teaching, Pittsburgh, PA.
- Buxner, S., Hsu, B., Canipe, M., & Wenger, M. (2013). *The impact of Lunar Reconnaissance Orbiter education and public outreach programs*. Poster presented at the Meeting of the Astronomical Society of the Pacific, San Jose, CA.
- Tolbert, S., Canipe, M., & Vezino, B. (2013). *Traditional ecological (indigenous) knowledge in K-12 science classrooms*. Presentation at the New York Collective of Radical Educators Conference, New York, NY.
- Jones, A. J. P., Hsu, B. S., Hessen, K., Buxner, S., & Canipe, M. (2013). *Lunar workshops for educators: Evaluation results from year three*. Poster presented at the Lunar and Planetary Science Conference, Houston, TX.
- Lukes, L., Gorski, K., Thompson, J., Canipe, M. and Hynes, S. (2012). *Inspiring the next generation of polar scientists from Greenland, Denmark, and the United States: Joint Science Education Project (JSEP)*. Presentation at International Polar Year Science Conference, Montreal, Canada.
- Canipe, M., & Lukes, L. (2011). *Take your class to the poles*. Presentation at National Science Teachers' Association National Conference, San Francisco, CA.

- Canipe, S. & Canipe, M. (2006). *Field trips in a security conscious age*. Presentation at North Carolina Educational Technology Conference, Greensboro, NC.
- Canipe, M. (2006). *Technology training for time-strapped teachers*. Presentation at North Carolina Association of Independent Schools Technology Conference, Durham, NC.
- Canipe, M. (2004). *Technology training for time-strapped teachers*. Presentation at North Carolina Educational Technology Conference, Greensboro, NC.
- Canipe, M. (2003). *Amazing internet resources for teachers*. Presentation at North Carolina Educational Technology Conference, Greensboro, NC.
- Canipe, M. (2003). *Internet workshop, inquiry, and project: Simple ways to integrate the internet in your classroom*. Workshop at North Carolina Educational Technology Conference, Greensboro, NC.
- Canipe, M. (1998). *Using Hyperstudio to enhance student understanding and performance*. Presentation at North Carolina Educational Technology Conference, Greensboro, NC.
- Canipe, M. (1998). *Using interactive websites in the science classroom*. Presentation at North Carolina Science Teachers' Conference, Greensboro, NC.

Invited Presentations

- Kass, V., Crain, R., & Canipe, M. (2010). *International polar year is for everyone: The U.S. National Science Foundation's investments in informal science education during IPY*. Presentation at International Polar Year Science Conference, Oslo, Norway.
- Canipe, M., Edwards, K., Hannum, M., Hughes, K., & Obenhaus, S. (2010). *America's top teachers focus on learning and legislation*. Panel discussion at Wilson Center on the Hill, Washington, D.C.
- Canipe, M. (2010). *Bringing science to school: A guide to assist scientists in bringing their research into K-12 classrooms*. Presentation at National Science Foundation, Arlington, VA.
- Canipe, M., Greenman, M., Simmons, K., & Tolbert, C. (2009). *The current state of K-12 STEM Education*. Presentation at National Science Foundation, Arlington, VA.

AWARDS

2015	Ora Bretall Scholarship, College of Education, University of Arizona
2014	Erasmus Circle Graduate Scholar, College of Education, University of Arizona
2014	Group Achievement Award as part of the Lunar Reconnaissance Orbiter Education and Public Outreach Team, National Aeronautics and Space Administration
2013 – 2014	Graduate Fellowship Award, Department of Teaching, Learning, and Sociocultural Studies, University of Arizona
2012	Mary & Maude Miller Scholarship, College of Education, University of Arizona
2011	Everett L. & Marian G. Holden Memorial Scholarship, College of Education, University of Arizona
1996	Summer Teaching Assistant Fellowship, University of New Hampshire

1995 Outstanding Senior Award, University of North Carolina

GRANTS

- 2019 *Undergraduate Students' Sense of Belonging in Mathematics and Science*, Seed Award, Northern Arizona University – Unfunded (Co-PI – Total Request \$15,000)
- 2018 *The Impact of a Phenomenon-Based Science Workshop on Prospective Elementary Teachers' Science Content Knowledge*, Dean's Research Grant, Northern Arizona University – College of Education (PI – Total Award \$4778)
- 2018 *Prospective Elementary Teachers' Perceptions and Confidence Regarding Integrated Lesson Planning*, Dean's Research Grant, Northern Arizona University – College of Education (Co-PI – Total Award \$5950)
- 2018 *Prospective Elementary Teachers' Sense of Belonging in Mathematics and Science*. Small Grant, Spencer Foundation – Unfunded (Co-PI – Total Request \$49,994)
- 2017 *Prospective Elementary Teachers' Visions of Science Teaching*, Faculty Grants Program, Northern Arizona University (PI - Total Award \$14770)
- 2017 *Prospective Elementary Teachers' Visions of Science Teaching*, Dean's Research Grant, Northern Arizona University – College of Education (PI - Total Award \$3659)
- 2015 *Stories and Performances: Preservice Teachers' Identities as Teachers of Science and Teachers of Students*, Research and Project Grant, Graduate and Professional Student Council, University of Arizona, (PI - Total Award \$1810)

SERVICE

- 2019 Arizona Summit on Science Education
- 2018 – Present Manuscript Reviewer – School Science and Mathematics
- 2018 Proposal Reviewer – National Science Foundation
- 2018 – Present Manuscript Reviewer – Teacher Education Quarterly
- 2017 – Present Curriculum & Instruction Doctoral Program Admissions Committee, College of Education, Northern Arizona University (Committee Chair 2018 – present)
- 2017 – 2018 Search Committee Co-Chair, Assistant and Assistant/Associate Professor in Literacy Education
- 2017 – 2018 Working Group Member, Arizona K-12 Science Standards Revision

2017 – 2018	University Undergraduate Committee
2017 – 2018	PEP Student Teaching Evaluation Committee
2016 - Present	Curriculum & Instruction Doctoral Program Steering Committee, College of Education, Northern Arizona University
2016 - Present	Out of State/International Student Teaching Interview Committee, College of Education, Northern Arizona University
2016 – 2017	Commission on Ethnic Diversity, Northern Arizona University
2015 – 2016	Graduate Student Member, Graduate Curriculum Committee, Department of Teaching, Learning and Sociocultural Studies, University of Arizona
2014, 2015	New Graduate Student Orientation Presenter, Department of Teaching, Learning, and Sociocultural Studies, University of Arizona
2015 – Present	Manuscript Reviewer - Science and Children
2014	Science Fair Judge, Lineweaver Elementary School
2013	Science Fair Judge, Homer Davis Elementary School
2012 – Present	Conference Proposal Reviewer National Association for Research in Science Teaching American Educational Research Association
2012	Travel Grant Reviewer, Graduate and Professional Student Council, University of Arizona
2012 – 2013	Graduate Student Colloquy Organizing Committee, Department of Teaching, Learning, and Sociocultural Studies, University of Arizona
2011 – 2012	User Advisory Group, Koshland Science Museum
2010 – 2013	Climate Literacy and Energy Awareness Network Consultant
2010 – 2011	Regional Judge, NSTA Exploravision Contest
2010 – 2011	Question Writer and Reviewer, U.S. Department of Energy National Science Bowl
2008	Reviewer, AQI Toolkit for Teachers, Environmental Protection Agency
2007 – 2013	Board of Trustees Member, Educator Council Member, Center for Education, Imagination, and the Natural World

PROFESSIONAL MEMBERSHIPS

American Association for the Advancement of Science (AAAS)

American Educational Research Association (AERA)

Division K: Teaching and Teacher Education

Science Teaching and Learning Special Interest Group

Association for Science Teacher Education (ASTE)

National Association for Research in Science Teaching (NARST)

National Science Teachers' Association (NSTA)