

Alison K. Mercier, PhD

Curriculum Vitae • October 2022

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EDUCATION

University of North Carolina at Greensboro, Greensboro, NC

Ph.D. in Teacher Education (Science Education), August 2020

Dissertation: "Channeling Your Inner Science Warrior: The Nature of Elementary Science Teachers' Professional Agency in High-Needs Schools"

Dissertation Committee: Dr. Heidi Carlone (Chair), Dr. Samuel Miller, Dr. Jewell Cooper, Dr. Ye He

University of North Carolina at Greensboro, Greensboro, NC

Master of Science in Curriculum and Instruction (Elementary Education), May 2002

North Carolina State University, Raleigh, NC

Bachelor of Science in Biochemistry, Genetics minor, December 2000

PROFESSIONAL APPOINTMENTS

- 2020-present **Assistant Professor, Elementary Science Education**, The University of Wyoming, Laramie, WY
- 2017-2020 **Research Associate**, BRIDGES for socio-environmental good: **BR**oadening Identities for **D**iverse **G**roups Engaging with **STEM** – Dr. Heidi Carlone (P.I.), University of North Carolina at Greensboro, Greensboro, NC
- 2017-2020 **Research Assistant and STEM Coach**, STEM Teacher Leader Collaborative (TLC) – Dr. Heidi Carlone (P.I.), University of North Carolina at Greensboro, Greensboro, NC
- 2012-2018 **Elementary Teacher (2nd, 3rd, and 4th grades)**, Oak Hill Elementary School, High Point, NC
- 2007-2012 **Elementary Teacher (2nd Grade)**, City Neighbors Charter School, Baltimore, MD
- 2006-2007 **5th and 6th Grade English Language Arts Teacher**, KIPP Harbor Academy, Annapolis, MD
- 2002-2006 **Elementary Teacher (1st and 2nd Grades)**, Hunter Elementary School, Greensboro, NC

PUBLICATIONS

Refereed Articles

- Mercier, A.** (2022). STEM Teacher Leader Collaborative: A responsive professional learning network with radical hope. *Innovations in Science Teacher Education*, 7(3).
- Mercier, A.** & Carlone, H. (2022). Science isn't for me, or is it? Integrating STEM for equity through environmental problems. *Science Scope*, 45(4), 40-46.
- Mercier, A.** & Carlone, H. (2021). "They're all little parts of who I am": Indenti-beads and identi-badges as strategies to encourage STEM identity. *Connected Science Learning*.
- Carlone, H., **Mercier, A.**, & Metzger, S. (2021). First-grade students as epistemic agents in engineering at a high-needs elementary school. *Journal of Pre-College Engineering Education*, 11(1), 172-191.
- Mercier, A.**, Metzger, S., Blankmann, D., & Carlone, H., (2019). Can I build on that? Student-engaged talk stems from teachers' epistemological messages. *Science & Children*, 57(4), 48-53.

Book Chapters

- Metzger, S., **Mercier, A.**, & Carlone, H. (2022). "It's like a rock puzzle in a wall.": Multiliteracies and design practices in first-grade engineering. In A. Wilson-Lopez, E. Tucker-Raymond, A. Esquinca, & J.A. Mejia (Eds), *The Literacies of design: Studies of equity and imagination with engineering and making* (pp. 22-41). Purdue University Press.
- Blankmann, D., **Mercier, A.**, & Carlone, H. (in press). Is only sticky important? Sensemaking through equitable discussion in a first-grade engineering lesson. In S. Jeong, L. Bryan, D. Tippins & C. Sexton (Eds.), *Navigating the challenges of elementary science teaching and learning: Using case-based pedagogy to understand dilemmas of practice*. Springer Nature.

PRESENTATIONS

Presentations: Research Audience

- Mercier, A.** (April 2023). *Centering a conversation around approaches to studying and conceptualizing teachers' agency*. Paper to be presented at the NARST Annual Conference, Chicago, IL.
- Mercier, A.** & Carlone, H.B. (April 2023). *Considering possibilities for identity expansion: A grounded theory of youths' STEM identity play*. Paper to be presented at the NARST Annual Conference, Chicago, IL.
- Mercier, A.** & Hinman, T. (April 2023). *Working to hear diverse ways of knowing: Development of skills for enacting justice-centered science pedagogy*. Paper to be presented at the NARST Annual Conference, Chicago, IL.
- Mercier, A.** & Hinman, T. (January 2023). *Do you hear what I hear? Preservice teacher framing and noticing of elementary students' thinking*. Paper to be presented at the 2023 Association for Science Teacher Education Conference, Salt Lake City, UT.

- Steele, D., Jeong, S., & **Mercier, A.** (January 2023). *Using the 5 Practice Framework in a secondary science methods course*. Paper to be presented at the 2023 Association for Science Teacher Education Conference, Salt Lake City, UT.
- Mercier, A.** & Hinman, T. (November 2022). *An anti-deficit approach to constructing discourse: Expanding preservice teachers' noticing of students' scientific explanations*. Paper to be presented at 2022 Annual Meeting of the Literacy Research Association, Phoenix, AZ.
- Mercier, A.**, Gull, C., Rush, L., & Dreon, O. (July/August 2022). *Designing an intentional ethics curriculum for preservice teachers*. Paper presented at the Association of Teacher Educators 2022 Summer Conference, Nashville, TN.
- Mercier, A.** (April 2022). *Science as thinkable and doable: Elementary teachers' agency for STEM instruction in urban emergent schools*. Paper presented at the 2022 annual meeting of the American Educational Research Association, San Diego, CA.
- Blankmann, D., Carlone, H.B., & **Mercier, A.** (April 2022). *Socioecological care as relational practice: A grounded theory of affectionate knowing*. Paper presented at the 2022 annual meeting of the American Educational Research Association, San Diego, CA.
- Mercier, A.** (March 2022). *Elementary teachers' agency for teaching science and engineering when working within and against school structures*. Paper presented at annual meeting of NARST, Vancouver, British Columbia, Canada.
- Mercier, A.** & Hinman, T. (March 2022). *Investigating pre-service teachers' noticing and framing of children's scientific explanations*. Paper presented at annual meeting of NARST, Vancouver, British Columbia, Canada.
- Carlone, H.B. & **Mercier, A.K.** (March 2022). *The productivity of middle school youths' non-linear longitudinal identity work*. Paper presented at the annual meeting of NARST, Vancouver, British Columbia, Canada.
- Mercier, A.** & Hinman, T. (January 2022). *Investigating Pre-Service Teachers' Noticing of the Cultural Foundations of Children's Scientific Explanations*. Paper presented at the 2022 Association for Science Teacher Education Conference, Greenville, SC.
- Mercier, A.** (September 2021). *Elementary Teacher's Agency for Science and Engineering in Response to School Structures*. Paper presented virtually at the 2021 meeting of the European Science Education Research Association, Braga, Portugal.
- Hinman, T. & **Mercier, A.** (September 2021). *Recognizing Students' Ideas: Pre-Service Teachers' Noticings of the Cultural Foundations of Students' Scientific Explanations*. Paper presented virtually at the 2021 meeting of the European Science Education Research Association, Braga, Portugal.
- Mercier, A.** (April 2021). *Science as Thinkable and Doable: The Nature of Elementary Teachers' Professional Agency in High-Needs Schools*. Paper presented at the 2021 National Association for Research in Science Teaching annual conference, Orlando, Florida.
- Mercier, A.** (April 2021). *Storied-Identities as a Lens for Studying Science Identity*. Paper presented at the 2021 National Association for Research in Science Teaching annual conference, Orlando, Florida.
- Mercier, A.** (April 2021). *Accommodators, Negotiators, Tempered Radicals: How Elementary Teachers Respond to Dilemmas of Practice in High-Needs Schools*. Paper presented at the 2021 annual meeting of the American Educational Research Association, Orlando, FL.
- Mercier, A.** & Carlone, H. (January 2021). *Valuing teachers as professionals: A responsive professional development network model for elementary teachers*. Paper presented at the 2021 Association for Science Teacher Education Conference, Salt Lake City, UT.
- Carlone, H., Blankmann, D. & **Mercier, A.** (April 2020). *An analysis of socio-ecological care in a place-based STEM enrichment program for middle school youth*. Paper accepted for

presentation at the annual meeting of the American Educational Research Association, San Francisco, CA. [Cancelled due to Covid-19].

Mercier, A. (April 2020). *Youth as conservationists, altruists, inventors, and investigators: Designing for multi-faceted disciplinary identities*. Paper accepted for presentation to the National Association for Research in Science Teaching annual conference, Portland, Oregon [Cancelled due to Covid-19].

Mercier, A. (April 2020). *Science as thinkable and doable: Elementary teachers' professional agency*. Poster accepted for presentation to the National Association for Research in Science Teaching annual conference, Portland, Oregon [Cancelled due to Covid-19].

Mercier, A. & Carlone, H. (April 2020). *Storied-Identities as a Lens to Studying Science Identity*. Paper accepted for presentation to the National Association for Research in Science Teaching annual conference, Portland, Oregon [Cancelled due to Covid-19].

Mercier, A. (January 2020). *Elementary science teachers as epistemic agents in responsive professional learning*. Paper presented at the 2020 Association for Science Teacher Education Conference, San Antonio, TX.

Mercier, A. & Carlone, H. (August 2019). *Enhancing science's thinkability for elementary teachers: A science capital approach*. Paper presented at the 2019 meeting of the European Science Education Research Association, Bologna, Italy.

Carlone, H., **Mercier, A.**, & Metzger, S. (April 2019). *First-grade students as epistemic agents in engineering at a high-needs elementary school*. Paper presented at the annual meeting of the American Educational Research Association, Toronto, ON.

Carlone, H., **Mercier, A.**, & Metzger, S. (April 2019). *First-Grade Students as Epistemic Agents in Engineering*. Paper presented to the National Association for Research in Science Teaching, Baltimore, MD.

Carlone, H., Schouweiler, D., **Mercier, A.**, Worsley, T., Lancaster, M., & Heredia, S. (April 2019). *Designing for youths' STEM identity work: The STEM Identity Profile Instruction*. Poster presented to the National Association for Research in Science Teaching, Baltimore, MD.

Webb, S., Metzger, S., Massey, D., & **Mercier, A.** (March 2019). Honoring student talk across the curriculum. Presented at the North Carolina Reading Association Conference, Raleigh, NC.

Presentations: Practitioner Audience

Rush, L., Gull, C., **Mercier, A.**, & Dreon, O. (September 2022). *Ethics Panel and Workshop*. Presentation at Level up: Guiding educator leadership forward, Laramie, WY.

Rush, L., Gull, C., **Mercier, A.**, & Dreon, O. (September 2021). *Infusing ethics into UW preservice teacher education: An intentional curricular approach*. Presentation at the Wyoming Education Summit.

Mercier, A., Blankmann, D., & Carlone, H. (November 2019). *Nurturing STEM equity in elementary schools*. Presentation at the North Carolina Science Teacher's Association's Professional Development Institute, Winston-Salem, NC.

Mercier, A. & Blankmann, D. (October 2019). *Empowering STEM teacher leaders and supporting STEM in highly impacted schools: UNCG's STEM Teacher Leader Collaborative*. Presentation at the Bridging the Gap Conference. Raleigh, NC.

Carlone, H., **Mercier, A.**, Ramirez, K., & Norman, J. (March 2019). *Engineering for Elementary Students: Exciting and Empowering All Learners*. Presentation at Equity and Excellence in Education Conference. Greensboro, NC.

- Mercier, A.**, Blankmann, D., Winchell, S., & Stallings, S. (October 2018). *UNCG STEM Teacher Leader Collaborative: Support for STEM in Highly Impacted Schools*. Presentation at North Carolina Association for Colleges and Teacher Educators. Raleigh, NC.
- Mercier, A.**, Carlone, H., & Blankmann, D. (October 2018). *Supporting STEM in Highly Impacted Schools: The UNCG STEM Teacher Leader Collaborative*. Presentation at the Bridging the Gap Conference. Raleigh, NC.
- Carlone, H., **Mercier, A.**, McLaurin, D., & Walker, C. (November 2018). *Empowering Teachers, Nurturing STEM Equity: The UNCG STEM Teacher Leader Collaborative*. Presentation at National Science Teachers Association. Charlotte, NC.
- Carlone, H., Lovett, M., Schouweiler, D., **Mercier, A.**, & Worsley, T. (November 2018). *An integrated STEM approach to exploring stormwater run-off: Youth and teachers as altruists, conservationists, tinkers, and analysts*. Presentation at National Science Teachers Association. Charlotte, NC.
- Carlone, H., Schouweiler, D., **Mercier, A.**, & Worsley, T. (October 2018). *Broadening identities for diverse youth in STEM through socioenvironmental problem solving*. Poster presented at Bridging the Gap Conference. Raleigh, NC.
- Mercier, A. & **Metzger, S.** (2017). Engineering disciplinary identity work: Research overview. Presented at the STEM TLC Advanced Teacher Leader Institute, Greensboro, NC.

PRESENTATIONS/WORKSHOPS FOR/WITH UNIVERSITY AND COMMUNITY GROUPS

- 2022 STEM Teacher Leader Collaborative Summer Institute at the University of North Carolina at Greensboro, Greensboro, July 25-27, 2022.
- Anti-deficit noticing of pre-service teachers. Invited speaker at the Association of Science Teacher Education winter webinar series, December 2021.
- Phenomenon-driven three-dimensional teaching and learning. Presentation and workshop presented to McGraw Hill Professional Development Team (Phoenix, AZ), October 26-27, 2021.
- Climate literacy through elementary engineering. Professional learning with Wyoming teachers (Laramie, WY), August 4-6, 2021.
- Navigating academic writing. Invited speaker for Dr. Rick Kitchen's doctoral seminar at the University of Wyoming, April 2021.

GRANTS

- Co-Principal Investigator. *Next-Generation Secure Digital Ecosystems at the Nexus of Climate and Energy* (\$20,000, Research Planning Council of the Grand Challenges Initiative, PI Soheil Saraji, co-PIs Mike Borowczak, Christelle Khalaf, J. Fred McLaughlin, Alison Mercier, Bradley James Rettler, 2021).
- Co-Principal Investigator. *Revealing the Work of Young Engineers: Discourse and Creativity in Early Childhood Collaborative Problem-Solving* (\$6,000, College of Education Innovation Grants Program: Research Grant, co-PI Mia Williams, 2022).

AWARDS AND HONORS

2019

Sandra K. Abell Research Institute, National Association for Research in Science Teaching, Hosted by the Tennessee STEM Education Center at Middle Tennessee State University, Murfreesboro, TN

TEACHING EXPERIENCE

University of Wyoming

- EDEL 1200: Introduction to Elementary Education
- EDEL 1450: Earth Science in Elementary School
- EDST 3550: Educational Assessment
- EDEL 3724: Elementary Science Methods
- EDEL 4409: Elementary Math/Science Education
- EDEL 4500: Supervision of Residency in Teaching

University of North Carolina at Greensboro

- TED 519: Science in the Elementary School
- TED 652: Physical Sciences in Elementary School

PROFESSIONAL PUBLIC SERVICE

University Service

- Member of the Dr. Joseph Stepan's Scholarship Committee

Reviewing for Journals and National/International Organizations

- Reviewer, Journal of Engineering Education
- Reviewer, Elementary School Journal
- Reviewer, Journal of Pre-College Engineering Education Research
- Reviewer, American Education Research Association (AERA) conference proposals
- Reviewer, National Association for Research in Science Teaching (NARST) conference proposals
- Reviewer, European Science Education Research Association (ESERA) conference proposals
- Reviewer, Association for Science Teacher Education (ASTE) conference proposals

National Service

- Member of ASTE Communications Committee (2019-present)

PROFESSIONAL MEMBERSHIPS

American Association for the Advancement of Science (AAAS)
American Education Research Association (AERA)
European Science Education Research Association (ESERA)
National Association for Research on Science Teaching (NARST)

National Science Teachers Association (NSTA)
Science Educators for Equity Diversity and Social Justice (SEEDS)