MARY E. PILGRIM

EDUCATION

<u></u>				
PhD	Colorado State University, School of Education Mathematics Education	2010		
MS	Colorado State University, Department of Mathematics Mathematics	2003		
BS	Colorado State University, Department of Mathematics Mathematics	2000		
WORK EXPERIENCE				
Asso Dep San	ociate Professor artment of Mathematics and Statistics Diego State University	Aug 2021 – Present		
Dire Mat San	ector h & Stats Learning Center Diego State University	Jan 2021 – Dec 2023		
Assi Dep San	stant Professor artment of Mathematics and Statistics Diego State University	Aug 2018 – Aug 2021		
Asso Mati San	ociate Director h & Stats Learning Center Diego State University	Aug 2018 – Dec 2020		
Assi Dep Colo	stant Professor artment of Mathematics brado State University	Aug 2013 – July 2018		
Tea [Sur Park	cher Leadership Program Staff nmer] Teacher Leadership Program, High School Math Camp c City Mathematics Institute	Summers 2012 – 2018		
Co- Calc Dep Colc	Director Julus Center artment of Mathematics Jorado State University	Aug 2016 – May 2017		
Calo Dep Colo	culus Facilitator artment of Mathematics brado State University	Aug 2012 – July 2013		
Visi Dep Oreg	ting Assistant Professor artment of Mathematics gon State University	Sept 2011 – June 2012		

Special Faculty

Department of Mathematics Colorado State University

Adjunct Faculty

Department of Mathematics Front Range Community College

SKILLS

• Proficient with:

Microsoft Office Suite • Google G Suite • MAXQDA qualitative data analysis software • Desmos • LaTeX • Video conferencing software (Zoom, Google Meet)
• Slack communication platform • Gradescope online grading platform • Canvas learning management system

• Experience with: Qualtrics • Git and Git Hub • Quantitative data analysis software (R Studio, SPSS) • HTML

PROFESSIONAL DEVELOPMENT FACILITATION AND TRAINING

 Graduate Teaching Assistant (GTA) Professional Development Aug 2018 – Prese Department of Mathematics and Statistics San Diego State University, San Diego, CA Focus: Active learning, inquiry, equity Organize and run the pre-fall orientation for GTAs Design and teach the professional development course for GTAs 	nt		
Tutor TrainingAug 2018 – Dec 202Math & Stat Learning Center (MSLC)San Diego State University, San Diego, CA• Organize and run the pre-semester training for MSLC tutors• Just-in-time math content support for MSLC tutors (continuous)	23		
 Facilitator Collegiate Mathematics Instructor Development Source (CoMInDS) July 2021 Facilitated a mathematics professional development provider group during virtual workshop. 			
Lesson Study Math Commentator202Otay Ranch High School, San Diego, CA•• Math Commentator for Otay Ranch High School math lesson study project	21		
Math Facilitator201Park City Mathematics Institute Weekend Workshop201Denver, CO201	18		
Math Facilitator201Park City Mathematics Institute Weekend Workshop201Washington, DC201	17		

Aug 2010 – July 2011

Aug 2005 - May 2010

Math Facilitator Park City Mathematics Institute Weekend Workshop Oakland, CA	2016
Geometry Session Facilitator Engaging Students in Learning: Mathematical Practices and Process Standards for 9-12. National Council of Teachers of Mathematics High School Institute	2015 Grades
Anaheim, CA Geometry Session Facilitator Engaging Students in Learning: Mathematical Practices and Process Standards for 9-12.	2014 Grades
National Council of Teachers of Mathematics High School Institute Chicago, IL	
FacilitatorSummers 2012 –Teacher Leadership Program (TLP) and High School Math Camp Park City Mathematics Institute Park City, UTFacilitated Morning Math for teachers participating in the TLP• Facilitated Morning Math for teachers participating in the TLP• Facilitated professional development and lesson study working groups• Facilitated math sessions for the high school math camp (https://projects.ias.edu/pcmi/mathcamp/)	- 2018
AWARDS	
Outstanding Faculty Member Outstanding contribution to the Department of Mathematics & Statistics San Diego State University San Diego, CA	2021
Early Career Teaching Award Rocky Mountain Section of the Mathematical Association of America	2017
Outstanding Professor of Graduate Instruction Department of Mathematics, Colorado State University, Fort Collins, CO	2017
Best Paper Award Technology Showcase Learning Analytics and Knowledge Conference, Vancouver, BC, Canada	2017
Honors Advisor of the Year Colorado State University, Fort Collins, CO	2014
Excellence in Education Award Colorado State University, Fort Collins, CO	2006

CONFERENCE SESSIONS & WORKSHOP ORGANIZER

- 2024 Critical Issues in Mathematics Education (CIME) Workshop. April 2024. SLMath (formerly MSRI). Berkeley, CA.
 Organizers: Debra Carney (Colorado School of Mines), Dave Kung (University of Texas, Austin), P. Gavin LaRose (University of Michigan), Mary Pilgrim (San Diego State University), Chris Rasmussen (San Diego State University), Natasha Speer (University of Maine), Cristina Villalobos (University of Texas Rio Grande Valley).
- Responding to policy changes that impact developmental math courses. August 2022 MathFest contributed paper session.
 Organizers: Mary Pilgrim (San Diego State University), William Zahner (San Diego State University), Amelia Stone-Johnstone (CSU-Fullerton), Charles Wilkes II (San Diego State University), Heather Johnson (University of Colorado Denver), Gary Olson (University of Colorado Denver).
- Leveraging the IP guide in coordinating large multi-section courses. Summer 2022 MAA OPEN Math Workshop.
 Organizers: Mary E. Pilgrim, Amelia Stone-Johnstone (CSU-Fullerton), Cindy Blois (University of Toronto).
- 4. *Responding to Policy Changes that Impact Developmental Math Courses*. 2022 MAA MathFest. Mathematical Association of America MathFest Themed Contributed Paper Session.

Organizers: **Mary E. Pilgrim**, William Zahner, Charles E. Wilkes II, Amelia Stone-Johnstone (CSU Fullerton), Heather Johnson (CU Denver), Gary Olson (CU Denver).

- Increasing Engagement in and Support for Equity Work. 2021 Joint Mathematics Meetings. Mathematical Association of America workshop. Organizers: Mary E. Pilgrim, Gulden Karakok (University of Northern Colorado), Brigitte Lahme (Sonoma State University). Workshop Sponsor: MAA Committee on the Teaching of Undergraduate Mathematics.
- 6. *Approaches to Mathematics Remediation in Baccalaureate-Granting Institutions*. 2018 Joint Mathematics Meetings. Mathematical Association of America contributed paper session.

Organizers: Michael Boardman (Pacific University), Helen E. Burn (Highline College), and **Mary E. Pilgrim**. Workshop Sponsor: MAA Committee on the Undergraduate Program in Mathematics.

TEACHING

Courses Coordinated

- College Algebra, San Diego State University (Aug 2018 May 2021)
- Calculus I, Colorado State University (Aug 2013 Ma 2018)

Course Development

• Two-semester Calculus I, Colorado State University (Math 157, 159)

Courses Taught – San Diego State University

- Teaching Issues in Mathematics (Graduate)
- College Algebra
- Practicum in Teaching Mathematics
- Introduction to the Foundations of Geometry

Courses Taught – Colorado State University

- Learning Theories in Mathematics Education (Graduate)
- Discrete Mathematics for Educators (including introduction to proofs)
- Methods and Materials in Teaching Mathematics
- Linear Algebra
- Calculus I, II, III
- Calculus for Biological Scientists I
- Business Calculus
- Math for Social Sciences

Courses Taught – Oregon State University

- Differential Calculus
- Integral Calculus
- Linear Algebra
- Algebra and Geometric Transformations I, II, III (capstone courses at for preservice teachers)

Courses Taught – Front Range Community College

- Calculus I, II, III
- College Algebra
- Introductory Algebra
- Intermediate Algebra
- Introductory Statistics
- Career Math

MENTORING

Faculty Mentoring

- (Aug 2021 May 2023) Dr. Anne Ho, Lecturer, Department of Mathematics, University of Tennessee. Research mentoring for Dr. Ho's NSF-supported project, *Transitioning Secondary to Tertiary Educators' Mathematical Knowledge for Teaching* (Award No. 2125969).
- (Aug 2021 May 2023) Mentor for SDSU early career scholars program, San Diego State University, *Multi Campus Transformation Equity Network* (NSF award No. 2017612).

Postdoctoral Scholars

- Charles Wilkes II (Aug 2021 current), *Mathematical Persistence through Inquiry and Equity* (NSF Award No. 1953713 and 1953753), San Diego State University.
- Courtney Ngai (Aug 2016 June 2020), Departmental Action Teams: Sustaining Improvements in Undergraduate STEM Education Through Faculty Engagement (NSF Award No. 1626565), Colorado State University.

Doctoral Advisees

• Mariah Moschetti (current), Mathematics and Science Education Doctoral Program, San Diego State University joint with University of California San Diego.

- Gabriela Hernandez (current), Mathematics and Science Education Doctoral Program, San Diego State University joint with University of California San Diego.
- Brinley Stringer (current), Mathematics and Science Education Doctoral Program, San Diego State University joint with University of California San Diego.
- Sloan Hill-Lindsay (current), Mathematics and Science Education Doctoral Program, San Diego State University joint with University of California San Diego.
- Benjamin Sencindiver (2020), *Success in Calculus I: Implications of students' precalculus content knowledge and their awareness of that knowledge*, Colorado State University, Department of Mathematics.

Doctoral Committees

- Ernesto Calleros (current), Mathematics and Science Education Doctoral Program, San Diego State University joint with University of California San Diego.
- Colin McGrane (current), Mathematics and Science Education Doctoral Program, San Diego State University joint with University of California San Diego.
- Mike Foster (current), Mathematics and Science Education Doctoral Program, San Diego State University joint with University of California San Diego.
- Amelia Stone-Johnstone (2021), Mathematics and Science Education Doctoral Program, San Diego State University joint with University of California San Diego.
- Susan Hughes-Isley (2015), School of Education, Colorado State University.

Master's Advisees

- Nick Jacome (2023), *A look into two-year college math instructors' conceptions about equity* [Project], San Diego State University, Department of Mathematics and Statistics.
- Alicia Hernandez (2022), *Navigating AB705 during a pandemic: An investigation of students' experiences with placement and advising* [Project], San Diego State University, Department of Mathematics and Statistics.
- Gabriela Hernandez (2017), *First year graduate teaching assistants: Fostering successful teaching* [Thesis], Colorado State University, Department of Mathematics.
- Abigail Gentry (2016), *An integrated mathematics/science activity for secondary students: Development, implementation, and student feedback* [Thesis], Colorado State University, Department of Mathematics.

Master's Committees

- Jessica Gehrtz (2016), Department of Mathematics, Colorado State University.
- Terry Manthy (2015), Department of Statistics, Colorado State University.

Doctoral Research Assistants (NSF-funded)

- Mariah Moschetti (Sept 2023 current), ELITE PD Project (NSF Award No. 2013590, 2013563, and 2013422).
- Amber McNeill (Sept 2022 Jan 2023), MPIE Project (NSF Award No. 1953713 and 1953753).
- Matthew (Blue) Taylor (Sept 2022 current), ELITE PD Project (NSF Award No. 2013590, 2013563, and 2013422).
- Gabriela Hernandez (Sept 2021 current), MPIE Project (NSF Award No. 1953713 and 1953753).

- Sloan Hill-Lindsay (Sept 2021 Aug 2023), ELITE PD Project (NSF Award No. 2013590, 2013563, and 2013422).
- Brinley Stringer (Sept 2020 Aug 2022; Aug 2023 current), MPIE Project (NSF Awards No. 1953713 and 1953753).

Doctoral Research Rotations

- Matthew (Blue) Taylor (2023), Mathematics and Science Education Doctoral Program, San Diego State University joint with University of California San Diego. Topic: Exploring Graduate TAs' Perspectives on Equity in Professional Development. Results submitted for presentation to 2024 SDSU Student Research Symposium.
- Kristin Tenney (2021), Mathematics and Science Education Doctoral Program, San Diego State University joint with University of California San Diego. Topic: Examination of identity and lived experiences of mathematics graduate teaching assistants. Paper submitted for publication.
- Antonio Martinez (2019), Mathematics and Science Education Doctoral Program, San Diego State University joint with University of California San Diego. Topic: Examination of online grading platforms for course coordination. Project resulted in publication in *International Journal of Mathematical Education in Science and Technology*.

Undergraduate Honors Thesis Advisor

- Alanna Pipkin (2018), Department of Mathematics, Colorado State University Title: *Teaching in the CSU Math 160 classroom*
- Gabby Fini (2016), Department of Mathematics, Colorado State University Title: *Mathematics education in Italy versus in America*
- John Bloemker (2014), Mathematics, Colorado State University Title: *Mathematics intervention and student success*
- Erin Jacobs (2014), Mathematics, Colorado State University Title: *Why does everyone hate math?*

GRANTS

Funded Federal Research Grants

- \$2,198,757 Collaborative research: Mathematics persistence through inquiry and equity: Redeveloping gateway mathematics in a two-year HSI to promote success in STEM, **Principal Investigator**, National Science Foundation, 06/01/2020 – 05/31/2025. Award Numbers **1953713** and 1953753. MPIE Project Website: https://mpie.sdsu.edu/
- \$2,112,498 Collaborative research: Mathematics graduate teaching assistant professional development focused on implementation of evidence-based teaching practices, Principal Investigator, National Science Foundation, 10/01/2020 09/30/2025. Award Numbers 2013590, 2013563, and 2013422. ELITE PD Project Website: https://elitepd.sdsu.edu/
- \$1,919,515 Departmental Action Teams: Sustaining improvements in undergraduate STEM education through faculty engagement, Co-Principal Investigator, National Science Foundation, 09/01/2016 – 08/31/2020. Award Number 1626565.

 \$4,850,265 – Colorado-Wyoming Louis Stokes Alliance for Minority Participation (CO-WY LSAMP), Consultant, National Science Foundation, 10/01/2016 – 09/30/2021. Award Number 1619673.

Funded University Grants

- \$47,000 Development and implementation of writing to learn activities in gateway courses in the College of Natural Sciences, Co-Principal Investigator, Colorado State University, Provost's Course Redesign Grant, 08/01/2014 – 05/31/2016.
- \$9,000 RAMScholars at Colorado State University: Increasing student engagement in learning in science and mathematics, **Principal Investigator**, Colorado State University, The Center for Interdisciplinary Mathematics and Statistics Award.

PUBLICATIONS

Books

- Ngai, C., Corbo, J. C., Falkenberg, K., Geanious, C., Pawlak, A., Pilgrim, M. E., Quan, G. M., Reinholz, D. L., Smith, C., & Wise, S. B. (2020). *Facilitating change in higher education: The Departmental Action Team model*. Glitter Cannon Press. P.
- Kerins, B., Yong, D., Cuoco, A., Steven, G., & Pilgrim, M. (2017). Fractions, tilings, and geometry. (Vol. 7). American Mathematical Society. URL: <u>https://bookstore.ams.org/sstp-7/</u>
- Kerins, B., Yong, D., Cuoco, A., Steven, G., & Pilgrim, M. (2017). Probability and games. (Vol. 6). American Mathematical Society. URL: <u>https://bookstore.ams.org/sstp-6/</u>
- Kerins, B., Yong, D., Cuoco, A., Stevens, G., & Pilgrim, M. (2016). *Moving things around*. (Vol. 5). American Mathematical Society. URL: <u>https://bookstore.ams.org/sstp-5/</u>
- Kerins, B., Yong, D., Cuoco, A., Steven, G., & Pilgrim, M. (2016). Some applications of geometric thinking. (Vol. 4). American Mathematical Society. URL: <u>https://bookstore.ams.org/sstp-4/</u>

Refereed Book Chapters

*Indicates a graduate student author at time of publication.

- 1. Braley, E., **Pilgrim, M. E.**, & Miller, E. R. (forthcoming). Centering equity in mathematics graduate student teaching professional development. In B. M. Benken (Ed.), *Reflection on past, present and future: Paving the way for the future of mathematics teacher education*. The Association of Mathematics Teacher Educators.
- Pilgrim, M. E., McDonald, K. K., Offerdahl, E. G., Ryker, K., Shadle, S. E., *Stone-Johnstone, A., & Walter, E. M. (2020). An exploratory study of what different theories can tell us about change. In K. White, A. Beach, N. Finkelstein, C. Henderson S. Simkins, L. Slakey, M. Stains, G. Weaver, & L. Whitehead (Eds), *Transforming institutions: Accelerating systemic change in higher education* (pp. 97-108). Accelerating Systemic Change in STEM Higher Education Network. Pressbooks. <u>http://openbooks.library.umass.edu/ascnti2020/</u>
- Ngai, C., Corbo, J. C., Quan, G. M., Falkenberg, K., Geanious, C., Pawlak, P., Pilgrim, M. E., Reinholz, D. L., Smith, C., Wise, S. (2020). Developing the DAT theory of change. In K. White, A. Beach, N. Finkelstein, C. Henderson S. Simkins, L. Slakey, M. Stains, G. Weaver, & L. Whitehead (Eds), *Transforming institutions:*

Accelerating systemic change in higher education (pp. 71-85). Accelerating Systemic Change in STEM Higher Education Network. Pressbooks. http://openbooks.library.umass.edu/ascnti2020/

Refereed Journal Articles

*Indicates a graduate student author at time of publication.

- Beseler, C. L., Hausman, H., Pilgrim, M. E., Rhodes, M. G., & Chavez, E. (2022). Community college instructors' perceptions of success in mathematics. *MathAMATYC Educator*, 14(1), 26-32.
- Reinholz, D., L., Pilgrim, M. E., *Stone-Johnstone, A., Falkenberg, K., Geanious, C., Ngai, C., Corbo, J., & Wise, S. (2021). Focus on outcomes: Fostering systemic departmental improvements. *To Improve the Academy: A Journal of Educational Development*, 40(2). <u>https://doi.org/10.3998/tia.154</u>
- *Martinez, A., & Pilgrim, M. E. (2021). Harmonizing course coordination and local data through online grading platforms. *International Journal of Mathematical Education in Science and Technology*, 1-11. https://doi.org/10.1080/0020739X.2021.1937731
- 4. Reinholz, D. L., & **Pilgrim, M. E.** (2021). Student sensemaking of proofs at various distances: The role of epistemic, rhetorical, and ontological distance in the peer review process. *Educational Studies in Mathematics*, *106*(2) 211-229.
- Pilgrim, M. E., Apkarian, N., Milbourne, H., & O'Sullivan, M. (2020). From rough waters to calm seas: The challenges and successes of building a GTA PD program. *PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies,* 31(3-5), 594-607. <u>https://doi.org/10.1080/10511970.2020.1793851</u>.
- Reinholz, D. L., Pawlak, A., Ngai, C., & Pilgrim, M. E. (2020). Departmental action teams: Empowering students as agents of change in STEM departments. *International Journal of Students as Partners*, 4(1), 128-137. https://doi.org/10.15173/ijsap.v4i1.3869.
- Ngai, C., Pilgrim, M. E., Reinholz, D., Corbo, J., & Quan, G. (2020). Developing the DELTA: Capturing cultural changes in undergraduate departments. *CBE--Life Sciences Education*, 19(2), ar15, 1-14. <u>https://doi.org/10.1187/cbe.19-09-0180</u>.
- Folkestad, J., Pilgrim, M. E., & *Sencindiver, B. (2019). Student interactions with prerequisite knowledge tools: How students' daily-usage patterns can inform pedagogy in Calculus I. *Journal of Educational Technology*, *16*(2), 14-34. <u>https://doi.org/10.26634/jet.16.2.15799</u>.
- 9. Reinholz, D. L., **Pilgrim, M. E.**, Corbo, J. C., & Finkelstein, N. (2019). Transforming undergraduate education from the middle out with departmental action teams. *Change: The Magazine of Higher Learning*, *51*(5), 64-70.
- Reinholz, D. L., Ngai, C., Quan, G., Pilgrim, M. E., Corbo, J, & Finkelstein, N. (2019). Fostering sustainable improvements in science education: An analysis through four frames. *Science Education*, 103(5), pp. 1125-1150. <u>https://doi.org/10.1002/sce.21526</u>.
- Quan, G. M., Corbo, J. C., Finkelstein, N. D., Pawlak, A., Falkenberg, K., Geanious, C., Ngai, C., Smith, C., Wise, S., **Pilgrim, M. E.**, & Reinholz, D. L. (2019). Designing for institutional transformation: Six principles for department-level interventions. *Physical Review Physics Education Research*, 15(1), 010141.

- Pilgrim, M. E., & *Gehrtz, J. (2017). Sustaining change in Calculus I. PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, 28(6), 562-573. doi: 10.1080/10511970.2017.1289574.
- 13. Doe, S., **Pilgrim, M. E.**, & *Gehrtz, J. (2016). Stories and explanations in the introductory calculus classroom: A study of WTL as a teaching and learning intervention. *The WAC Journal*, *27*, 94-118.
- 14. Pilgrim, M. E., & *Gehrtz, J. (2016). An alternative Calculus I course. *Mathematics and Computer Education*, 50(2), 120-129.
- Pilgrim, M. E. (2014). Addressing the standards for mathematical practice in a calculus class. *Mathematics Teacher*, 108(1), 52-57. doi:10.5951/mathteacher.108.1.0052.
- Pilgrim, M. E. (2014). Engaging future teachers in problem-based learning with the Park City Mathematics Institute problems. *PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, 24*(3), 215-231. doi: 10.1080/10511970.2013.859190.

Refereed Proceedings

*Indicates a graduate student author at time of publication.

- Milbourne, H., *Hill-Lindsay, S., & Pilgrim, M. E. (2023, February). Adapting the TRU framework: Tracking changes in MGTAs' instructional practices. 2023 Conference on Research in Undergraduate Mathematics Education. (pp. 1334-1335). Omaha, NE.
- *Stringer, B. P., *Hernandez, G. M., Wilkes II, C. E., & Pilgrim, M. E. (2022, November). Tensions about Equity: Instructors' nepantla attending to identity and power in mathematics. In A. E. Lischka, E. B. Dyer, R. S. Jones, J. N. Lovett, J. Strayer, & S. Drown (Eds.), *Proceedings of the Forty-Fourth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 1488-1496). Nashville, TN.
- Ryals, M., *Hill-Lindsay, S., Pilgrim, M. E., & Burks, L. (2022, February). College algebra students' definitions of 'simple mistakes' through a causal attribution lens. In S. S. Karunakaran, & A. Higgins (Eds.), *Proceedings of the Conference on Research in Undergraduate Mathematics Education*. (pp. 515-524). Boston, MA.
- *Stringer, B., Stone-Johnstone, A., *Calleros, E., & Pilgrim, M. E. (2022, February). Unpacking a gateway mathematics change initiative in response to a state mandate. In S. S. Karunakaran, & A. Higgins (Eds.), *Proceedings of the Conference on Research in Undergraduate Mathematics Education*. (pp. 1158-1163). Boston, MA.
- *Hill-Lindsay, S., Ho, Anne, Pilgrim, M. E., & Miller, E. (2022, February). How students learn math best: Tutors' beliefs about themselves versus their tutees. In S. S. Karunakaran, & A. Higgins (Eds.), *Proceedings of the Conference on Research in Undergraduate Mathematics Education*. (pp. 245-252). Boston, MA.
- Fifty, D., *Hill-Lindsay, S., Zimmerman, S., Beisiegel, M., Pilgrim, M., & Miller, E. (2022, February). Potential barriers to a sustainable MGTA PD program focused on equity and inclusivity. In S. S. Karunakaran, & A. Higgins (Eds.), *Proceedings of the Conference on Research in Undergraduate Mathematics Education*. (pp. 973-978). Boston, MA.
- 7. **Pilgrim, M. E.**, Miller, E., *Hill-Lindsay, S., & Segal, R. A. (2020, February). Analyzing the beliefs and practices of graduate and undergraduate mathematics

tutors. In S. S. Karunakaran, Z. Reed, & A. Higgins (Eds.), *Proceedings of the Conference on Research in Undergraduate Mathematics Education*. (pp. 1030-1036). Boston, MA.

- Pilgrim, M. E., Burks, L., *Hill-Lindsay, S., & Ryals, M. (2020, February). Links between engagement in self-regulation and performance. In S. S. Karunakaran, Z. Reed, & A. Higgins (Eds.), *Proceedings of the Conference on Research in Undergraduate Mathematics Education*. (pp. 1070-1076). Boston, MA.
- Ryals, M., *Hill-Lindsay, S., Burks, L., & Pilgrim, M. E. (2020, February). Metacognition in college algebra: an analysis of "simple" mistakes. In S. S. Karunakaran, Z. Reed, & A. Higgins (Eds.), *Proceedings of the Conference on Research in Undergraduate Mathematics Education*. (pp. 493-501). Boston, MA.
- Ho, A. M., & Pilgrim, M. E. (2020, February). Communication and community: GTA perceptions on a professional development program. In S. S. Karunakaran, Z. Reed, & A. Higgins (Eds.), *Proceedings of the Conference on Research in Undergraduate Mathematics Education*. (pp. 1108-1113). Boston, MA.
- 11. Pilgrim, M. E., & Dick, T. (2019, August) Actively engaging in calculus to support all students. Proceedings of the 15th International Conference of The Mathematics Education for the Future Project Theory and Practice: An Interface or A Great Divide?. (pp. 462-466). Kildare, Ireland. https://www.wtm-verlag.de/rogerson-amorska-j-hrsg-the-mathematics-education-of-the-future-project-proceedings-of-the-15th-international-conference/
- 12. Pilgrim, M. E., & Dick, T. (2019, August) Learning (and learning teaching) by doing problems. Proceedings of the 15th International Conference of The Mathematics Education for the Future Project Theory and Practice: An Interface or A Great Divide?. (pp. 139-144). Kildare, Ireland. https://www.wtm-verlag.de/rogerson-a-morska-j-hrsg-the-mathematics-education-of-the-future-project-proceedings-of-the-15th-international-conference/
- Reinholz, D., Pilgrim, M. E., Falkenberg, K., Ngai, C., Quan, G., Wise, S., Geanious, C., Corbo, J., & Finkelstein, N. (2018, November). Departmental action teams: A five-year update on a model for sustainable change. *Proceedings The 2018 Reinvention Collaborative National Conference*. Arlington, VA.
- 14. *Sencindiver, B., Pilgrim, M. E., & Folkestad, J. E. (2018, November). Measuring self-regulated learning in Calculus I. In T. E. Hodges, G. J. Roy, & A. M. Tyminski (Eds.), Proceedings of the 40th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. (pp. 1255-1258). Greenville, SC: University of South Carolina & Clemson University.
- Corbo, J., Falkenberg, K., Ngai, C., Pilgrim, M., Quan, G., Reinholz, D., & Wise, S. (2018, March). Improving STEM education through departmental action teams. In *Abstracts of Papers of The American Chemical Society*. (Vol. 255). New Orleans, LA.

https://www.morressier.com/o/event/5fc63fa103137aa5257ba0c8/article/5fc640832d 78d1fec4647dcc

 *Sencindiver, B., Pilgrim, M. E., & Folkestad, J. E. (2018, February). Self-regulated learning: A framework for understanding disengagement in Calculus I. In A. Weinberg, C. Rasmussen, J. Rabin, M. Wawro, & S. Brown (Eds.), *Proceedings of* the Conference on Research in Undergraduate Mathematics Education. (pp. 1457-1463). San Diego, CA.

- Quan, G. M., Corbo, J. C., Ngai, C., Reinholz, D. L., & Pilgrim, M. E. (2018, August). Research on university faculty members' reasoning about how departments change. In A. Traxler., Y. Cao, & S. Wolf (Eds.), *Proceedings of the 2018 Physics Education Research Conference*. doi: 10.1119/perc.2018.pr.Quan
- 18. Corbo, J. C., Quan, G. M., Falkenberg, K., Geanious, C., Ngai, C., Pilgrim, M. E., Reinholz, D. L., & Wise, S. (2018, August). Externalizing the Core Principles of the Departmental Action Team (DAT) model. In A. Traxler., Y. Cao, & S. Wolf (Eds.), *Proceedings of the 2018 Physics Education Research Conference*. doi:10.1119/perc.2018.pr.Corbo
- Pilgrim, M. E., Folkestad, J. E., & *Sencindiver, B. (2017, March). Identifying nonregulators: Designing and deploying tools that detect self-regulation behaviors. In S. Shehata and J. P. Tan (Eds.), *Proceedings of the Learning Analytics and Knowledge Conference*. (pp. 100-105). Vancouver, BC, Canada.
- 20. Reinholz, D., & Pilgrim, M. E. (2013, February). Wait a minute...Is that enough to make a difference?. In S. Brown, G. Karakok, K. H. Roh, and M. Oehrtman (Eds.), *Proceedings of the Conference on Research in Undergraduate Mathematics Education*. (pp. 2-6102 -2-613). Denver, CO.

Refereed Proceedings from Grant Project Teams

- Yu, F., Taylor, B., Satyam, V. R., Segal, R., Beisiegel, M., & ELITE PD Research Group. (2023, February). "What is equitable teaching?": Graduate Teaching Assistants' perceptions of equity. In S. Cook, B. Katz, & D. Moore-Russo (Eds.), *Proceedings of the Conference on Research in Undergraduate Mathematics Education*. (pp. 1341-1342). Omaha, NE.
- Fifty, D., Zimmerman, S., Beisiegel, M., & ELITE PD Research Group. (2022, November). Investigating mathematics department leaders' experiences and understandings of equity. In A. E. Lischka, E. B. Dyer, R. S. Jones, J. N. Lovett, J. Strayer, & S. Drown (Eds.), *Proceedings of the Forty-Fourth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 1382-1389). Nashville, TN.

Refereed Journal Articles in Process

*Indicates graduate student author at time of publication.

- 1. Zahner, W., **Pilgrim, M. E.,** Stone-Johnstone, A., & Stringer, B. P. (under review). The paradox of throughput: How gateway mathematics reforms at a two-year Hispanic-serving institution succeeded by failing.
- 2. **Pilgrim, M. E.**, *Tenney, K., & Doe, S. (in revision). Building metaphors that describe evolving mathematics identity among mathematics graduate teaching assistants.
- 3. Ngai, C., **Pilgrim, M. E.**, Corbo, J. C., Falkenberg, K., Geanious, C., Reinholz, D. L., Smith, C. E., Stone-Johnstone, A., & Wise, S. (in revision). Guiding principles for change in undergraduate education: An analysis of a departmental team's change effort.
- 4. **Pilgrim, M. E.**, Burks, L., *Hill-Lindsay, S., & Ryals, M. (under review). College algebra students' perceptions of exam errors and the problem-solving process.

5. Ryals, M. *Hill-Lindsay, S., **Pilgrim, M. E.**, & Burks, L. (in revision). Simple mistakes in college algebra: An analysis of students' perceptions of their errors using attribution theory.

Non-refereed Journal Articles

[†]Undergraduate student co-author at time of publication.

- 1. Berger, D., **Pilgrim, M.**, & Leibold, J. (2019). Right triangles and the unit circle. *Wisconsin Teacher of Mathematics, Fall/Winter 2019*(1), 9-16.
- 2. **Pilgrim, M. E.**, & Dick, T. (2017). How math education can catch up to the 21st century. *The Conversation*. https://theconversation.com/how-math-education-can-catch-up-to-the-21st-century-77129.
- Pilgrim, M. E., & †Bloemker, J (2016). Connecting algebra to geometry: A transition summer camp for at-risk students. *Colorado Mathematics Teacher*, Spring 2016, 32-37.
- 4. Perego, J., & **Pilgrim, M. E.**, (2016). NCTM 2015 summer high school institute. *Colorado Mathematics Teacher*, Spring 2016, 29-31.
- 5. **Pilgrim, M. E.**, & Kennedy, P. (2014, Feb/March). Accommodating blind students taking mathematics. *Focus*, *34*(1), 41-43.
- 6. Dick, T., & **Pilgrim, M.** (2014, Jan/Feb). Powerful problems for preservice from Park City Mathematics Institute (PCMI). *The Oregon Mathematics Teacher*, p.24-25, 39.

Upcoming Invited Talks and Panels

1. **Pilgrim, M. E.** (2024, February). *Mathematics graduate teaching assistant preparation for teaching through the ELITE PD program.* Invited Talk. California State University San Marcos. San Marcos, CA.

Upcoming Invited Talks, Panels, Webinars, and Workshop Sessions 1.

Invited Talks, Panels, Webinars, and Workshop Sessions

- Pilgrim, M. E. (2024, January). *Mathematics graduate teaching assistant* preparation for teaching through the ELITE PD program. [Talk and Panel]. NSF Special Session on Outcomes and Innovations from NSF Undergraduate Education Programs in the Mathematical Sciences II. 2024 Joint Mathematics Meetings. San Francisco, CA.
- 2. **Pilgrim, M. E.**, & Zahner, W. (2023, December). *Mathematics persistence through inquiry and equity (MPIE)*. 2023 National Science Foundation Hispanic-Serving Institute STEM Resource Hub, Increasing student success in gateway courses webinar series [virtual webinar].
- 3. **Pilgrim, M. E.**, & Zahner, W. (2023, December). *Mathematics persistence through inquiry and equity (MPIE)*. 2023 San Diego State University Hispanic-Serving Institute Research Showcase. San Diego, CA.
- 4. **Pilgrim, M. E.** (2023, October). *College Algebra students' perceptions of exam errors and the problem-solving process.* Invited Talk. Department of Mathematics, Oregon State University. Corvallis, OR.

- 5. **Pilgrim, M. E.** (2023, March). *College Algebra students' perceptions of exam errors and the problem-solving process.* Invited Talk. Department of Mathematics, California State University San Marcos. San Marcos, CA.
- 6. **Pilgrim, M. E.** (2022, November). *College Algebra students' perceptions of exam errors and the problem-solving process.* Invited Talk. Department of Mathematics, University of Tennessee. Knoxville, TN.
- 7. Pilgrim, M. E. (2022, August). Online workshops OPEN opportunities for teachingfocused professional development. Panel, MathFest, Philadelphia, PA.
- 8. **Pilgrim, M. E.,** & Wilkes II, C. (2022, March). *Disrupting unproductive narratives in mathematics education through teacher beliefs and practice*. The Curtis Center's 15th Annual Math and Teaching Conference [virtual].
- Pilgrim, M. E. (2021, August). MAA Instructional Practices Guide Networking and Q&A Session. Panel [Sponsored by MAA Committee on the Teaching of Undergraduate Mathematics. Mathematical Association of America], MathFest [virtual].
- 10. **Pilgrim, M. E.** (2021, March). *Talking about equity, identity, and belonging*. Department Colloquium. Sonoma State University, Sonoma, CA.
- 11. **Pilgrim, M. E., &** Miller, E. (2020, October). *Measuring (under)graduate tutors' beliefs about teaching and learning mathematics*. Mathematics Education Seminar. Virginia Commonwealth University, Richmond, VA.
- 12. Pilgrim, M. E. (2019, November). Supporting students through Calculus I: The story of a stretched Calculus I course. Department Colloquium. California State University, Chico, CA.
- 13. **Pilgrim, M. E.** (2019, September). Supporting students through Calculus I: The story of a stretched Calculus I course. Department Colloquium. University of Tennessee, Knoxville, TN.
- 14. **Pilgrim, M. E.** (2019, March). *Promoting Active Engagement in Calculus I*. Department Colloquium-Workshop. Amherst College, Amherst, MA.
- 15. Pilgrim, M. E. (2019, March). *Departmental Action Teams: A Model for enacting and sustaining change*. Workshop. Amherst College, Amherst, MA.
- Pilgrim, M. E. (2018, August). *Teaching metacognition to enhance the learning of mathematics*. Project NExT Session Talk. Mathematical Association of America, MathFest, Denver, CO.
- 17. **Pilgrim, M. E.** & Swanson, R. (2018, April). *Active learning: What? Why? How?*. Mathematical Association of America Rocky Mountain Section Conference, Plenary Session. University of Northern Colorado, Greeley, CO.
- 18. Pilgrim, M. E. (2018, April). How can we support women & underrepresented groups through active learning?. MAA Rocky Mountain Section Conference, Keynote Talk. Mathematical Association of America Rocky Mountain Section of Project NExT. University of Northern Colorado, Greeley, CO.
- 19. **Pilgrim, M. E.** (2017, March). *Supporting MPACs and increasing student engagement in calculus*. 2017 T^{3TM} International Conference: Calculus Conference within a Conference, Chicago, IL.
- Pilgrim, M. E. (2016, June). Student support in Calculus I. Panel Discussion and Presentation. Mathematical Association of America Conference: Precalculus to Calculus: Insights & Recommendations, Saint Paul, MN.

- 21. **Pilgrim, M. E.** (2016, April). *Increasing student engagement in learning calculus*. Mathematics Department Colloquium. Oregon State University, Corvallis, OR.
- 22. **Pilgrim, M. E.** (2016, February). *Increasing student engagement in learning calculus*. Mathematics Department Colloquium. Western Washington University, Bellingham, WA.
- 23. **Pilgrim, M. E.** (2016, January). *Integrating writing in undergraduate courses*. Project NExT Panel Talk. Joint Mathematics Meetings, Seattle, WA.
- 24. **Pilgrim, M. E.** (2015, November). *Increasing student engagement in learning calculus through oral assessments, discourse, and writing*. Mathematics Department Colloquium. Wichita State University, Wichita, KS.
- 25. **Pilgrim, M. E.** (2015, November). *Increasing student engagement in learning calculus through oral assessments, discourse, and writing*. Mathematics Department Colloquium. Texas State University, San Marcos, TX.
- 26. **Pilgrim, M. E.** (2014, March) *A problem-based mathematics course*. Mathematics Department Seminar. University of Northern Colorado, Greeley, CO.
- 27. Burrill, G. (organizer), Kerins, B., **Pilgrim, M.**, & Yong, D. (2014, January). *Designing and implementing a problem-based mathematics course*. Mathematical Association of America Panel. Joint Mathematics Meetings, Baltimore, MD.
- 28. Burrill, G. (organizer), Dick, T., Ellis, W., & **Pilgrim, M.** (2014, January). *Interactive dynamic technology: Its role in teaching and learning calculus*. Mathematical Association of America Panel. Joint Mathematics Meetings, Baltimore, MD.
- 29. **Pilgrim, M. E.** (2013, September). *A conversation with Mary Pilgrim on problembased learning with pre-service math teachers using the PCMI materials.* Mathematics Education Seminar. University of Utah, Salt Lake City, UT.
- 30. **Pilgrim, M. E.** (2010, November) *Why are our students failing calculus*?. Keynote Talk for Grades 7-12 Teachers, Colorado State University Math Day. Colorado State University, Fort Collins, CO.

Conference Talks (unique from refereed conference proceedings)

* Graduate student co-presenter (at time of presentation).

- [†]Undergraduate student co-presenter (at time of presentation).
- Zahner, W., Pilgrim, M. E., Stone-Johnstone, A., & *Stringer, B. P. (2023, November). *The paradox of throughput: How gateway mathematics reforms at a twoyear Hispanic serving institution succeeded by failing*. The Second CSU Mathematical Conference. Bakersfield, CA.
- 2. *Jacome, N., & **Pilgrim, M. E.** (2023, November). *A look into two-year college mathematics instructors' conceptions about equity*. The Second CSU Mathematical Conference. Bakersfield, CA.
- 3. **Pilgrim, M. E.**, & Wilkes II, C. (2022, August). *Adapting professional development to meet the needs of two-year college instructors*. Abstract presented at MAA MathFest. Philadelphia, PA.
- 4. Stone-Johnstone, A., & **Pilgrim, M. E.** (2022, August). *Using Bolman and Deal's four frames as an analytical tool*. Abstract presented at MAA MathFest. Philadelphia, PA.
- 5. Beisiegel, M., **Pilgrim, M. E.**, Segal, R. A., Satyam, V. R., Fifty, D., Zimmerman, S., & *Hill-Lindsay, S. (2022, May). *Mathematics graduate teaching assistant*

professional development focused on implementation of evidence-based teaching practices. American Mathematical Society [virtual] Western Section Meeting.

- 6. Fifty, D., & **Pilgrim, M. E.** (2022, May). *Developing a sustainable MGTA PD program: Investigating cultural supports and challenges*. American Mathematical Society [virtual] Western Section Meeting.
- Pilgrim, M. E., Stone-Johnstone, A., *Stringer, B. P., Zahner, W. C., & Rhodehamel, B. (2022, April). *The paradox of throughput: How two-year college mathematics reform efforts succeeded through failure*. Paper presented at the Annual Meeting of the American Educational Research Association. San Diego, CA.
- 8. **Pilgrim, M. E., &** Miller, E. (2021, October). *Taking an Asset Perspective: What do students bring to the classroom?*. Ohio Council of Teachers of Mathematics Conference [virtual conference].
- 9. Stone-Johnstone, A., & **Pilgrim, M. E.** (2021, October). *Mathematics persistence through inquiry and equity at a two-year HSI*. Conference of the American Mathematical Association of Two-Year Colleges. Phoenix, AZ.
- 10. Offerdahl, E., **Pilgrim, M. E.**, Walter, E., & Ryker, K. (2021, June). *University* systems in the time of punctuated equilibrium: Understanding adaptations to rapid and unpredictable change. Transforming Institutions Conference 2021.
- 11. Dillon, F., & **Pilgrim, M. E.** (2021, April). *A Rational (Function) State of Mind*. The NCTM 2020 Virtual Conference.
- 12. Miller, E., & **Pilgrim, M. E.** (2021, April). *Measuring mathematics tutor/TA beliefs: An anti-deficit approach*. Southern Georgia Mathematics Conference, Statesboro, GA [virtual conference].
- 13. Pilgrim, M. E., & Reinholz, D. (2019, April). *Writing? But this isn't "English" class!* National Council of Teachers of Mathematics Annual Meeting, San Diego, CA.
- 14. **Pilgrim, M. E.**, & *Martinez, A. (2018, November). *Actively engaging in calculus*. California Mathematics Council-South Annual Conference, Palm Springs, CA.
- 15. **Pilgrim, M. E.**, & TerEick, A. (2018, May). Using the '5 Practices' to engage in *mathematics*. Minnesota Council of Teachers of Mathematics Annual Conference, Duluth, MN.
- *Hernandez, G., & Pilgrim, M. E. (2018, January). GTA professional development: Lessons learned from a non-STEM department. Joint Mathematics Meetings, San Diego, CA.
- 17. **Pilgrim, M. E.**, Reinholz, D., & Corbo, J. (2018, January). *Improving STEM education through departmental action teams*. Joint Mathematics Meetings, San Diego, CA.
- *Sencindiver, B., & Pilgrim, M. E. (2018, January). Measuring self-regulated learning: A tool for understanding disengagement in Calculus I. Joint Mathematics Meetings, San Diego, CA.
- 19. Pilgrim, M. E., & TerEick, A. (2017, September). Using the '5 Practices' to engage in mathematics. Colorado Council of Teachers of Mathematics Annual Conference, Denver, CO.
- 20. *Gehrtz, J., & **Pilgrim, M. E.** (2017, January). *Optimization problems: Understanding students' struggles.* Joint Mathematics Meetings, Atlanta, GA.

- 21. **Pilgrim, M. E.**, & *Sencindiver, B. (2017, January). Using analytics to better understand calculus students' weaknesses and learning behaviors. Joint Mathematics Meetings, Atlanta, GA.
- 22. Pilgrim, M. E., & *Gehrtz, J. (2016, April). *Increasing student engagement calculus through PBL, oral assessments, and writing*. National Council of Teachers of Mathematics Annual Meeting, San Francisco, CA.
- 23. Freeman, H., & **Pilgrim, M. E.** (2016, January). *Engaged learning through writing*. Joint Mathematics Meetings, Seattle, WA.
- 24. *Gehrtz, J., & Pilgrim, M. E. (2016, January). *Increasing student engagement in learning calculus*. Joint Mathematics Meetings, Seattle, WA.
- 25. **Pilgrim, M. E.**, & *Gehrtz, J. (2016, January). *Training GTAs to use evidence-based practices*. Joint Mathematics Meetings, Seattle, WA.
- 26. **Pilgrim, M. E.**, & *Gehrtz, J. (2015, August). *RAMScholars: Increasing student engagement in learning calculus through PBL, oral assessments, and writing.* MathFest, Washington, D.C.
- 27. Pilgrim, M. E., Doe, S., & Freeman, H. (2015, August). *Engaged learning through writing: A faculty development project*. MathFest, Washington, D.C.
- 28. **Pilgrim, M. E.**, Doe, S., Freeman, H. & Keifer K. (2015, April). *Engaged learning through writing: A faculty development project*. Mathematical Association of America Rocky Mountain Section Conference, Colorado Springs, CO.
- 29. **Pilgrim, M. E.**, (2014, November). *Modeling problem-based learning for preservice teachers*. National Council of Teachers of Mathematics Regional Conference, Houston, TX.
- 30. **Pilgrim, M. E.**, & †Bloemker, J. (2014, September). *The impact of an algebra camp on attitude and performance*. Colorado Council of Teachers of Mathematics Annual Conference, Denver, CO.
- 31. **Pilgrim, M. E.**, (2014, April). *Addressing the mathematical practices in calculus*. National Council of Teachers of Mathematics Annual Meeting, New Orleans, LA.

Conference Posters

- * Graduate student co-presenter (at time of presentation).
- 1. *Stringer, B., & **Pilgrim, M. E.** (2021, June). *Math Persistence through Inquiry and Equity (MPIE): A project for characterizing change at a two-year HSI*. Transforming Institutions Conference 2021. [Virtual]
- Beisiegel, M., Pilgrim, M. E., Miller, E., Zimmerman, S., & Fifty, D. (2021, June). Investigating Individual and Departmental Change in the Context of Mathematics Graduate Student Professional Development for Teaching. Transforming Institutions Conference 2021. [Virtual]
- 3. **Pilgrim, M. E.**, Gloeckner, G. W. J., & Klopfenstein, K. (2010, May). *Creating a deeper understanding of calculus: The analysis of a conceptual intervention*. American Educational Research Association Annual Meeting.

PROFESSIONAL SERVICE

Service for the Profession

1. External Mathematics Education Expert for Mathematics Education search committee. Department of Mathematics and Statistics, Idaho State University.

- 2. National Science Foundation Grant Review Panel: 2020, 2021, 2022
- 3. Manuscript Review
 - a) 2023 Present: International Journal of Research in Undergraduate Mathematics Education
 - b) 2020 Present: International Journal of STEM Education (journal articles)
 - c) 2020: Accelerating Systemic Change Network (volume contributions)
 - d) 2019 Present: Journal of Mathematics Teacher Education (journal articles)
 - e) 2017 Present: *Research in Undergraduate Mathematics Education* (conference papers)
 - f) 2016: Mathematics and Computer Education (journal article)
 - g) 2015 Present: *PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies* (journal articles)
- 4. National Committees
 - a) 2020 Present: Mathematical Association of America Committee on the Teaching of Undergraduate Mathematics (CTUM)
 - b) 2021 Present: Chair of CTUM Equity Pedagogies Working Group Subcommittee of CTUM
 - c) 2013 2018: Mathematical Association of America Committee on the Undergraduate Program in Mathematics (CUPM)
- 5. Spring 2018: Elections Chair: Colorado Council of Teachers of Mathematics

Department and College Level

- 1. Spring 2021 Present : Advisor, Master of Arts in Teaching Service (MATS) program, Department of Mathematics and Statistics, San Diego State University.
- 2. Fall 2021 Present: Teaching Excellence Committee, Department of Mathematics and Statistics, San Diego State University.
- 3. Fall 2020 Spring 2021: Undergraduate Development and Assessment Committee, Department of Mathematics and Statistics, San Diego State University.
- 4. Fall 2018 Present: Calculus Sequence Committee, Department of Mathematics and Statistics, San Diego State University
- 5. Fall 2013 Spring 2017: Various hiring committees, College of Natural Sciences, Colorado State University.

University Level

- 1. Fall 2023 Present: College of Sciences representative on University Faculty Senate, San Diego State University
- 2. Fall 2016 Spring 2017: Member of Committee on The Ethics of Learning Analytics at CSU, Colorado State University.
- Fall 2016 Fall 2017: Math orientation talks for incoming student groups (e.g., Engineering Bridge program for first year underrepresented and first-generation engineering students, Adult Learner and Veteran Services), Colorado State University.
- 4. Spring 2015 Fall 2016: Faculty Student Group Advisor for She's the First, Colorado State University.