

SABINA A. SCHILL

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EDUCATION

Ph.D., Environmental Engineering August 2021
University of Colorado, Boulder Boulder, CO

- Advisor: Dr. Angela Bielefeldt
- Dissertation: *“Understanding Undergraduate Student Mentors’ STEM Identity Development in K-12 STEM Outreach Programs: A Phenomenographic Approach”*
- University Coursework GPA: 4.0

B.Sc., Physics May 2015
Westminster College Salt Lake City, UT

- GPA: 3.89
- Honors: Summa Cum Laude, Honors College Certificate

RESEARCH AND TEACHING INTERESTS

K-12 engineering	STEM identity development	Engineering design
Mentoring	Undergraduate & graduate STEM education	Environmental Engineering

HONORS AND AWARDS

Mara H. Wasburn Early Engineering Educator Grant 2021
American Society for Engineering Education, Women in Engineering Division Board

Doctoral Symposium October 2019
Frontiers in Education Conference Cincinnati, OH

- Submission: *“Engineering Identity and K12 Outreach Mentors”*

Graduate Chancellor’s Award for Excellence in STEM Education 2019
University of Colorado, Boulder Boulder, CO

- Proposal: *“Am I an Engineer? Exploring Identity Developing of K12 STEM Outreach Mentors”*

Engineering Excellence Fund Mini Grant Spring 2019
University of Colorado, Boulder Boulder, CO

- Proposal: *“Engineering Identity and K12 Outreach Mentors”*

NSF GK-12 Fellowship May 2016 – May 2017
University of Colorado, Boulder Boulder, CO

Women Tech Awards Student Finalist 2014
Women Tech Council Salt Lake City, UT

WORK EXPERIENCE

Postdoctoral Associate August 2021 – Present
Florida International University Miami, FL

- Advisor: Dr. Bruk Berhane
- Collaborate on nationwide NSF-funded research study on Engineering For Us All (e4usa)
- Create and organize logistics to form sustainable Partnerships with high school teachers, administrators, and university partners

Graduate Research Assistant August 2019 – July 2021
University of Colorado, Boulder Boulder, CO

- Advisor: Dr. Angela Bielefeldt
- Investigated the impact of mentoring in K-12 outreach programs on undergraduates' STEM identities
- Submitted IRB protocol and documents for review at the University of Colorado Boulder and at multiple institutions involved in the research study
- Conducted IRB-approved semi-structured interviews with 23 coordinators of K-12 outreach and Learning Assistant (LA) programs nationwide and 31 current and former university students representing four universities nationwide
- Utilized qualitative analysis software MAXDQA to analyze interview transcripts
- Developed IRB-approved online pre-screening survey for program coordinator and student participants
- Utilized MS Excel and SPSS to analyze quantitative survey data

Graduate Mentor, CU Summer Program for Undergraduate Research 2017; 2019; 2021
University of Colorado, Boulder Boulder, CO

- Mentor undergraduate researcher on qualitative research project about mentoring and STEM identity development in LA programs (2021)
- Consulted with undergraduate students on research involving TeachEngineering.org curricula usage data (2017; 2019)
- Provided feedback on practice presentations and supported students by attending end-of-program final presentations

Content Reviewer & Copyeditor May 2016 - Present
TeachEngineering Digital Library Boulder, CO

- Edit and review submissions for STEM content accuracy and NGSS standards alignment, and ensure that activities are hands-on and engaging for students
- Collaborate with STEM professionals and CU Boulder faculty and staff to organize curricula, develop new activities, and ensure quality and consistency across content

Graduate Teaching Assistant 2017-2018 AY; Spring 2019
University of Colorado, Boulder Boulder, CO

- Provided support and instruction in various undergraduate environmental engineering courses:
 - Environmental Engineering Design (Spring 2019); Environmental Organic Chemistry (Spring 2018); Water Chemistry (Fall 2017): led office hours, graded assignments and exams

NSF GK-12 Fellow

May 2016 – May 2017

University of Colorado, Boulder

Boulder, CO

- Co-taught engineering activities to local elementary and high school students in in-class and afterschool settings
- Collaborated with other Fellows, K-12 teachers, and afterschool program coordinators to select and teach relevant and age- and ability-appropriate activities
- Developed and reviewed NGSS-aligned curricula for TeachEngineering Digital Library

Math Instructor

Dec. 2015 – May 2016

Mathnasium of Middletown

Middletown, DE

- Administered custom math worksheets to and worked one-on-one with K-12 students
- Motivated students through conversation, hands on- and computer-based math activities

Supplemental Instructor

Spring 2014 – Spring 2015

Westminster College

Salt Lake City, UT

- Supervised weekly study sessions for undergraduate students in introductory physics courses
- Encouraged group discussion of physics concepts

Undergraduate Teaching Assistant

2013-2014 AY; 2014-2015 AY

Westminster College

Salt Lake City, UT

- Supported learning for majors and non-majors in introductory algebra- and calculus-based physics courses
- Facilitated hands-on lab activities following the Workshop Physics method; graded assignments and exams
- Courses: Physics for Scientists & Engineers I (Fall 2013), Physics for Scientists & Engineers II (Spring 2014), Principles of Physics I (Fall 2014), Principles of Physics II (Spring 2015)

PUBLICATIONS AND PRESENTATIONS

- **Schill, S.A.**, Bielefeldt, A.R., Otero, V.K., (2020, Nov. 13). “Building STEM Identity Among Undergraduate Student Mentors,” 2020 LA Research Symposium, Virtual. (*poster presentation only*)
- **Schill, S.A.**, Bielefeldt, A.R. (2020, June 21-26). “WIP: What does it mean to mentor? Conceptions of mentoring in K12 outreach programs,” 2020 ASEE Virtual Annual Conference and Exposition. DOI: 10.18260/1-2--35703. URL: <https://peer.asee.org/35703>
- **Schill, S.A.** (2020, Apr. 13). “Am I an Engineer? Engineering Identity Development of K12 Outreach Mentors,” Discipline-based Education Research Seminar, University of Colorado, Boulder, Virtual.
- **Schill, S.A.** (2019, Nov. 19) “Am I an Engineer? Examining Identity Development of K12 Outreach Mentors,” Discipline-based Education Research Seminar, University of Colorado Boulder, Boulder, CO.
- **Schill, S.A.** (2019, Oct. 16-19). “Engineering Identity and K12 Outreach Mentors,” Doctoral Symposium, Frontiers in Education Conference, Cincinnati, OH.
- **Schill, S.A.** (2019, Sept. 23). “Am I an Engineer? Exploring Identity Development of K12 STEM Outreach Mentors,” The Center for STEM Learning’s 11th Annual Symposium on STEM Education, University of Colorado, Boulder, Boulder, CO. (*poster presentation only*)
- **Schill, S.A.**, Blackmon, J.C., Deibel, C.M., Macon, K.T., Rasco, B.C. (2015, Jan. 16-18). “Improving Performance of Charged-Particle Detector for Studies of Nuclear Reactions Occurring in Stellar Explosions,” Conference for Undergraduate Women in Physics, University of Brownsville, Brownsville, TX. (*poster presentation only*)
- **Schill, S.A.**, Blackmon, J.C., Deibel, C.M., Macon, K.T., Rasco, B.C. (2014, Oct. 7-11). “Improving Performance of Charged-Particle Detector for Studies of Nuclear Reactions Occurring in Stellar Explosions,” The Fourth Joint Meeting of the Nuclear Physics Divisions of the American Physical Society and The Physical Society of Japan, Hawaii Island, HI. (*poster presentation only*)

PROFESSIONAL DEVELOPMENT

Discipline-based Education Seminar Series

Florida International University
University of Colorado, Boulder

2021 – Present
2017 – 2021

Inclusive Communities of Practice Anti-Racism Reading Course

University of Colorado, Boulder

Fall 2020
Boulder, CO

Talking About Leaving Revisited Virtual Seminar Series

Summer - Fall 2020

CHEER-UP Virtual Seminar Series

Summer 2020

ASEE Annual Conference and Exposition

2021 ASEE Annual Conference and Exposition
2020 ASEE's Virtual Conference: At Home with Engineering Education
2019 ASEE Annual Conference and Exposition

July 2021; Virtual
June 2020; Virtual
June 2019; Tampa, FL

PROFESSIONAL AFFILIATIONS

American Society for Engineering Education, ASEE

2016 - Present