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EDUCATION

Ph.D., Engineering and Science Education, Clemson University **2020**

- Title: *Women Engineering Faculty Well-Being: An Interpretative Phenomenological Analysis*
 Investigated how women in engineering faculty positions incorporate well-being across personal and professional life domains in support of professional success by uncovering salient identities, barriers and challenges, and strategies engaged to maintain well-being.

M.S., Physics, Clemson University **2014**

- Title: *Understanding the Mechanism of Genetic Disease and Rescuing Effects through Small Molecule Binding*
 Investigated genetic mutations proposed to be associated with genetic mental disorders to predict disease potential of missense mutations through computational modeling.

B.S., Physics, Kent State University **2010**

RESEARCH EXPERIENCE

Research and career vision

Leverage qualitative research expertise to promote the professional and personal well-being of all working within higher education and other professional spaces. Additionally, to empower individuals and leaders to cultivate inclusive cultures by exploring the experiences of underrepresented communities to illuminate and challenge mechanisms of marginalization.

The Clemson University Office of Teaching Effectiveness and Innovation (OTEI)

Research Assistant

Collaborating with OTEI team to provide individuals teaching across the university with training and resources necessary to implement successful teaching methods while fostering community among instructors and between instructors and learners.

Major roles include leading teaching consultations with STEM faculty, hosting professional development workshops and conferences, assessing participant satisfaction for workshops and programs, assessing teaching effectiveness, developing materials related to evidence-based teaching for faculty and graduate students, and conducting research related to leveraging Faculty Learning Communities to enhance adoption of evidence-based approaches and develop community among faculty.

- Clemson University Office of Teaching Effectiveness and Innovation, Clemson University; Director Taimi Olsen. 2018 - present.

Department of Engineering and Science Education (ESED)**Research Assistant**

Project Title: *Who's Not at the Table?: Building Research Capacity for Underserved Communities in Engineering Conference*

Co-created, organized, and hosted a national conference (NSF grant #1551605) designed to build the capacity to conduct formal research on broadening the participation of underrepresented groups in engineering. Specifically, to establish a national research agenda for broadening the participation of persons self-identifying as LGBTQ+, veterans, low socioeconomic status/first-generation, or having disabilities in engineering.

Developed strategies for and led team in data collection, analysis, and dissemination.

- Collaboration between Clemson University, Drexel University, and University of Washington; PI Julie P. Martin. 2016 - 2018
- <https://inclusiveengineering.org/>

Project Title: *How Many Hats Do You Wear: Building Research Capacity for STEM Faculty Development Workshop*

Co-organized and hosted an NSF-sponsored national workshop (grant #1638888) to establish a national research agenda on STEM faculty development that focuses on holistic areas of teaching, research, service, and leadership. Themes explored include institutional barriers and supports, models of program implementation, and methods and questions to conduct research related to faculty development. Contributed to data collection, analysis, and dissemination.

- Collaboration between Clemson Departments of Education and ESED; PI Karen High. 2016 - 2017.
- <https://stemfacdev.org>

Project Title: *Clemson Online and STEM Faculty Development Collaboratory Module Development*

Developed online content and learning modules related to professional development for faculty and students within STEM disciplines.

- Collaboration between ESED and Clemson Online. 2017.

Project Title: *Developing Engineer of 2020 Traits: How do Non-Curricular Activities Impact African American Students?*

Qualitatively investigated the ways in which engagement with non-curricular organizations such as Minority in Engineering Programs, Black-Greek organizations, and the National Society of Black Engineers provide African American engineering students with engineering-related knowledge and professional skills recognized by the National Academy of Engineering as essential for engineering graduates in the year 2020.

- Social Capital (SoCap) Research Group, Clemson University; PI Julie P. Martin. 2014-2016.

Project Title: *Influence of Social Capital on Under-Represented Engineering Students' Academic and Career Decisions*

Qualitatively investigated the resources and persons engineering students cite as being important to their decisions to enter into and persist within engineering and to explore differences in the resources and persons identified between first-generation students and students whose parents attended college.

- SoCap Research Group, Clemson University; PI Julie P. Martin. 2014 - 2016.

Project Title: *Exploring Non-Normative Forms of Capital, Wealth, and Knowledge Used by Engineering Students*

Qualitatively investigated the non-normative skills and knowledge engineering students leverage in their persistence within their engineering program, along with the personal traits and experiences they perceive as advantageous or disadvantageous to them personally, to illuminate dimensions of, and resistance to, marginalization in engineering programs.

- SoCap Research Group, Clemson University; PI Julie P. Martin. 2014 - 2015.

The Clemson University Center for Workforce Development

Research Assistant

Developed and produced learning modules related to science, engineering, and computer science content for EducateWorkforce online courses.

- Clemson University Center for Workforce Development, Clemson University; PI Anand Gramopadhye. 2014.

Biophysics

Research Assistant

Computationally modeled molecular effects resulting from genetic missense mutations to predict disease potential of missense mutations

- Clemson University Computational Biophysics and Bioinformatics Lab; PI Emil Alexov. 2011-2014.

WEBINARS, WORKSHOPS, and RESEARCH PRESENTATIONS

Diversity and Inclusion Research

Steffl, S.K. (2019). *Learning Opportunities: Navigating Participant Trust and Comfort in Educational Research and Reporting*. Clemson University Department of Engineering and Science Education Seminar Series.

Jordan, S., Martin, J. P., Foster, C., **Steffl, S.K.** (2018). *Asset-Based Engineering Education for All*. Camp Engineering AfterNext: Provocation, Reflection, and Action., West Lafayette, IN.

Martin, J. P., **Steffl, S.K.**, Slaton, A. (2017) *A Guide to Organizing and Hosting Inclusive Events*. ASEE Minorities in Engineering (MIND) Division and WEPAN (invited national webinar).

<https://www.wepan.org/page/aseemindhie>

Faculty Teaching Professional Development

Olsen, T., Trogden, B., Pfirman, A., **Stefl, S.K.** (2019). *Assignment Design and Tuning Series*. Clemson University Undergraduate Studies and Office of Teaching Effectiveness and Innovation workshop series.

Walker, E., Boyer, D.M., Dancz, C., Olsen, T., **Stefl, S.K.**, Pfirman, A. (2019). *Why Gaming in Higher Ed Works: Promoting Participation in Your Classroom*. Clemson University CoCreate Collabfest workshop.

Stefl, S.K., Olsen, T., Fisk, A.S. (2019). *Generation Z World Cafe Dialogue*. Workshop and student-faculty round table dialogue.

Olsen, T., Lewis, L., **Stefl, S.K.** (2019). *Clemson New Faculty Teaching Conference*. Office of Teaching Effectiveness and Innovation and Clemson Online new faculty training conference.

Graduate Student Teaching Professional Development

Stefl, S.K., Pfirman, A. (2019). *Classroom Engagement Techniques for Teaching Assistants*. Clemson University Graduate School GRAD 360° workshop series.

Pfirman, A., **Stefl, S.K.** (2019). *Crafting Rubrics for Student Success*. Clemson University Graduate School GRAD 360° workshop series.

Engineering Education Special Sessions Facilitated

Session Title: *Yes, And... Re-Imagining a Future of an Inclusive Engineering Education System with Improv*

2019 Frontiers in Education Conference

- 90 minute session; used storytelling and improv techniques to illuminate experiences of a non-traditional engineering student and facilitated small group discussions to co-create a vision for what an asset-based engineering education system may look like.
- Session Facilitators: Jordan, S., Martin, J. P., **Stefl, S. K.**

Session Title: *Calling for Change: Findings from the “Who’s Not At The Table?” Conference and Emerging National Research Agenda*

2018 Women in Engineering ProActive Network (WEPAN) Change Leader Forum

- “Hi-5 For Change” 5 minute talk: summarized the critical findings from the conference, “Who’s Not at the Table: Building Research Capacity for Underserved Communities in Engineering” and presented examples of research methods, theories, research questions, and practices participants of the event identified as supporting inclusion.
- Session Facilitators: **Stefl, S.K.**, Martin, J.P.

Session Title: *STEM Faculty Development Research Agenda.*

2017 Frontiers in Education Conference

- 90 minute session; presented the preliminary national research agenda initiated for STEM Faculty Development resulting from NSF-sponsored workshop, and facilitated small group discussions to engage participants in reviewing and revising the agenda.
- Session Facilitators: High, K., **Stefl, S.K.**

Session Title: *Digging Into the Discomfort, Challenges and Barriers to Incorporating Diversity Education into Engineering Curricula.*

2017 Women in Engineering ProActive Network (WEPAN) Change Leader Forum

- 60 minute session; led and facilitated small and large group activities and discussions around perceptions of diversity and strategies for incorporating issues of diversity and inclusion into engineering courses and curricula.
- Session Facilitators: Lutz, B., Lee, W.C., Martin, J.P., **Stefl, S.K.**

Session Title: *Creating Inclusive Meetings: Lessons from the “Who’s Not at the Table?” Working Conference*

2017 Women in Engineering ProActive Network (WEPAN) Change Leader Forum

- “Hi-5 For Change” 5 minute talk: shared personal insights about challenges faced and strategies employed while designing inclusive and accessible physical spaces and culture and environment for their conference, “Who’s Not at the Table: Building Research Capacity for Underserved Communities in Engineering.”
- Session Facilitators: **Stefl, S.K.**, Martin, J.P.

Session Title: *Society's "Macro-narratives" About Diversity in Engineering: A Critical Dialogue.*

2016 Women in Engineering ProActive Network (WEPAN) Change Leader Forum

- 60 minute session; led small and large group brainstorms and discussions to identify and critically examine the institutional discourse and society’s stories surrounding the under-representation of women, and particularly women of color, in engineering.
- Session Facilitators: Martin, J.P., Lee, W.C., **Stefl, S.K.**, Riley, D.M.,

Session Title: *Developing an Asset-based Lexicon for Valuing Difference and Re-Envisioning the Culture of Engineering Education*

2015 Women in Engineering ProActive Network (WEPAN) Change Leader Forum

- 60 minute session; led small and large group discussions where participants shared their personal reflections of unearned advantages and disadvantages related to their role in engineering to illuminate the vast array of skills and knowledge possessed by underrepresented populations that are currently under-valued in engineering.
- Session Facilitators: Martin, J.P., **Stefl, S.K.**

Research Poster Presentations

Stefl, S. K. (2019). *Well-being and Engineering: Personal and Professional Well-Being Experiences of Tenured Female Engineering Faculty.* Clemson University Graduate Research

and Discovery Symposium.

Martin, J.P., **Stefl, S.K.**, Slaton, A. (2017) *Preliminary Findings From the Working Conference: “Who’s Not at the Table? Building Research Capacity for Underserved Communities in Engineering”*. NSF Grantees Poster Session, American Society for Engineering Education Annual Conference and Exhibition

Lee, D, **Stefl, S.K.**, Lee, C.M., Linder, S.M., Jamil, F.M, Deaton, C.C.M., High, K. (2017). *How Many Hats Do You Wear: Building Research Capacity for STEM Faculty Development Workshop*. NSF Grantees Poster Session, American Society for Engineering Education Annual Conference and Exhibition

Martin, J.P., Pfirman, A., Cain, L. **Stefl, S.K.** (2015). *A Conceptual Model of Engineering Student’s Social Capital: Access and Alters At Two Critical Time Points – A Work In Progress*. Georgia Institute of Technology 3rd Annual Science Technology Engineering and Math Research Exposition.

Stefl, S.K., Alexov, E. (2013). *Missense Mutations and Genetic Disease*. Clemson University Symposium for the Introduction to Research in Physics and Astronomy.

Stefl, S.K., Alexov, E. (2012) *Genetic Mutation Modeling*. Clemson University Biophysics Research Symposium.

PUBLICATIONS

Martin, J.P., **Stefl, S.K.**, Cain, L. W., Pfirman, A.L. (2020, in review). *Understanding First Generation Undergraduate Engineering Majors’ Entry and Persistence Through Social Capital Theory*. International Journal of STEM Education.

Martin, J.P., **Stefl, S.K.**, Slaton, A. (2017) *Preliminary Findings From the Working Conference: Who’s Not at the Table? Building Research Capacity for Underserved Communities in Engineering*. Proceedings of the American Society for Engineering Education Annual Conference and Exhibition.

Lee, D, **Stefl, S.K.**, Lee, C.M., Linder, S.M., Jamil, F.M, Deaton, C.C.M., High, K., (2017). *How Many Hats Do You Wear: Building Research Capacity for STEM Faculty Development Workshop*. Proceedings of the American Society for Engineering Education Annual Conference and Exhibition

Martin, J.P., Revelo, R.A., Garrett, S.D., **Stefl, S.K.** (2016). *Ethnic Student Organizations in Engineering: Implications for Practice from Two Studies*. Proceedings of the American Society for Engineering Education Annual Conference and Exhibition.

Martin, J.P., Brown, S., Miller, M.K., & **Stefl, S.K.** (2015). *Characterizing Engineering Student Social Capital in Relation to Demographics*. International Journal of Engineering

Education, 31(4), 914-926.

Martin, J.P., Pfirman, A.L., Anderson, R.S., **Stefl, S.K.**, Paige, F., & Cain, L. W. (2015). *A Series of Singular Testimonies: A New Way to Explore Unearned Advantages and Unearned Disadvantages*. Proceedings of the American Society for Engineering Education Annual Conference and Exhibition.

Petukh, M., Wu, B., **Stefl, S.**, Smith, N., Hyde-Volpe, D., Wang, L., & Alexov, E. (2014). *Chronic Beryllium Disease: Revealing the role of beryllium ion and small peptides binding to HLA-DP2*. PloS One, 9(11), e111604.

May, M., Hwang, K.S., Miles, J., Williams, C., Niranjana, T., Kahler, S.G., Chiurazzi, P., Steindl, K., Van Der Spek, P.J., Swagemakers, S., Mueller, J., **Stefl, S.**, Alexov, E., Ryu, J., Choi, J., Kim, H., Tarpey, P., Neri, G., Holloway, L., Skinner, C., Stevenson, R.E., Dorsky, R.I., Wang, T., Schwartz, C.E., Kim, C.H. (2015). *ZC4H2, an XLID gene, is required for the generation of a specific subset of CNS interneurons*. Human Molecular Genetics, ddv208.

Dolzhanskaya, N., Gonzalez, M. A., Sperziani, F., **Stefl, S.**, Messing, J., Wen, G. Y., ... & Velinov, M. (2014). *A novel p. Leu (381) Phe mutation in presenilin 1 is associated with very early onset and unusually fast progressing dementia as well as lysosomal inclusions typically seen in Kufs disease*. Journal of Alzheimer's Disease, 39(1), 23-27.

Stefl, S., Nishi, H., Petukh, M., Panchenko, A. R., & Alexov, E. (2013). *Molecular mechanisms of disease-causing missense mutations*. Journal of Molecular Biology, 425(21), 3919-3936.

Petukh, M., **Stefl, S.**, & Alexov, E. (2013). *The role of protonation states in ligand-receptor recognition and binding*. Current pharmaceutical design, 19(23), 4182-4190.

AWARDS

Research, Teaching, Service, and Performance Awards

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|---|------|
| Outstanding Graduate Student, President's Commission on the Status of Women | 2019 |
| <ul style="list-style-type: none"> • Awarded by the President's Commission on the Status of Women for exemplary service to Clemson University to improve the status of women at all levels | |
| Outstanding Graduate Researcher, Department of Engineering and Science Education | 2017 |
| <ul style="list-style-type: none"> • Awarded by the Department of Engineering and Science Education at Clemson University for performance in and dedication to excellence in research | |
| Best Diversity Paper in the Educational and Research Methods Division of the American Society for Engineering Education conference | 2015 |
| <ul style="list-style-type: none"> • Award plaque and financial prize bestowed on authors in recognition of exceptional research paper related to student diversity in engineering | |
| Outstanding Graduate Teaching Assistant, College of Engineering and Science | 2013 |

- Awarded by the college for performance in and dedication to excellence in teaching for undergraduate physics laboratory courses at Clemson university

Departmental Leadership Award, Department of Physics 2010

- Nominated for and voted on by the Kent State University Physics Department faculty

Departmental Award for The Center for Nuclear Research 2009

- Nominated for and voted on by the Kent State University Physics Department faculty

Funding

Clemson University Graduate Student Professional Enrichment Grant 2017

- Research Methods Training at Harding University; \$750

Clemson University Graduate Student Professional Enrichment Grant 2016

- The American Society for Engineering Education conference; \$750

Clemson University Graduate Student Professional Enrichment Grant 2015

- The American Society for Engineering Education conference; \$750

Clemson University Graduate Student Professional Enrichment Grant 2015

- The American Association of Physics Teachers conference; \$750

TEACHING EXPERIENCE and PROFESSIONAL DEVELOPMENT

Faculty Development Leader and STEM Teaching Consultant 2018 - 2020, Clemson

Course Instructor for undergraduate physics laboratory course 2013 - 2014, Clemson

Course Leader for undergraduate physics laboratory course 2012 - 2014, Clemson

Teaching Assistant for undergraduate physics laboratory course 2011 - 2014, Clemson

Online Training Certificate 2019, Cornell University

- Teaching & Learning in the Diverse Classroom

SERVICE and OUTREACH

Panel speaker at Clemson Graduate Teaching Assistant Training for the College of Engineering and Science 2014 - 2019

Reviewer for American Society for Engineering Education conference 2014 - 2019

Clemson Elementary School Science Fair Judge 2016 - 2018

Clemson University Graduate Student Government Senator	2015 - 2016
Reviewer for Computational and Mathematical Methods in Medicine	2013
Physics and Astronomy K-12 science outreach volunteer	2012 - 2014

MEMBERSHIPS

Women In Engineering ProActive Network (WEPAN)	2014- present
The American Society for Engineering Education (ASEE)	2014- present
Professional and Organizational Development Network In Higher Education (POD)	2018- present
Women In Physics	2011- 2017
American Association of Physics Teachers	2014- 2015
Sigma Pi Sigma	2011- 2014