Justin C. Major, PhD

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Academic Positions

Rowan University | Glassboro, New Jersey **September 2022 - Present**
Assistant Professor of Experiential Engineering Education (ExEEd)

Purdue University | West Lafayette, Indiana **May 2022 - August 2022**
Research Assistant, School of Engineering Education

Education

Purdue University | West Lafayette, Indiana **May 2022**
Doctor of Philosophy, Engineering Education
Advisor: Dr. Allison Godwin (School of Engineering Education, Purdue University),
Remaining Committee: Dr. Alice Pawley (School of Engineering Education, Purdue University),
Dr. Matt Ohland (School of Engineering Education, Purdue University), Dr. Paul Dean (Department of Sociology and Anthropology, Ohio-Wesleyan University), & Dr. Kelly Cross (Department of Engineering Education, University of Nevada, Reno)

Dissertation Title: *"More than income: Socioeconomic inequality, trauma, and the pathways of low-income undergraduate engineering students"*

Abstract: There is little doubt that socioeconomic inequality unduly impacts the pathways of socioeconomically disadvantaged students (SDS) in engineering. Past and present scholarship suggests that inequitable access to physical and interpersonal resources, such as is experienced by many SDS, inhibits K-16+ students' ability to engage in Science, Technology, Engineering, and Mathematics (STEM) meaningfully. This lack of access has been shown to negatively impact development of perceptions that may lead to SDS' pursuit of, and success in, engineering. Thus far, quantitative studies seeking to understand SDS' trajectories to and through, and within, engineering have used income as a proxy for socioeconomic disadvantage. However, such measures are not theoretically positioned to accurately depict or account for the complex sociological processes that lead to, or result from, socioeconomic inequality. Furthermore, such measures do not account for parallel inequalities such as racism, sexism, and classism that exist, influence, and are influenced by socioeconomic inequality. Noting these observations, the purpose of this work was to: 1) develop a more sociologically accurate measure of socioeconomic inequality, 2) to use that measure to identify the impacts of such inequality on SDS' pathways to and through engineering, and finally, 3) to explore the narrative experiences of SDS when accounting for a more accurate depiction. Using a Critical Realist Feminist approach to structural equation modeling, data from the National Center for Education Statistics' Educational Longitudinal Study of 2002 (ELS:2002) as well as other supplemental data were constructed into a more representative measure of socioeconomic disadvantage, the Model of Socioeconomic Inequality (Study 1). Using the Model, it was identified that neighborhood location and conditions, level of Parent Educational Involvement, and availability of Household Educational Resources heavily, and negatively, impact SDS' opportunities to engage and succeed in engineering and college more broadly (Study 2). Furthermore, the model suggests that such interactions are uniquely mediated by the intersectional inequalities experienced by SDS and their families. Finally, to better understand the lived experiences of SDS amongst their pathways to and through engineering, the experiences of Samantha, a Queer Asian American female SDS graduating from Computer Science Engineering, and who has low scores on Parent Educational Involvement and Household Educational Resources suggesting she is theoretically less likely

to succeed, is explored (Study 3). Samantha's narrative shows the important role that the above factors had in her experiences. Specifically, Samantha had little access to Parent Educational Involvement and Household Educational Resources through her parents. Rather, these forms of support came from what she referred to as her ``chosen family,'' a group of professors, co-workers, friends, and others who viewed and supported her identity authentically and provided her physical resources when she needed them. Access to this group and the resources they provided built up Samantha's feelings of belonging in engineering helping her to and through engineering. However, Samantha's narrative also uncovered findings not included in the Model of Socioeconomic Inequality. Specifically, Samantha's narrative suggested she had experienced a multitude of significant, long-term trauma that was both related and unrelated to her socioeconomic experiences. All of the above forms of trauma negatively impacted Samantha's feelings of belonging and caused her to question her place in engineering, only reversed by the support of her chosen family. The included studies challenge current engineering education thinking regarding the knowledge and study of socioeconomics, trauma, and Intersectionality more broadly. They also challenge engineering education researchers and practitioners to question the current methods of how they support SDS in a multitude of spaces.

Purdue University | West Lafayette, Indiana **December 2021**
Masters of Science, Aerospace Engineering – Focus: Structures & Materials
Under Non-Thesis Advisement of Dr. Michael Sangid

Purdue University | West Lafayette, Indiana **December 2021**
Certificate of Inclusive Excellence

University of Nevada, Reno | Reno, Nevada **May 2017**
Bachelors of Science, Mechanical Engineering, Minor in Mathematics
Bachelors of Science, Secondary Education in Mathematics, Focus in Engineering Education
Under Engineering Education Advisement of Dr. Adam Kirn.

- **Capstone Project:** Solar-thermal water heating for microbrewing systems
- **Engineering Education Senior Project:** Design self-efficacy in active learning spaces

Sponsored Research ($1,365,909; Rowan Share: $997,760)

National Science Foundation; S-STEM (DUE-2438112) **2024**
EAGER: Narrating the experiences of low-income engineering students and their traditional and chosen families
PI, $299,304; Rowan University Share: $299,304

2024

New Jersey Office of the Secretary of Higher Education (OSHE)
Investigating and addressing accessibility in food insecurity at Rowan University
PI, $15,000; Rowan University Share: $15,000

National Science Foundation; EHR:CORE (DUE-2400607) **2024**
Collaborative Research: Surviving vs. Thriving: How Undergraduate Engineering Students' Conceptualizations of Wellness in Engineering Programs and Careers Develop and Manifest
PI, $1,255,719; Rowan University Share: $577,266

Engineering Unleashed Fellowship; Kern Family Foundation **2024**
An investigation into marginalized engineering students' perceptions of Entrepreneurial Mindset
PI, $10,000; Rowan University Share: $10,000

New Jersey Office of the Secretary of Higher Education (OSHE) **2024**
Building a data-driven capacity to address food insecurity at Rowan University (RU)
PI, $94,065.26; Rowan University Share: $94,065.26

Graduate Research Funding

Bilsland Dissertation Fellowship **2022**
Purdue University Graduate School Fellowship Office

National Science Foundation (NSF) **2017-2022**
Graduate Research Fellowship Program (DGE-1333468)

Dramatic Order of the Knights of Khorassan Academic Scholarship **2021**
Dramatic Order of the Knights of Khorassan

Graduate Research Assistant **2020-2021**
NSF Award #DGE-1626287: "The Role of Non-Cognitive and Affective (NCA) Factors in Engineering and Computing Student Academic Performance"

Grant Advisory Board Membership

Virginia Polytechnic University S-STEM Research Hub (DUE-2138188) **2023-Present**

Consultancies

Engineer Inclusion, Inc. – Dallas, Texas **2021-Present**

Food Finders Food Bank, Inc – Lafayette, Indiana **2021**

Department of Engineering Education – Virginia Tech **2019**

Additional Research Projects

NSF Awards #DGE-1626287, 1626185, and 1626148: "The Role of Non-Cognitive and Affective (NCA) Factors in Engineering and Computing Student Academic Performance" **2019-2022**

NSF Award #DUE-1161052: "Outreach Programs and Science Career Intentions (OPSCI)" **2017-2018**

NSF Award #EEC-1531174: "Building supports for diversity through engineering teams" **2016-2019**

NSF Award #EEC-1428523: "Collaborative Research: Intersectionality of Non-normative Identities in the Cultures of Engineering (InIce)" **2014-2019**

Other Non-Award Related Work

Other Non-Award Related Work **2015-2020**
Active learning and student development of design self-efficacy and identity

Engineering students' perceptions of the future **2014-2016**

Journal Publications

1. **Major, J. C.,** Scheidt, M., Godwin, A., Kim, S., Chen, J., Self, B., Berger, E. Institutional characteristics' relationships to student non-cognitive and affective (NCA) profiles (2023). *International Journal of Engineering Education, 39*(3), 668-684. https://www.ijee.ie/latestissues/Vol39-3/16_ijee4341.pdf

2. Perkins, H., Ge, J., Scheidt, M., **Major, J. C.**, Chen, J, Berger, E., Godwin, A. (2021). Well-being supports and barriers for engineering student belonging. *International Journal of Community Well-Being,* 1-32. https://link.springer.com/article/10.1007%2Fs42413-021-00149-Z

3. Godwin, A., Benedict, B., Rohde, J., Thielmeyer, A., Perkins, H., **Major, J. C.,** Clements, H. R., Chen, Z. (2021). New epistemological perspectives on quantitative methods: An example using topological data analysis. *Studies in Engineering Education, 2*(1), 16-34. http://doi.org/10.21061/see.18

4. Gesun, J., **Major, J. C.,** Berger, E., Loui, M., Froiland, J., Jenson, K., Godwin, A. (2021). A theory of engineering thriving to redefine student success. *Studies in Engineering Education, 2*(2), 19-41. http://doi.org/10.21061/see.9

5. **Major, J. C.** (2020). To cross the picket line, or join it: Facing engineering education's role in the socioeconomic exploitation of marginalized peoples to further a discipline [Guest Editorial]. *Journal of Engineering Education 109*(2), 1-7. https://doi.org/10.1002/jee.20313

6. **Major, J. C.**, Carberry, A., Kirn, A., (2020). Revisiting a measure of engineering design self-efficacy. *International Journal of Engineering Education, 36*(2), pp. 1-13. https://www.ijee.ie/latestissues/Vol36-2/20_ijee3909.pdf

Journal Publications or Book Chapters Under Review or In Revisions

7. Jackson, A., Lavine, B., Jamison, C. S. E.*, & **Major, J.*** Escaping from the Stress of Engineering: Effects of "Engineering Adjacent" Activities on Engineering Students' Identity-Based Motivation. *In Revisions for Studies in Engineering Education.*
**Equal Authorship*

8. Brozina, C., **Major, J. C.** Advanced Statistical and Structural Modeling (Book Chapter). *Under Review for International Handbook on Educational Research.*

9. **Major, J. C.** A systematic literature review of the mathematics experiences of intersectionally-situated socioeconomically disadvantaged students. *Under Review in the Journal of Women and Minorities in Science and Engineering.*

10. Cano, M., & **Major, J. C.** A Scoping Review of Adverse Childhood Experiences in College Populations. *Under Review with the Journal of Trauma Studies in Education.*

Peer-Reviewed Conference Publications

1. Cano-Morales, M., & **Major, J. C.** (2025, December). Gender crossroads at work: Supports and barriers for women engineers in Colombia. *LACCEI International Multiconference on Entrepreneurship, Innovation, and Regional Development*. Cartagena, Colombia.

2. Quadd, A., **Major, J. C.**, & Godwin, A. (2025, October). Combatting quantitative erasure of LGBTQIA+ students through an investigation of their engineering identity and sense of belonging. *Frontiers in Education*. Nashville, TN.

3. Khorsandi Koujel, N., **Major, J. C.**, & Farrell, S. (2025, October). Exploring the impact of pre-college resources and support on spatial skills development in undergraduate engineering students. *Frontiers in Education*. Nashville, TN.

4. **Major, J. C.**, Jensen, K., Head, K., Panuganti, S. S., Quadd, A. (2025, June) Investigating the development and manifestation of engineering students' conceptualizations of well-being in engineering programs and careers. *American Society for Engineering Education Annual Meeting*. Montreal, Canada.

5. Currey, M., Cruz, J., Mallouk, K., Farrell, S., **Major, J. C.** (2025, June). Engineering persistence: Assessing initiatives for first-year engineering students. *American Society for Engineering Education Annual Meeting*. Montreal, Canada.

6. Jackson, A., **Major, J. C.**, Burch, R., Hurley, P. (2025, June). WIP: Introducing thriving in a first-year engineering course. *American Society for Engineering Education Annual Meeting*. Montreal, Canada.

7. Cano-Morales, M. L., Velandia-Morales, A., **Major, J. C.** (2025, March). Adapting Psychosocial Scales to Measure Career Exit Factors in Colombian Women Engineers. *International Conference on Gender Research*. Porto, Portugal.

8. Cano, M. L., & **Major, J. C.** (2024, October). Women's Experiences in Latin American Engineering Contexts: A Systematized Literature Review. *Frontiers in Education Conference*. Washington, DC.

9. Khorsandi Koujel, N., & **Major, J. C.** (2024, October). An Exploration of the Intersectional Distribution of Physical, Social, and Emotional Resources in Engineering. *Frontiers in Education Conference*. Washington, DC.

10. **Major, J. C.,** & Cimino, R. T. (2024, October). Confirmatory Evidence for a Survey of Skill and Attitude Development on Engineering Teams. *Frontiers in Education Conference*. Washington, DC.

11. **Major, J. C.,** & Cimino, R. T. (2024, June). Initial Validity Evidence for a Survey of Skill and Attitude Development on Engineering Teams. *American Society for Engineering Education Annual Meeting*. Portland, OR.

12. Panuganti, S., & **Major, J. C.** (2024, June). WIP: Accomplices and Allies: The Role of Chosen Family in Empowering Engineering Students. *American Society for Engineering Education Annual Meeting*. Portland, OR.

13. Jamison, C. S. E., **Major, J. C.**, Jackson, A., Bodnar, C. (2023, June). Impacts of engineering-adjacent participation on identity and motivation in engineering. *American Society for Engineering Education Annual Meeting*. Baltimore, MD.

14. Perkins, H. L., Godwin, A., Berger, E. J., **Major, J. C.** (2022, June). Potential of a values affirmation intervention for marginalized gender students' belonging and recognition. *American Society for Engineering Education Annual Meeting*. Minneapolis, MN.

15. **Major, J. C.,** Tallman, T. N. (2021, July). Student Paper: The current state of pedagogy on nondestructive methods in engineering education. *American Society for Engineering Education Annual Meeting*. Long Beach, CA. https://peer.asee.org/37749

16. Perkins, H., Scheidt, M., **Major, J. C.,** Godwin, A., Berger, E. (2021, July). Modeling trajectories of latent classes to understand the academic performance of engineering students. *American Society for Engineering Education Annual Meeting*. Long Beach, CA. https://peer.asee.org/37514

17. **Major, J. C.**, Godwin A., Kirn, A. (2021, January). Working to achieve equitable access to engineering by redefining disciplinary standards for the use and dissemination of demographics in quantitative studies. *Annual Conference of the Collaborative Network for Engineering and Computing Diversity (CoNECD)*. Washington, D.C.
https://peer.asee.org/working-to-achieve-equitable-access-to-engineering-by-redefining-disciplinary-standards-for-the-use-and-dissemination-of-demographics-in-quantitative-studies

18. Foster, E., Riley, D. M., Haverkamp, A., Fatehiboroujeni, S., **Major, J. C.** (2021, January). Week of Action; #EngineersShowUp as intersectional advocates. *Annual Conference of the Collaborative Network for Engineering and Computing Diversity (CoNECD)*. Washington, D.C. https://peer.asee.org/week-of-action-engineersshowup-as-intersectional-advocates

19. **Major, J. C.**, Scheidt, M., Godwin, A., Berger, E. J., Chen, J. (2020, June). Effects of test anxiety on engineering students' STEM success. *American Society for Engineering Education Annual Meeting*. Montreal, Quebec, Canada. https://doi.org/10.18260/1-2--34511
    - Significant Achievement: Awarded 2020 Best Diversity Paper of the Educational Research & Methods Division of the American Society for Engineering Education.

20. Krest, L., **Major. J. C.**, Scheidt, M., Ge, J., Self, B. P., Chen, J., Widmann, J. M., Godwin, A., Berger, E. J. (2020). Examining the importance of non-cognitive and affective (NCA) factors for engineering student success. *American Society for Engineering Education Annual Meeting*. Montreal, Quebec, Canada. https://doi.org/10.18260/1-2--34618

21. Rodriguez-Simmonds, H. E., Langus, T. C., Pearson, N. S., **Major, J. C.**, Kirn, A., Godwin, A. (2020, June). Interpersonal interactions in engineering teams: Findings from a multi-year mixed methods study at three institutions. *American Society for Engineering Education Annual Meeting*. Montreal, Quebec, Canada. https://doi.org/10.18260/1-2--34869

22. Chen, J., Landy, J. M., Scheidt, M., **Major, J. C.**, Ge, J., Chambers, C. E., Grigorian, C., Kerfs, M., Berger, E. J., Godwin, A., Self, B. P., Widmann, J. M. (2020, June). Learning in clusters: Exploring the association between non-cognitive and affective profiles of engineering students and academic performance. *American Society for Engineering Education Annual Meeting*. Montreal, Quebec, Canada. https://doi.org/10.18260/1-2--34901

23. **Major, J. C.** (2019, October). Class-passing and citizen-passing in engineering education: How Nando succeeded by hiding in plain sight. *Frontiers in Education Conference.* Covington, KY. https://doi.org/10.1109/FIE43999.2019.9028591

24. Scheidt, M., **Major J. C.**, Ge, J., Godwin, A., Berger, E., Chen, J., Self, B., Widmann, J., Gates, A. (2019, October). Exploring the relationship between non-cognitive and affective (NCA) competencies and first-year retention of undergraduates in engineering. *Frontiers in Education Conference.* Covington, KY. https://doi.org/10.1109/FIE43999.2019.9028532

25. **Major, J. C.**, Carberry, A., Kirn, A., (2019, May). Revisiting a measure of engineering design self-efficacy. *Clive L. Dym Harvey Mudd Design Workshop.* Claremont, CA.

26. Langus, T. C., Pearson, N., **Major, J. C.**, Godwin, A., Kirn, A., (2019, June). How traumatic events help shape social exclusion in engineering teams. *American Society for Engineering Education Annual Meeting.* Tampa, FL. https://doi.org/10.18260/1-2--33625

27. **Major, J. C.**, Godwin, A., (2019, June). WIP: An intersectional conceptual framework for understanding how to measure socioeconomic inequality in engineering education. *American Society for Engineering Education Annual Meeting.* Tampa, FL. https://doi.org/10.18260/1-2--33594

28. Ge, J., **Major, J. C.**, Berger, E., Godwin, A., (2019, June). WIP: Teaching undergraduate engineering students gratitude, meaning, and mindfulness. *American Society for Engineering Education Annual Meeting.* Tampa, FL. https://doi.org/10.18260/1-2--33358

29. Scheidt, M., Godwin, A., Chen, J., Ge, J., Self, B. P., Widmann, J. M. **Major, J. C.**, Berger, E., (2019, June). Validity evidence for a survey measuring engineering and computing students' non-cognitive and affective profiles (Part II). *American Society for Engineering Education Annual Meeting.* Tampa, FL. https://doi.org/10.18260/1-2--32474

30. Dandridge, T. M, Al Yagoub, H., Cleare, S. S., **Major, J. C.**, Raye, S. R., Wright, C. E., Pawley, A. (2019, April). Engaging in STEM education equity work through a course: Studying race, class, and gender theory in engineering education. *Annual Conference of the Collaborative Network for Engineering and Computing Diversity (CoNECD).* Washington, D.C. https://peer.asee.org/31757

31. **Major J. C.**, Godwin, A. (2018, October). Towards making the invisible engineer visible: A review of low-socioeconomic students' barriers experiencing college STEM education. *Frontiers in Education Annual Conference.* San Jose, CA. https://doi.org/ 10.1109/FIE.2018.8659241

32. Miller, B., **Major, J. C.**, Kirn, A., Feil-Seifer, D., (2018, October). WIP: Unplugged robotics to increase K-12 students' engineering interest and attitudes. *Frontiers in Education Annual Conference.* San Jose, CA. https://doi.org/ 10.1109/FIE.2018.8658959

33. **Major J. C.**, Godwin, A., Sonnert, G. (2018, June). STEM experiences of students from low-socioeconomic neighborhoods. *American Society for Engineering Education Annual Meeting.* Salt Lake City, UT. https://doi.org/10.18260/1-2--30990

34. Pearson, N., **Major, J. C.**, Godwin, A., Kirn, A., (2018, June). Using social network analysis to study the social structures of inclusion. *American Society for Engineering Education Annual Meeting*. Salt Lake City, UT. https://doi.org/10.18260/1-2--31211

35. Rodriguez, H., Godwin, A., **Major, J. C.**, Pearson, N., Langus, T., Kirn, A., (2018, June). Interpersonal interactions that foster inclusion: Building supports for diversity in engineering teams. *American Society for Engineering Education Annual Meeting*. Salt Lake City, UT. https://doi.org/10.18260/1-2--29906

36. Langus, T., **Major, J. C.**, Pearson, N., Kirn, A., Rodriguez, H., Godwin, A. (2018, June). Social dialogue in the engineering classroom: The effect of national events on the political and social attitudes of first-year engineering students. *American Society for Engineering Education Annual Meeting*. Salt Lake City, UT. https://doi.org/10.18260/1-2--30970

37. **Major, J. C.**, Kirn, A., (2017, June) Engineering identity and project-based learning: How does active learning develop student engineering identity? *American Society for Engineering Education Annual Meeting*. Columbus, OH. https://doi.org/10.18260/1-2--28255

38. **Major, J. C.,** Kirn, A., (2016, June) Engineering design self-efficacy and project-based learning: How does active learning influence student attitudes and beliefs? *American Society for Engineering Education Annual Meeting*. Seattle, WA. https://doi.org/10.18260/p.26637

39. **Major, J. C.**, Boone, H., Tsugawa, M., McGough, C., Kirn, A., and Benson, L. (2016, March). Engineering student's perceptions of the future: Transferability and replication of time perspective classifications. *National Association for Research in Science Teaching (NARST) Annual Meeting*. Baltimore, MD. https://narst.org/conferences/2016-annual-conference

Workshops

S-STEM Summer Institute – Virginia Tech **July 15-17, 2024**

Dana Center ReCenter **September 25-27, 2023**
"ReCentering Historically Marginalized Students' Mathematics Experiences for Intersectional Justice"

National Science Foundation **September 6, 2023**
"Unothering the less visible elements of diversity"

Panel Participation

American Society for Engineering Education Annual Conference **June, 24, 2025**
"Empathetic and Useful Paper Reviews: Perspectives from Authors, Reviewers and Editors"

American Society for Engineering Education Annual Conference **June, 24, 2025**
"Hidden Narratives in Data: Unveiling Insights with Person-Centered and Critical Quantitative Methods"

American Society for Engineering Education Annual Conference **June 24, 2024**
"Advancing Person-Centered Approaches and Critical Quantitative Approaches in Engineering Education"

American Society for Engineering Education | Engineering Dean's Institute **April 17, 2023**
"Unothering the less visible elements of diversity"

American Society for Engineering Education Annual Meeting **July 27, 2021**
"Alternative pathways for engineering education predicated on dismantling hierarchies and examining the politics of care practices"

Annual Conference of the Collaborative Network for Engineering and Computing Diversity (CoNECD) **January 24, 2021**
"Week of action: #EngineersShowUp as intersectional advocates"

Invited Talks

Virginia Polytechnic University S-STEM Research Hub **March 23, 2023**
"In the trenches: Pursuing topics that methods that uncover and address the needs of socioeconomically disadvantaged students"

Charles A. Dana Center at UT Austin Launch Years Kickoff Conference **November, 2, 2022**
"From income to intersectional inequality: Overcoming inequities in mathematics school achievement by challenging default definitions of socioeconomic disadvantage"

Food Finder's Food Bank, Inc **September 30, 2021**
"Sociological trends in Food Finder's Food Bank resource use"

AERA Division D Inclusion & Equity Committee Supporting Black Lives **May 27, 2021**
"Introducing FemQuant and a broader reflexivity in numeration"

AERA Division D Inclusion & Equity Committee Supporting Black Lives **March 29, 2021**
"An introduction to QuantCrit: Beginning to support Black lives through numbers"

Ohio State University | Engineering Education Seminar Series (Virtual) **October 15, 2020**
"Challenging norms with numbers: Revisiting "who counts" in engineering education research and how quantitative research can adapt"

Professional Training & Certification

National Science Foundation/North Carolina State University **2025**
Scholar; Learning Analytics in STEM Education Research (LASER) Institute

National Science Foundation/John's Hopkins University **2024**
Scholar; Institute in Critical Quantitative, Computational, and Mixed Methodologies (ICQCM)

Rowan University **2024**
Mental Health First Aid

Rowan University **2023**
Foundations of Diversity, Equity, and Inclusion (Level Two) – Antiracist Pedagogies and Practices

Rowan University **2022**
Foundations of Diversity, Equity, and Inclusion (Level One)

Rowan University **2022**
QPR Suicide Gatekeeper Training

National Center for Education Statistics **2019-Present**
Cleared for restricted access to:

- Educational Longitudinal Study of 2002 (ELS:2002)
- High School Longitudinal Study of 2009 (HSLS:09)

Purdue University **2019**
QPR Suicide Gatekeeper Training

Intercultural Development Inventory (IDI) **2018**
Development of a plan for improving intercultural competence

American Society for Engineering Education (ASEE) **2017-2019**
Safe Zone Training – Level 1, 2, 3, & Transgender-Specific

Purdue University | Department of Psychology **2017**
Handling Missing Data Training

National Council of Examiners for Engineering and Surveying (NCEES) **2017**
Fundamentals of Engineering Examination (FE)

Educational Testing Service (ETS) **2014**
Praxis I Teaching Examination

Teaching, Mentorship, Educational Support & Educational Service

Junior-Senior Engineering Clinic (JSEC) | Rowan University **Fall 2022-Present**
Instructor of Record

ENGR 01101: First-Year Engineering Clinic I (FEC I) | Rowan University **Fall 2022, Fall 2023, Fall 2024, Fall 2025**
Instructor of Record

XEED 01660: Research Design in Engineering Education | Rowan University **Spring 2024**
Instructor of Record

ENGR 01102: First-Year Engineering Clinic II (FEC II) | Rowan University — **Spring 2023, Spring 2025**
Instructor of Record

ENE 505: Theories of Development and Engineering Thinking | Purdue University — **Spring 2022**
Graduate Teaching Assistant with Dr. Tamara Moore

ENE 695: Race, Class, and Gender | Purdue University — **Spring 2020**
Volunteer Apprentice Faculty under Dr. Alice Pawley

AutCraft Minecraft Server for Children with Autism & Their Families — **2013-2017**
Volunteer Administration & Adult Mentorship | www.autcraft.com |

McQueen High School | Reno, Nevada — **2016**
High School Teaching Practicum – Advanced Placement Physics; Advanced Placement Calculus

Vaughn Middle School | Reno, Nevada — **2015**
Middle School Teaching Practicum – International Baccalaureate Professional Skills

Mobile Engineering Education Lab (ME^{2}L) | University of Nevada, Reno — **2012-2015**
Student Instruction & Curriculum Development| Engineering Education Curriculum Development

Department of Mechanical Engineering | University of Nevada, Reno — **2013-2015**
Mechanical Engineering Student Ambassador & Tour Guide

For Inspiration & Recognition of Science and Technology (FIRST) — **2013-2014**
State of Nevada Senior Mentor

Boys & Girls Club of Truckee Meadows | Reno, Nevada — **2012-2014**
Camp Counselor | Volunteer Assistant of Science and Technology Education

Graduate Advising and Committee Membership

Advising:

Ash Quadd, Rowan University (Degree expected 2027)
Fatemeh Miramadi, Rowan University (Degree expected 2029)
Narjes Khorsandi Koujel, Rowan University (Degree expected 2027)

Martha Morales Lucia Cano, Rowan University (Graduated Summer 2025)

Committee Membership:

Brittany Butler, Rowan University (Degree expected Spring 2025)
Sri Sowmya Panuganti, Purdue University (Degree expected Spring 2027)
Elizabeth "Betsy" Strehl, University of Michigan (Degree expected Spring 2027)

Savanna Dualte, Rowan University (Graduated Summer 2024)
Darby Riley, Rowan University (Graduated Spring 2025)
Cayla Ritz, Rowan University (Graduated Spring 2025)

National Affiliation & Service

National Science Foundation Panelist **N.D.**
5 panels since 2022; 2 site visits since 2022

Journal of Educational Policy **2021-Present**
Reviewer (1 article since 2021)

American Education Research Association **2020-Present**
Active participant Division-D: Measurement & Research Methodology Division
Active participant Division-D: Working group: Supporting Black lives using quantitative research

Studies in Engineering Education **2019-Present**
Reviewer (7 articles since 2021)

Journal of Women and Minorities in Science and Engineering **2019-Present**
Reviewer (5 articles since 2019)

Journal of Engineering Education **2019-Present**
Reviewer (7 articles since 2019)

Frontiers in Education **2016-Present**
Reviewer | Conference Session Moderation

American Society for Engineering Education **2014-Present**
Reviewer | Conference Session Moderation | Student Division - Co-Program Chair (2015-2016) | Educational Research & Methods Division – Director-at-Large (2018 – 2022) |
Educational Research & Methods Division – Welcoming Committee Chair (2019 – 2022)

#EngineersShowUp: Changing Cultures of Oppression in Engineering **2019-2022**
Social Media & Website Development

Order of the Engineer | University of Nevada Reno **2017**

National Association for Research in Science Teaching **2016**
Conference Session Moderation

American Society for Mechanical Engineers **2014-2016**

Institutional Affiliation & Service

Holistic Engagement And Response to Trauma (HEART) Team | Rowan University **2023-Present**

University-College Steering Committee | Rowan University **2023-Present**

Affordability Task Force | Rowan University **2022-Present**

Diversity, Equity, and Inclusion; Recruitment and Retention Task Force | Rowan University **2022-Present**

Engineering Education Community Team | Purdue University

Engineering Education Graduate Committee | Purdue University **2019-2021**
Junior Chair (2019 – 2020) | Senior Chair (2020 – 2021)

Theta Tau Co-Ed Engineering Fraternity | Rho Delta Chapter **2015-2017**
Philanthropy Chair (2015) | Scribe (2016-2017) | Pledge Instructor (2017)

Blue Key Honor Society | University of Nevada, Reno Chapter **2014-2017**
Chapter Founding Member (2014) | Secretary (2015)

Alpha Epsilon Pi Fraternity | Upsilon Nu Chapter **2011-2017**
Philanthropy Chair (2012) | Gold & Blue Housing Manager (2012-2013)

Civic Service

Tippecanoe County Board of Elections | Lafayette, Indiana **2020**
Absentee Ballot Processor | Election Official by Traveling Board |
Early Election Voting Supervisor | Election Day-of Site Supervisor

Community Affiliation & Service

South Jersey Primary Immunodeficiency Group | New Jersey **2023-Present**

South Jersey Fermentation Club |New Jersey **2022-Present**

Dramatic Order of the Knights of Khorassan | Lafayette, Indiana **2021-2022**

Optimist International Club | Reno, Nevada | Lafayette, Indiana **2013-2022**
Executive Board Member (2018 – 2020) | Technology & Website Chair (2017 – 2022)

Fraternal Order Knights of Pythias | Reno, Nevada & Lafayette, Indiana **2012-2022**
Past Chancellor (2016, 2021-2022) | Chancellor Commander (2015; 2020) |
Vice-Chancellor Commander (2014, 2019)| Master at Arms (2013, 2021-2022)

Northern Nevada MathWorks | Reno, Nevada **2013-2017**
Event Volunteer (2013-2017) | Planning Committee (2013-2017)

Northern Nevada Science Olympiads | Reno, Nevada **2013-2017**
Event Volunteer | Planning Committee (2014-2017)

Northern Nevada MathCounts | Reno, Nevada **2012-2017**
Event Volunteer (2012-2017) | Planning Committee (2013-2017) | Board Member (2015-2017)

Nevada STEMducation | University of Nevada, Reno **2012-2017**
Founding President (2012-2017)

Northern Nevada FIRST | Reno, Nevada **2011-2017**
Event Volunteer (2011-2017) | Planning Committee (2012-2017) | Board Member (2012-2017)

Honors and Awards

Frances S. Johnson Faculty Innovative Teaching Award | Rowan University **2025**

Engineering Unleashed Fellow | Kern Family Foundation **2024**

College of Engineering Outstanding Service Scholarship Award | Purdue University **2022**

Recognition of Service During COVID-19 | Lafayette Breakfast Optimist Club **2020**

Best Diversity Paper | Educational Research & Methods Division | American Society for Engineering Education **2020**

Continuing Service Award | Lafayette Breakfast Optimist Club **2018**

Honorary Member | Society of Women Engineers Sierra Nevada Section **2017**

The Albert Henry Senior Public Service Award | University of Nevada, Reno **2017**
Significant Achievement: 1400 hours of community service in six years

Theta Tau National Foundation All-Academic Team Award | Theta Tau - Nationals **2017**

Theta Tau Rho Delta Chapter Brother of the Semester | Theta Tau – Rho Delta **2016**

FTC Western United States Volunteer of The Year Award | CalFIRST **2016**

Club President of the Year Runner-Up | ASUN - University of Nevada, Reno **2015**

Silver Paw Student Engagement Award | ASUN - University of Nevada, Reno	**2015**
FIRST Tech Challenge Western United States Volunteer of The Year Award	**2015**
Silver Paw Student Engagement Award | ASUN - University of Nevada, Reno	**2014**
Upsilon Nu Brotherhood Award | Alpha Epsilon Pi Fraternity – Upsilon Nu	**2013**
Philanthropic Excellence Award | Alpha Epsilon Pi Fraternity – Upsilon Nu	**2013**
Outstanding Young Adult Mentor | Northern Nevada FIRST	**2012**
Outstanding Technology Volunteer | Boys & Girls Club of Truckee Meadows	**2012**
Las Vegas Young Community Hero Award | KTNV-ABC Las Vegas	**2010**