# **DEIRDRE D. RAGAN, PhD**

DEINDRE D. KAGAN, I IID			
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SELECTED HONORS AND	AWARDS		
Engineering Unleashed Fellow	with the Kern Family Foundation		2023
Citadel Excellence in Service A	Award		2023
Southern Conference Faculty o	f the Year		2023
Citadel Undergraduate Teachin	g Excellence Award		2022
Phi Kappa Phi Honor Society			2022
National Collegiate Honors Con	uncil Faculty Award: Developing C	ourse Material	2021
Omicron Delta Kappa Leadersh	nip Honor Society		2019
Lowcountry Engineer of the Ye	ear (Charleston Engineering Joint Co	ouncil)	2019
Oxford ISGAP Scholar (Oxford	d University, St. John's College, Eng	gland)	2019
Graduate Student Excellence in	Teaching Award		1997
Fulbright Research Fellowship	in Sweden		1995
EDUCATION			
University of California at Sant	a Barbara, College of Engineering (	Santa Barbara, CA)	
PhD in Materials: "The	Effect of Cation Dopants on Phase Transfo	ormations in Alumina"	1999
MS in Materials: "Decc	hesion of Thin Films in Microelectronic Ci	ircuits"	1995

<b>MS in Materials:</b> "Decohesion of Thin Films in Microelectronic Circuits"	1995
Rice University, School of Engineering (Houston, TX)	
BS in Materials Science and Engineering	1992

# EXPERIENCE

The Citadel Honors Program (Charleston, SC)2014 – PresentFounded in 1987, The Citadel Honors Program focuses on building a community of academically curious<br/>learners, offering interesting and challenging courses, and developing each student for their future career.<br/>Director2018 – Present

Areas of focus include

- Lead: Establish and operate a program mission and vision that develops and supports a community of high-achieving students; Align with institutional goals
- Mentor: Meet with each Honors Program student monthly for personal and professional development, focusing on aptitudes, interests, and experiences needed for post-graduate success; Help students develop plans for high-impact experiences including study away, research, and internships
- Advise: Assist students in building academic course schedules; Verify progress towards graduation and Honors Program completion; Ensure accuracy of records presented in Degree Works degree audit software; Assist students in navigating academic policies
- Recruit: Work collaboratively with Financial Aid and Admissions to identify and recruit high school students; Establish effective processes and timelines for selection of each Honors Program cohort; Act as a liaison for prospective students and their families; Serve as Chair of the Scholarships Committee to select participants for multiple selective programs
- Assess: Annually measure teaching, learning, and experiential outcomes; Analyze data to determine progress towards goals and areas for improvement; Ensure alignment between course objectives, program objectives, and strategic plan
- Collaborate: Work with other departments to organize Honors Program classes for future semesters; Partner with other selective academic enrichment programs to create overlapping academic and enrichment activities

- Innovate: Engage in ongoing education for continual improvement in teaching approaches and methods to boost Honors course engagement and learning; Provide input and guidance to faculty teaching Honors Program courses
- Connect: Engage current students, alumni, faculty, and administration in program planning and interactions; Provide continued support to young alumni by writing recommendation letters and reviewing applications and proposals for post-baccalaureate goals
- Honors Community: Hold leadership roles and promote student involvement in the regional and national Honors organizations; Engage in scholarship to enhance the Honors community
- Manage: Maintain Honors Program operations including processes and procedures, budgeting, and supervising staff; Create courses within Banner Enterprise Resource Planning system
- Serve: Utilize my talents and passions to benefit, impact, develop, and encourage those in the program, the institution, and the community (see Service on page 9)
- Advocate: Partner with all to foster belonging; Reinforce the unarguable value that each person brings; Act as a campus leader and trainer for Conflict Resolution and Diversity workshops for faculty, staff, and students through the National Coalition Building Institute curriculum
- Communicate: Summarize and report annual successes, milestones, and opportunities to students, alumni, faculty, and institutional leadership
- Instruct: Develop and teach multidisciplinary Honors courses; Utilize Canvas Learning Management System to organize and communicate assignments and grades to students

Honors Undergraduate Courses Developed and Taught:	
First-year Experience in Honors	Fall 2018 – Present
First-Year Honors Seminar	
A Matter of Thinking	Fall 2022, 2023
Logic, Learning, Belief, and Persuasion	Fall 2021
Periodic Explorers: Exploration and Innovation	Fall 2019, 2020
Upper-class Honors Special Topics Seminar	
Bias, Information, and Decision-Making	Spring 2023
Factfulness	Spring 2022
Cultures and Controversy	Spring 2021
Controversy and Critical Thinking	Spring 2019
Honors Personal and Professional Development Tutorials	Fall 2018 – Present
Additional Institution Courses Taught:	
Ethics in Leadership Fa	11 2018, 2019, 2022, 2023

Incoming Director: Begin to assume Honors Program Director responsibilities2017 – 2018Administrative Assistant: Serve as sole support staff to Honors Program Director2014 – 2018Areas of focus included2014 – 2018

- Relationships: Develop rapport and understanding of Honors Program students such that they view the Honors Program office as a compassionate, dedicated resource for success
- Communication: Ensure that all communications regarding program status, events, and course announcements are relevant, accurate, and updated

• Data Management: Create metrics for all Honors Program students and applicants; Maintain complete, error-free records on cadets and prospective students

The Citadel Mechanical Engineering Department (Charleston, SC)	2017 - Present
Assistant Professor	2020 - Present
Visiting Assistant Professor	2018 - 2020
Adjunct Professor	2017 - 2018

Areas of focus include

- Teaching: Instruct undergraduate and graduate students; Utilize Canvas Learning Management System to plan and communicate assignments and grades to students
- Curriculum development: Update existing courses to keep content relevant and impactful; Develop new courses to extend student options both within Mechanical Engineering and within core curriculum offerings
- Service: represent of the School of Engineering at college and community events
- Mentor and Advise: Provide academic advising to students; Encourage student involvement in research

Undergraduate Courses:	
Introduction to Materials	Fall 2017, 2018, 2019, 2021, 2022
Advanced Materials	Fall 2020, Spring 2023
Engineering Design	Spring 2018, 2019, 2020, 2022
Grand Challenges of the 21 <sup>st</sup> Century	Spring 2021
Graduate Courses:	
Fracture and Fatigue	Summer 2019, Spring 2020
Advanced Engineering Design	Fall 2023

# **Providence Preschool** (Daniel Island, SC)

Director

Responsibilities: Create a positive, welcoming school environment for parents and students; Develop age-appropriate curriculum for toddler to Pre-K classrooms; Balance resources to provide a quality environment while minimizing costs; Train and Manage all personnel; Maintain budget records; Create and distribute monthly newsletters and other regular communication with school families; Report to Board of Directors.

Lead Teacher, Kindergarten Readiness (4K) class Responsibilities: Design and implement age-appropriate, developmental class lessons to

ensure continual progress toward kindergarten readiness; Utilize multiple instruction techniques to assist students with different learning styles; Create a culture of open communication with parents; Collaborate with and mentor assistant teacher.

# Creative Learning Center for Very Young Children (Winston-Salem, NC)

Lead Teacher, 2 to 3-year old's classroom

Responsibilities: Create opportunities for learning through play with age-appropriate materials; Develop foundational language and math literacy skills with books, art, blocks, and other toys.

# **PPG Industries, Inc.** (Harmarville, PA)

# Development Project Engineer, Glass New Product Development

Responsibilities: Conceive and fabricate nanotechnology-related products for automotive and architectural glass; Focus on process optimization of surface treatments done in situ during glass formation; Work with development team to create prototypes for design

2011 - 2014

2007 - 2008

2001 - 2004

2012 - 2014

selection; Drive technology transfer with national laboratories; Lead educational outreach program to regional at-risk students.

## PPG Industries, Inc. (Allison Park, PA)

 Chemist, Automotive Powder Coatings
 1999 – 2001

 Responsibilities: Explore and optimize the incorporation of inorganic nanoparticles into polymeric coatings; Make and evaluate the performance of various polymeric prototypes when subjected to extreme environmental conditions; Direct a university research project (at the University of Arkansas) on process optimization of electrostatic application parameters and chemical formulation of polymeric coatings

 University of California, Santa Barbara
 1996 - 1999

 Graduate Researcher, Materials
 1996 - 1999

Responsibilities: Develop thin film fabrication technology and testing methodology for measuring the effect of ions on crystal phase transformations. Dean of Engineering Search Committee 1998 Invited to be the sole graduate representative on committee Graduate Teaching Assistant, Materials (Course: Graduate Thermodynamics) 1996 - 1997 Responsibilities: Hold weekly office hours to assist graduate students; Host study sessions; Design study guides; Lead class in the absence of the professor **Uppsala University** (Uppsala, Sweden) 1995 - 1996 Visiting Fulbright Researcher, Solid-State Physics Responsibilities: Investigate the fabrication and behavior of various electrochromic materials; Create functional prototypes for marketing purposes; Collaborate with multiple researchers in other disciplines to characterize material behavior. University of California, Santa Barbara (Santa Barbara, CA) 1992 - 1995 Graduate Researcher Responsibilities: Create and utilize microelectronics processing techniques for determining the weakest interface in a thin film stack. Rice University Admissions Office (Houston, TX) 1991 - Present Alumni Recruiter and Interviewer Responsibilities: Act as a regional representative of the university; Conduct interviews of prospective students; Provide information about the university at regional college fairs. Texas Instruments, Inc. (Houston, TX) summer 1991

### Summer Intern

Responsibilities: Verify the failure of fabricated circuits due to voltage cycling.

Los Alamos National Laboratory (Los Alamos, NM)	summers 1988-90, 1992-1994
Undergraduate Researcher	
Posponsibilities: Measure the behavior of meterials when	subjected to static high pressures:

Responsibilities: Measure the behavior of materials when subjected to static high-pressures; Maintain a Department of Energy Q-Level (Top Secret) Clearance

PRESENTATIONS (KEYNOTES, PANELS, WORKSHOPS, and POSTERS)	
Doing Honors at Small Colleges: Challenges, Opportunities, and Data	2022
National Collegiate Honors Council Conference (Dallas, TX)	
Students in Honors: Introducing Yourself/Making Elevator Pitches	2022
National Collegiate Honors Council Conference (Dallas, TX)	

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Beginning in Honors Workshop National Collegiate Honors Council Conference (Dallas, TX)		
"Prepare for the Journey" Convocation Address to The Citadel Class of 2026 (Charleston, SC)		
"Using Web-based Textbook to Improve Students' Unders American Society of Engineering Education Southeastern		
"Humanitarian Development and Engineering Design as a Foundation 2 for Multidisciplinary Learning" National Collegiate Honors Council Conference (Orlando, FL)		
"Change?" Omicron Delta Kappa Keynote Address (Charleston, SC)	2021	
<ul><li>"Examining the Impact of Collaborative Homework on Student</li><li>Performance in an Engineering Materials Course"</li><li>American Society of Engineering Education Southeastern Section Conference (virtual)</li></ul>		
"Solar Powered Dehydrator" American Society of Engineering Education Southeastern	2021 Section Conference (virtual)	
"Potentials and Limitations of Face to Face and Hybrid Teaching Modes" 2021 American Society of Engineering Education Southeastern Section Conference (virtual)		
"Appreciating Diversity" National Coalition Building Institute (Charleston, SC)	multiple workshops in 2021 - Present	
"Controversy and Conflict Resolution" National Coalition Building Institute (Charleston, SC)	multiple workshops in 2020 - Present	
"The Impact of Storytelling" ReStart Conference (national)	multiple conferences in 2020 - 2021	
"Intentional and Efficient Networking" Ellevate Network Lunch&Learn (Charleston, SC)	2020	
"Game-Based Tools for Learning"202CEITL-DE Faculty-Development Training (Charleston, SC)		
"The Citadel: Not Your Typical College" ISGAP Conference (Oxford, England)	2019	
"Temperature Comparison of Hybrid, Sealed, and Steel Ba Summer Undergrad Research Project poster (Charleston, S	•	
"Building Your Network" ReStart Workshop (Mt. Pleasant, SC)	2018	
"Job Searching" ReStart Conference (Mt. Pleasant, SC)	2018	

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"A Structured Course in Personal and Professional Development" Southern Regional Honors Council Conference (Asheville, NC)	2017
"Dream Big: Discover Your Passion" Seacoast TEDTalx (Charleston, SC)	2017
"Superstar Interviewing" ReStart Conference (Mt. Pleasant, SC)	2015 - 2018
"Elementary School Science Fairs: Parent Involvement" Forsyth County Schools (Winston-Salem, NC)	2010
"Powder Electrostatics" PPG Industries, Inc., (Pittsburgh, PA)	1999
"The Effect of Cation Dopants on Phase Transformations in Alumina" University of California at Santa Barbara	1999
"Phase Transformations in Alumina Thin Films" PPG Industries, Inc. (Pittsburgh, PA)	1998
"Using Time Resolved Reflectivity to Monitor Planar Transformations in Alumina" University of California at Santa Barbara (Santa Barbara, CA)	1997
"An Investigation of Electrochromic Ni-Oxide Based Films" University of California at Santa Barbara (Santa Barbara, CA)	1996
"Electrochromic Ti-Ce Oxides" Electrochemical Society (San Antonio, TX)	1996
"Electrochromic Research at Uppsala University" PPG Industries, Inc. (Pittsburgh, PA)	1996
"An Investigation of NiO <sub>x</sub> H <sub>y</sub> Films" Uppsala University (Uppsala, Sweden)	1996
"Decohesion of Thin Films in Microelectronic Circuits" University of California at Santa Barbara (Santa Barbara, CA)	1995
"A Novel Method for Determining Strain Energy in Thin Films" University of California at Santa Barbara (Santa Barbara, CA)	1994
"Electrochromism of WO <sub>3</sub> " University of California at Santa Barbara (Santa Barbara, CA)	1994
"Ruby Fluorescence: A Technique for Measuring Stress" University of California at Santa Barbara (Santa Barbara, CA)	1993
"The Use of Silicone Fluid as a Pressure Medium in Diamond Anvil Cells" Los Alamos National Laboratory (Los Alamos, NM)	1993

**PUBLICATIONS** "The Troublesome Treasure", D. Ragan, Engineering Unleashed, April 29, 2023. https://engineeringunleashed.com/card/3573

## Deirdre D. Ragan, PhD

"Assessing Students' Metacognitive Skills in a Summer Undergraduate Research Program", S. Ghanat, D. Garner, T. Wittman, M. Hefner, D. Ragan, T. Le-Vasicek, E. Bierman, B. Adair-Hudson, proceedings of American Society of Engineering Education Conference, June 26-29, 2022

*Leadership 101: The First-Year Experience*, T. Shealy, E. Connor, D. Ragan, 11<sup>th</sup> edition, published June 2022

"Using Web-based Textbook to Improve Students' Understanding of Materials Science", M. Bubacz, D. Ragan, proceedings of 2022 American Society of Engineering Education Southeastern Conference, March 13-15, 2022

"Student-Instructor Academic Relationships: Effects of Background and Culture", G. Elamin, M. Bubacz, A. DeVoria, R. Rabb, D. Ragan, P. Niksiar, proceedings of 2022 American Society of Engineering Education Southeastern Conference, March 13-15, 2022

"Emerging Ways to Conquer Education Challenges in Times of COVID-19 and Their Influence on Students' Academic Performance", P. Niksiar, M. Bubacz, D. Ragan, G. Elamin, P. Bass, *Journal of Higher Education Theory and Practice* Vol. 21(13) 2021

"Examining the Impact of Collaborative Homework on Student Performance in an Engineering Materials Course", D. Ragan, J. Geathers, proceedings of 2021 American Society of Engineering Education Southeastern Conference, virtual conference, March 8-11, 2021

"Solar Powered Dehydrator", J. Plumblee, E. Bierman, D. Ragan, proceedings of 2021 American Society of Engineering Education Southeastern Conference, virtual conference, March 8-11, 2021

"Potentials and Limitations of Face to Face and Hybrid Teaching Modes", M. Bubacz, P. Niksiar, G. Elamin, D. Ragan, P. Bass, proceedings of 2021 American Society of Engineering Education Southeastern Conference, virtual conference, March 8-11, 2021

"Student Perception on Ethics and Intercultural Issues in Introduction to Mechanical Design Course", M. Bubacz, D. Ragan, K Skenes, proceedings of 2020 American Society of Engineering Education Southeastern Conference, Auburn, Alabama, March 8-10, 2020

"Introducing Competition to Improve Design Aptitudes in Introduction to Mechanical Design Course", M. Bubacz, D. Ragan, N. Washuta, K Skenes, proceedings of 2020 American Society of Engineering Education Southeastern Conference, Auburn, Alabama, March 8-10, 2020

"Comparison of Mentors' and Mentees' Perceptions of Mentees' Research Skill Gains at The Citadel", S. T. Ghanat, M. K. Zanin, D. Garner, D. Ragan, J. M. Plumblee, D.B. Bornstein, J.H. Lewis, proceedings of American Society of Engineering Education 126th Annual Conference and Exposition, Tampa, Florida, June 16-19, 2019

"Small Mentoring Efforts that Make a Big Difference for Retention," R. Rabb, R. Welch, W. Davis, D. Ragan, J. Geathers, proceedings of American Society of Engineering Education 126th Annual Conference and Exposition, Tampa, Florida, June 16-19, 2019

"A Structured Course in Personal and Professional Development," D.D. Ragan, *Honors in Practice* **14** (2018)

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"How to Prepare for a Science Fair: A Guide for Parents," D.D. Ragan, Forsyth County School District (2010)

"The effect of yttrium and erbium ions on the epitaxial phase transformations in alumina," D.D. Ragan, T. Mates, D.R. Clarke, *J. Amer. Ceramic Society* **86**, 541 (2003)

"Electrochromic Ni oxide films studied by magnetic measurements," D.D. Ragan, P. Svedlindh, C.G. Granqvist, *Solar Energy Materials and Solar Cells* **54**, 247 (1998)

"Optically passive counter electrodes for electrochromic devices: transition metal-cerium oxide thin films," A. Azens, L. Kullman, D.D. Ragan, C.G. Granqvist, *Solar Energy Materials and Solar Cells* **54**, 85 (1998)

"Magnetic measurements on electrochromic Ni-oxide-based films," D.D. Ragan, P. Svedlindh, C.G. Granqvist, *J. Appl. Phys.* **82**, 1759 (1997)

"Cerium-containing counter electrodes for transparent electrochromic devices," L. Kullman, M. Veszelei, D. D. Ragan, J. Isidorsson, G. Vaivars, U. Kanders, A. Azens, S. Schelle, B. Hjorvarsson, C. G. Granqvist, in *Optical Organic and Semiconductor Inorganic Materials*, E. A. Silinsh, A. Medvid, A. R. Lusis, and A. O. Ozols, eds., Proc. SPIE 2968, 219–224 (1997).

"Electrochromic properties of Ti-Ce oxides: the effect of varying stoichiometry," A. Azens, L. Kullman, D. D. Ragan, M. Strømme Mattsson, and C. G. Granqvist, in *Electrochromic Materials III*, K.-C. Ho, C. B. Greenberg, and D. M. MacArthur, eds., Electrochem. Soc. Proc. **96-24**, 218–228 (1997).

"Measurement of the Fracture Energy of SiO<sub>2</sub>/TiN Interfaces Using the Residually-Stressed Thin-Film Micro-Strip Test." X. Guanghai, D. D. Ragan, D. R. Clarke, M.Y. He, Q. Ma, and H. Fujimoto, *MRS Proceedings* 458 (1996)

"Optical and electrochemical properties of dc magnetron sputtered Ti-Ce oxide films," A. Azens, L. Kullman, D. D. Ragan, C. G. Granqvist, B. Hjorvarsson, and G. Vaivars, *Appl. Phys. Lett.* **68**, 3701–3703 (1996)

"Silicone fluid as a high-pressure medium in diamond anvil cells," D.D. Ragan, D. Schiferl, D.R. Clarke, *Rev. Sci. Instr.* **67**, 494 (1996)

"Calibration of the ruby R1 and R2 fluorescence shifts as a function of temperature from 0-600 K," D.D. Ragan, R. Gustavsen, D. Schiferl, *J. Appl. Phys.* **72**, 5539 (1992)

"Calibration of the nitrogen vibron pressure scale for use at high temperature," S.C. Schmidt, D. Schiferl, A.S. Zinn, D.D. Ragan, D.S. Moore, *J. Appl. Phys.* **69**, 2793 (1991)

# PATENTS

Display Panel USPTO# 8,629,610; Issued Jan. 2014 Mehran Arbab, Adam D. Polcyn, Deirdre D. Ragan, Michael Buchanan

Material having laser induced light redirecting features USPTO# 8,547,008; Issued Oct. 2013 Mehran Arbab, Adam D. Polcyn, Deirdre D. Ragan

Coating compositions providing improved mar and scratch resistance and methods of using the same USPTO# 8,258,225; Issued Sept. 2012 Karen A. Barkac, Anthony M. Chasser, Roy E. Dean, Mildred Lisa Perrine, Deirdre D. Ragan, Karen S. Rechenberg, John R. Schneider Article having nano-scaled structures and a process for making such article Mehran Arbab, Deirdre D. Ragan, Songwei Lu USPTO# 7,851,016; Issued Dec. 2010

Organic solvent-free film-forming compositions, multi-layer composite coatings, and related methods USPTO# 7,241,830; Issued July 2007 Charles M. Kania, Roxalana L. Martin, Carolyn A. K. Novak, Thomas R. Hockswender, Mark A. Tucker, Mary Beth Grolemund, Deirdre Ragan, Alicia Williams

# SERVICE

SERVICE	
Service to College	
Scholarships Committee Chair	2018 – Present
Dept. of Mechanical Engineering faculty search committee	2021 – Present
Public Speaking Competition Judge	2020 - Present
Fellow of the James B Near, Jr., USAF, '77 Center for Climate Studies	2020 - Present
National Coalition Building Institute, workshop facilitator	2019 - Present
New Faculty Mentor	2019 - Present
Commencement Ceremony Faculty Leader	2019 - Present
Distinguished Scholars Program Advisory Board	2018 – Present
Faculty Senate Ad Hoc Committee on Reading Day	2022 - 2023
Thesis Committee, Citadel School Psychology Ed.S. candidate	2021 - 2022
ASEE- SE conference planning team	2021 - 2022
Purpose&Growth volunteer and student coordinator (Australia/ Charleston	, SC) 2020 – 2022
	2017, 2018, 2021, 2022
Judge at The Citadel Students of Excellence poster competition	2017, 2018, 2022
Summer Virtual Orientation Team Leader	2020, 2021
School of Engineering Vision Task Force co-chair	2021
Dept. of Project Management faculty search committee	2020
Service to Students	
Sierra Company Faculty Academic Advisor	2019 - Present
Senior Design Team Advisor (2 teams)	2022 - Present
Leadership Day Junior Class Experience	2019, 2020, 2022
Summer Undergraduate Research Experience (SURE) Research Mentor	2018, 2021
Mock Interviewer for The Citadel Career Center	2017
Co-Advisor for the NCBI student club	2021 - Present
Advisor for The Citadel Honors Program student club	2014 - Present
Service to Community	
National Coalition Building Institute, trainer/small group leader (Carolinas	2019 - Present
National Collegiate Honors Council (national)	,
Beginning in Honors Mentor	2022 - Present
Awards & Grants Committee	2020 - Present
Small Colleges Committee	2020 - Present
Conference Planning & Review Committee	2018 - Present
Student Research Committee	2018 – Present
Judge of STEM-related student research posters	2017 – Present
Student Moderator Coordinator	2017 – Present
	pruarys: 2018 – Present
Southern Regional Honors Council (Regional) Treasurer	2023 – Present
ReStart (Charleston, SC) Leadership team and mentor	2014 - 2022
A not-for-profit organization, equipping those in career transition with powerful tools to	o enhance their search for

employment today or in the future.

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Urban Heat Mapping: HeatWatch (Charleston, SC)	summer 2021, 2022
IIE Project GO! Application Reviewer (national)	2021
SC State Science Olympiad Volunteer Event Facilitator (Charleston, SC)	2019, 2020
STEM Festival Volunteer (Charleston, SC)	2019, 2020
Storm the Citadel Engineering Competition Volunteer (Charleston, SC)	2019, 2020 2019 – Present
Middle School Robotics Competition Volunteer Judge (Charleston, SC)	2019 Hesent 2018
Seacoast Church (Mt. Pleasant, SC)	2016 - 2019
Group Leader for middle school girls	2010 2017
Daniel Island School (Charleston, SC)	2011 - 2017
Math and Reading Tutor	2011 2017
Sherwood Forest Elementary School (Winston-Salem, NC)	2009 - 2011
Science Fair Coordinator	2009 2011
Board Member, PTA	
Junior League of Winston-Salem	2004 - 2011
Board Member	2001 2011
Marketing and Communications Chair	
PPG Industries, Inc. Community Outreach	2003 - 2004
Beginning with Books (Pittsburgh, PA)	2002 - 2004
Literacy Tutor for high-risk youth	
Principal for a Day (Pittsburgh, PA)	2003
Junior League of Pittsburgh (Pittsburgh, PA)	2001 - 2004
Board Member	
Community Projects Chair	
Leadership Development: Pittsburgh selected participant	2000
Literacy Initiative (Santa Barbara, CA)	1996 – 1998
Literacy Tutor – Adults with learning disabilities	
TRAINING/CONTINUING EDUCATION/CERTIFICATIONS	
	March 2022
Online Teaching Certification	March 2023
Problem Solving Studio for Entrepreneurial Engineering (workshop)	July 2022
Program Assessment (workshop)	May 2022
General Education Assessment (workshop)	May 2022
Engineering Unleased! (conference)	January 2022 June 2021
Faculty Assessment (workshop)	
Smart Materials and Devices for Electronic Textiles (seminar)	June 2021
Multifunctional materials for emerging technologies (seminar)	May 2021
Fostering Ecosystems for Impact: Enabling Technologies Advancing	January 2022
Human Infrastructure (seminar)	May 2021
Giving Voice to Values: The "How" of Teaching Professional Ethics (seminar)	March 2021
Free Speech on Campus: Is it in Danger? (seminar)	February 2021
Hybrid Teaching (workshop)	February 2021
Increasing Women in Mechanical Engineering (workshop)	January 2021

National Coalition Building Institute (workshop) Resolving Conflict and Building Consensus Welcoming Diversity: Leadership in Diversity and Respect Mini-ExCEEd Engineering Education

# **PROFESSIONAL MEMBERSHIPS**

American Society for Engineering Education	Engineering for Change
Society of Women Engineers	National Collegiate Honors Council
Engineers Without Borders	Southern Regional Honors Council

February 2018

January 2018