
Appointments

- 2021 - **Assistant Professor**, School of Mathematical and Statistical Sciences,
Current Clemson University
- Affiliations: Materials Assembly and Design Excellence in South Carolina (MADE in SC) contributing faculty member
- 2019-2021 **Postdoctoral Research Fellow**, *Southeast Center for Mathematics and Biology (SCMB)*, Department of Mathematics, Tulane University, Georgia Institute of Technology
- NSF-Simons Research Center for Mathematics of Complex Biological Systems
 - Collaborated with Scott McKinley (Tulane), Christine Payne (Duke), Nathan Reyens (Duke)
 - Taught mathematics and statistics courses at Tulane University
 - Experimented with live cell imaging and single particle tracking techniques in the Payne Lab at Duke University

Education

- 2019 **Doctor of Philosophy**, *The University of Alabama*
Applied Mathematics and Computational Biology
Advisor: Dr. Roger B. Sidje
Dissertation Title: "Parallel stochastic simulation of biochemical reaction systems"
- 2016 **Master of Arts**, *The University of Alabama, Magna Cum Laude*
Applied Mathematics
- 2014 **Bachelor of Science**, *The University of Alabama, Cum Laude*
Major: Applied Mathematics, Minor: Educational Studies

Professional Experience

- 2014-2019 **Graduate Teaching Assistant**, *Department of Mathematics, The University of Alabama*
- Instructed and assessed student performance in respective higher education mathematics courses
 - Improved students' understanding of mathematics problems
 - Mathematics instructor in the Math Technology Learning Center and Engineering Lab
- 2015-2019 **Mathematics Tutor**, *Center for Athletic Student Services, The University of Alabama*
- Tutored student athletes while complying with NCAA academic regulations
 - Facilitated learning by tailoring one-on-one sessions according to each student's level
- 2013-2014 **Math Technology Learning Center Instructor**, *Department of Mathematics, The University of Alabama*
- Guided students through mathematical problems using computerized system
 - Instructed students at many different levels in a large laboratory setting

Teaching Experience

*sections refer to individual classes

- Mbio 8100 **Molecular and Cellular Medical Biophysics**, *Clemson University, Fall 2022,2023*
Instructor of Record for 1 section (4 students)
- Math **Theory of Probability**, *Clemson University, Fall/Spring 2022-2024*
4000/6000 Instructor of Record for 1 section (35 students)
- Math 8170 **Stochastic Models in Operations Research I**, *Clemson University, Fall 2022,2023*
Instructor of Record for 1 section (4 students)
- Math 8030 **Stochastic Processes**, *Clemson University, Spring 2022,2023*
Instructor of Record for 1 section (10 students)
- Math **Stochastic Processes**, *Tulane University, Fall 2020*
6030/7030 Instructor of Record for 1 section (25 students)
- Math **Introduction to Probability**, *Tulane University, Fall 2019*
3070/6070 Instructor of Record for 1 section (50 students)
- Math 113 **Pre-Calculus Trigonometry**, *The University of Alabama, Summer 2018*
Instructor of Record for 1 section (35 students)
- Math 238 **Differential Equations I**, *The University of Alabama, Spring 2018*
Instructor of Record for 1 section (65 students)
- Math 237 **Linear Algebra**, *The University of Alabama, Fall 2017*
Instructor of Record for 1 section (65 students)
- Math 113 **Pre-Calculus Trigonometry**, *The University of Alabama, Spring 2017*
Instructor of Record for 2 sections (55 students)
- Math 112 **Pre-Calculus Algebra**, *The University of Alabama, Spring 2016 and Fall 2016*
Instructor of Record for 2 sections (75 students)

Postdoctoral Research

- 2023 - **Nisha FNU**, *Clemson University*, Mathematics and Bioengineering, Funded by CU
Current Fellows
A Novel Mathematical Model of siRNA Endosomal Escape Mediated by Peptides. Postdoc trained in math modeling and laboratory work. Collaborative work with Angela Alexander-Bryant.
- 2024 - **Ethan Doherty**, *Clemson University*, Mathematics and Forestry, Funded by USDA
Current Collaborative work with David Coyle

Graduate Student Research

- 2021 - 2023 **David Frost**, *Clemson University*, PhD Mathematics, Co-chair
Dissertation: "Aspects of Stochastic Geometric Mechanics in Molecular Biophysics", Outcome: Entered Postdoc Position at the Institute for Microbiology and Biotechnology in the Endesfelder Lab at the University of Bonn
- 2022 - **Jakini Kauba**, *Clemson University*, PhD Mathematics, Chair
Current Dissertation: TBD

- 2021 - 2023 **Jushawn Macon**, *Clemson University*, MS Mathematics, Chair
 Masters Project: "Predictive Modeling of the Cytoskeleton in Live Cell Data", Outcome: Entered Biomedical Informatics and Data Science PhD Program at Washington University of St. Louis
- 2022 - 2023 **Brendan Sullivan**, *Clemson University*, MS Mathematics, Chair
 Masters Project: "Machine Learning Techniques for Understanding Microtubule Networks", Outcome: Entered Data Science PhD Program at The University of Louisville

Undergraduate Student Research

- 2023 **Candice Delmar**, *Clemson University*, Semester-long undergraduate research course
 Project: "Search and Rescue: Incorporating the theory of probability to microtubule growth dynamics."
- 2022 **Christian Sarol**, *Illinois University*, Summer Biophysics REU at Clemson University
 REU Project: "Intracellular transport reconstituted on a network of microtubules."
- 2020 - 2021 **Abigail Zion**, *Tulane University*, Public Health and Mathematics
 Senior Honors Program Thesis: "A study of mathematical models for reducing feral cat populations."

Technical Languages

- Programming R, MATLAB, Fortran, OpenMP, Super Computing, Java, Python
- Scientific Tools Mathematica, Maple, BioNetGen, wxMaxima, ImageJ/FIJI-TrackMate, Igor IV Reader, Scaffold 4, ImageMagik, CytoSim
- Additional Latex, Microsoft Office, WebAssign, WebWork, MyLabsPlus

Laboratory Experience

- Christine Payne's Lab at Duke University
 DNA and Protein Gels, Western Blot, Cell Culture, Fixed and Live Cell Imaging, Live Cell Imaging with Fluorescent Microscopy, DNA Corona Interaction with Polystyrene Nanoparticles and Lupus Microparticles, TiO_2 Transport in Human Lung Cells, Machine Learning and Protein Corona Formation

Publications

Erin Beckman, Keisha Cook, Nicole Eikmeier, Sarai Hernandez-Torres, and Matthew Junge. *Chase-escape with death on trees*, volume 49. The Annals of Probability. doi: 10.1214/21-AOP1514, 5 edition, 2021.

Keisha J. Cook, Linh Do, and Scott A. McKinley. *Modeling and inference challenges for bridging time scales in intracellular transport by molecular motors*. To be submitted to Mathematical Biosciences and Engineering.

David Frost, Keisha Cook, and Hugo Sanabria. *Impact on Dye Linker Motion and Orientation on sm-FRET Dynamic Shift*. To be submitted to Physics Review Letters.

David Frost, Keisha Cook, and Hugo Sanabria. *Influence of Protein Conformational Dynamics and Free Energy Landscape Geometry on smFRET Dynamic Shift*. To be submitted to Journal of Computational Physics.

David Frost, Keisha Cook, and Hugo Sanabria. *Stochastic Simulation Methods for*

Time-Resolved Confocal smFRET Experiments: Translational, Orientational, and Photophysical Considerations. To be submitted to *Mathematical Biosciences and Engineering*.

Nathan T. Rayens, Keisha J. Cook, Scott A. McKinley, and Christine K. Payne. *Transport of lysosomes decreases in the perinuclear region: Insights from changepoint analysis*. *Biophysical Journal*. doi: 10.1016/j.bpj.2022.02.032, 2022.

Nathan T. Rayens, Keisha J. Cook, Scott A. McKinley, and Christine K. Payne. *Palmitate-mediated disruption of the endoplasmic reticulum decreases motility of intracellular*. *Biophysical Journal*. doi: 10.1016/j.bpj.2023.03.001, 2023.

Sherry Scott, Keisha Cook, and Kamal Barley. *Postlockdown Dynamics of COVID-19 in New York, Florida, Arizona, and Wisconsin*, volume 18. *Mathematical Biosciences and Engineering*. doi: 10.3934/mbe.2021188, 4 edition, 2021.

Grants

- 2023-2024 **USDA AP23PPQS&T00C022**, *Clemson University*, Asian Long-Horned Beetle Modeling Project, Amount: \$98,461
- 2022-2023 **NSF DMS-1902350**, *Clemson University*, MORE: Mathematics - Opportunities in Research and Education, Amount: \$25,480
- 2022-2024 **CU Fellows**, *Clemson University*, Research Faculty and Postdoctoral Research Support Grant, Amount: \$150,000
- 2021-2025 **NSF DMS-2138357**, *Tulane University*, Math For All in New Orleans Conference, Amount: \$49,951
- 2021 **NSF DMS-2113829**, *Tulane University*, Math For All in New Orleans Conference, Amount: \$3799

Invited Talks

- 2023 **The University of Alabama Applied Math Colloquium**, *Tuscaloosa, AL*
- 2023 **The University of Alabama AWM Seminar**, *Tuscaloosa, AL*
- 2023 **Ohio State University Mathematical Biology Colloquium**, *Columbus, OH*
- 2023 **University of Maryland - College Park Mathematical Biology Seminar**, *College Park, MD*
- 2023 **Symposium for the Association of Women in Mathematics (AWM)**, *Atlanta, GA*
Session: Women in Mathematical Biology: Computation and Modeling
- 2023 **Symposium for the Association of Women in Mathematics (AWM)**, *Atlanta, GA*
Session: EDGE Program Alumni
- 2023 **International Congress on Industrial and Applied Mathematics (ICIAM)**, *Tokyo, Japan*
Session: Stochastic modeling in cell biology

- 2023 **Society of Mathematical Biology (SMB) Summer Series**, *Virtual*
Session: Diversity in Mathematical Biology
- 2023 **SIAM Dynamical Systems**, *Portland, Oregon*
Session: Women in Network Science
- 2023 **Society of Mathematical Biology Annual Meeting**, *Ohio State University*
Session: Data-driven, modeling, and topological techniques in cell and developmental biology
- 2023 **University of South Carolina Mathematical Biology Seminar**, *Columbia, SC*
- 2023 **Duke University Mathematical Biology Seminar**, *Durham, NC*
- 2023 **Duke University SPIRE Fellow Speaker**, *Durham, NC*
Topic: Being Human and Flourishing in STEM
- 2023 **Alumni Spotlight Talk for Honors Course EDU 410**, *University of Alabama*
- 2023 **Joint Mathematics Meetings**, *Boston, MA*
Panel: Redefining Math Conferences with EDI Perspectives
- 2023 **Joint Mathematics Meetings**, *Boston, MA*
Session: AMS Contributed Paper Session on Biology and Natural Sciences
- 2022 **South Carolina EPSCoR Program for Materials Assembly and Design Excellence in South Carolina (MADE in SC) Fall Meeting**, *Greenville, SC*
- 2022 **Tulane University Clifford Lectures and Conference**, *New Orleans, LA*
- 2022 **SIAM Texas-Louisiana Sectional Meeting**, *The University of Houston*
- 2022 **Emory University Mathematical Biology Seminar**, *Atlanta, GA*
- 2022 **Banff International Research Station (BIRS)**, *Banff, Alberta, Canada*
Building Networks: Women in Complex and Nonlinear Systems
- 2022 **NSF MODULUS Conference**, *Fairfax, VA*
Workshop Topic: Models for uncovering rules and unexpected phenomena in biological systems
- 2022 **The University of North Carolina at Greensboro Math & Stats Department Colloquium**, *Greensboro, NC*
- 2022 **SIAM Life Sciences**, *Pittsburgh, PA*
Session: Combining topological, data-driven, and modeling perspectives for complex biological systems
- 2022 **Clemson Biophysics Department Seminar**, *Clemson, SC*
- 2022 **AWM Research Symposium**, *Minneapolis, MN*
Session: Recent Advances in Mathematical Biology
- 2022 **Joint Mathematics Meetings**, *Seattle, WA*
Session: SIAM Mini-Symposium on Advances in Mathematical Biology
- 2022 **Joint Mathematics Meetings**, *Seattle, WA*
Session: Current Advances in Computational Biomedicine
- 2022 **Joint Mathematics Meetings**, *Seattle, WA*
Session: AMS Special Session on Mathematical Models for Biomolecular and Cellular Interactions
- 2021 **Southeast Center for Mathematics and Biology (SCMB) Annual Symposium**, *Georgia Institute of Technology, Atlanta, GA, *virtual*

- 2021 **Oregon State Mathematical Biology Seminar**, *Oregon State University*, *virtual due to COVID-19
- 2021 **UBC Mathematics and Biology Seminar**, *The University of British Columbia*, *virtual due to COVID-19
Talk: "The Effect of Size and Location on Lysosome Transport in Live Cells"
- 2021 **SMB Annual Meeting**, *UC - Riverside*, *virtual due to COVID-19
Session: "Combining modeling and inference in cell biology"
- 2021 **SIAM Conference on Applications of Dynamical Systems**, *Portland, OR*, *virtual due to COVID-19
Session: "Novel techniques for modeling complex systems in the age of data"
- 2021 **Mathematical Biology Seminar at Georgia Tech**, *Atlanta, GA*, *virtual due to COVID-19
- 2021 **Mathematical Biology Seminar at the UC - Merced**, *Merced, CA*, *virtual due to COVID-19
- 2021 **Wake Forest Department of Math & Stats Colloquium**, *Winston-Salem, NC*, *virtual due to COVID-19
- 2021 **Hunter College Applied Math Seminar - CUNY**, *New York City, NY*, *virtual due to COVID-19
- 2021 **Lunch in the Time of COVID Series at the UC - Santa Cruz**, *Santa Cruz, CA*, *virtual due to COVID-19
Panel Topic: "Investing in the future of mathematics"
- 2021 **Girls Talk Math**, *University of Maryland - College Park*, *virtual due to COVID-19
Topic: Math Chats, a Conversation with a Mathematician
- 2021 **North Carolina A&T University Women in Science & Technology Day (WiST)**, *Greensboro, NC*, *virtual due to COVID-19
Panel Topic: "Breaking Glass Ceilings and Overcoming Barriers - Wonder Women in STEM"
- 2021 **Joint Mathematics Meetings**, *Washington, DC*, *virtual due to COVID-19
Session: AMS Special Session on Understanding COVID-19 - Mathematical Models to Address the Global Pandemic
Talk: "The Effects of Pre-symptomatic Spread on COVID-19 Mortality"
- 2021 **Joint Mathematics Meetings**, *Washington, DC*, *virtual due to COVID-19
Session: AMS-AWM Special Session on Women of Color in Applied Math and Analysis
Talk: "Methods for Switch Detection in Single Particle Tracking"
- 2020 **AWM Talk Series**, *The University of Alabama*
Series 1: Colloquium on Single Particle Tracking
Series 2: Professional Development Seminar on Applying for Jobs in Academia
- 2020 **SIAM Conference of the Life Sciences**, *Garden Grove, CA*, *cancelled COVID-19
Session: Views of the NSF-Simons Research Centers for the Mathematics of Complex Biological Systems
Talk: "Inferring the Parameters of Lysosome Movement in Human Lung Cells"
- 2020 **Simons Conference on Theory & Biology 2020**, *New York, NY*, *cancelled COVID-19
Session: Representatives of the NSF-Simons Math Biology Centers
Poster: "Quantitative Approaches to Single Particle Tracking"

- 2020 **NSF-Simons Center for Multiscale Cell Fate Research - Early Career Researcher Symposium**, *University of California, Irvine*, Irvine, CA, *virtual due to COVID-19
Talk: "Lysosome Movement in Human Lung Cells"
- 2020 **Clemson University Applied Mathematics Seminar Series**, *Clemson University*, Clemson, SC
Talk: "Single Particle Tracking: Inferring Biophysical Transport Types"
- 2020 **Gulf States Math Alliance Conference**, *Southern University*, Baton Rouge, LA
Panel Topic: "What I wish I knew before graduate school" and "How I survived graduate school"
- 2020 **Math For All in New Orleans Conference**, *Tulane University*, New Orleans, LA
Panel Topic: "Career Development in Mathematics"
- 2019 **SUNO Robert Noyce Scholarship Program - Highly Effective Teachers Seminar**, *Southern University of New Orleans*, New Orleans, LA
Topic: "Making Those Connections - Math + Biology"
- 2019 **EDGE Reunion Ceremony: Keynote Address**, *Pomona College*, Claremont, CA
Topic: "Words of Wisdom - Navigating the Path through Graduate School"
- 2019 **AWM Research Symposium: EDGE Special Session**, *Rice University*, Houston, TX
Research Talk: "A Parallel Implementation of the Delay SSA: A Tumor Growth Model"
- 2018 **University of Alabama System Joint Applied Math Meeting**, *University of Alabama - Huntsville*, Huntsville, AL
Research Talk: "A Parallel Implementation of the Delay SSA"

Conference and Workshop Presentations

- 2022 **College of Science Rising Star Symposium**, *Clemson University*, Clemson, SC
Talk: "Cytoskeleton Dynamics and Underlying Mechanisms of Intracellular Transport in Live Cells"
- 2022 **Clemson Postdoctoral Association Seminar Series**, *Clemson University*, Clemson, SC
Talk: "Networking in Academia"
- 2022 **Clemson SMSS Sophomore Seminar**, *Clemson University*, Clemson, SC
Mathematical Biology Journey
- 2022 **Clemson Biophysics Summer REU Seminar**, *Clemson University*, Clemson, SC
Talk: "Networking and Scientific Social Media"
- 2022 - 2023 **Clemson SMSS First Year Seminar**, *Clemson University*, Clemson, SC
- 2020 **Southeast Center for Mathematics and Biology (SCMB) Annual Symposium**, *Georgia Institute of Technology*, Atlanta, GA
Poster: "Differentiating between single particle transport types"
- 2020 **Math For All in New Orleans Conference**, *Tulane University*, New Orleans, LA
Talk: "Stochastic modeling in cellular internalization"

- 2020 **Joint Mathematics Meetings**, *Colorado Convention Center*, Denver, CO, Session: Stochastic Differential Equations and Applications of Mathematical Biology II
Talk: "Analysis of Active Transport in Human Lung Cells using Stochastic Modeling"
- 2020 **Joint Mathematics Meetings**, *Colorado Convention Center*, Denver, CO, Session: Enhancing Diversity in Graduate Education
Talk: "Stochastic Modeling in Cellular Internalization and Transport"
- 2019 **Applied Mathematics, Modeling and Computational Science (AMMCS) International Conference**, *Waterloo Campus of the Wilfrid Laurier University*, Waterloo, Ontario, CA
Talk: "A Parallel Implementation of the Delay Stochastic Simulation Algorithm"
- 2019 **Joint Mathematics Meetings**, *Baltimore Convention Center*, Baltimore, MD
Poster: "Estimating the Extinction Time of infection in a spatial stochastic SIR model"
- 2018 **Q-Bio Conference**, *Rice University*, Houston, TX
Poster: "Decreasing the computational time of biochemical systems via parallelism"
- 2017 **EDGE Research Presentations**, *Mills College*, Oakland, CA
Research Talk: "Comparing Time-Scale Methods for the SSA on Multiple Biological Models"
- 2017 **AWM Research Symposium**, *UCLA*, Los Angeles, CA
Poster: "Time-Scale Methods for the Stochastic Simulation Algorithm"
- 2016 **ICERM Workshop**, *Brown University*, Providence, RI
Poster: "Methods to Analyze the Frequency Distribution of the Revised Tau-Leaping SSA"
- 2016 **SIAM Southeastern Atlantic Section Conference**, *University of Georgia*, Athens, GA
Research Talk: "Examining the Revised Tau-Leaping Stochastic Simulation Algorithm"
- 2016 **National Black Graduate Student Association Conference**, Houston, TX
Poster: "The Relationship between African American K-12 Perceptions and their Participation in STEM fields"
- 2015 **Biomathematics and Ecology: Education and Research Symposium**, *Illinois State University*, Normal, IL
Poster: "Revised Tau-Leaping Stochastic Simulation Algorithm"
- 2015 **Women in STEM Conference**, *The University of Alabama*, Tuscaloosa, AL
Poster: "The Relationship between African American K-12 Perceptions and their Participation in STEM fields"

University Leadership

- 2023 - Current **Black Graduate Student Association Co-advisor**, Clemson University
- 2022 - 2028 **Athletic Academic Review Committee**, Clemson University
- 2022 **College of Science Student Advisory Board**, Clemson University
- Proposal reviewer
- 2022 - 2023 **STEM All-In Panelist**, Clemson University
- Spoke with underrepresented students in STEM about my journey in STEM and opportunities for their future

- 2021 - 2022 **Women's Roundtable**, *Greenville, SC*, Clemson University
- Facilitator for roundtable activity for girls interested in STEM
- 2020-2021 **National Society of Black Engineers Student Chapter Advisor**, Tulane University
- Guide organization officers through the process of choosing speakers for events
 - Assist with organizing professional development workshops
- 2016-2019 **African American Graduate Student Association Officer**, The University of Alabama
- President (2018-2019)
 - Organized networking events, professional development events, and research symposiums for minority students across the campus
 - Partnered with Black Faculty Staff Association to build a supportive campus community
 - Treasurer (2016-2018)
 - Collected dues and provide funds for events held throughout the year
 - Managed a budget of \$500
- 2016-2018 **Graduate Student Association Officer**, The University of Alabama
- VP of Student Engagement (2017-2018)
 - Organized and provided professional development events and networking events for the graduate student body
 - Partnered with all graduate student organizations on campus to foster a collaborative graduate student body
 - VP of Research and Travel Funds (2016-2017)
 - Coordinator of awarding and distribution of research and travel funds to graduate students
 - Managed a budget of \$30,000
- 2017 **Women of Color in STEM**, *Mentor*, The University of Alabama
- Mentored the undergraduate students involved in founding the organization
 - Oversaw the process of determining goals, objectives and developing the organization's constitution
 - Shared my experiences with students to inspire their future successes
- 2017-2018 **Graduate Teaching Fellow**, *Orientation Leader*, The University of Alabama
- Led teaching sessions for incoming GTAs
 - Provided written and verbal analyses of teaching strengths and areas for improvement
 - Discussed important University policies and services available for students
- 2016-2017 **Women in STEM Conference**, *Panelist*, The University of Alabama
- Session Topic: "You + UA Grad Life",
 - Discussed experiences associated with being a woman in STEM at The University of Alabama
 - Session Topic: "Continuing the Path: Graduate School"
 - Discussed the logistics associated with applying to graduate school at The University of Alabama
- 2015-2019 **Graduate Student Ambassador**, The University of Alabama
- Responded and referred potential grad students to Graduate School for assistance in applying to UA
 - Met with prospective students who traveled from out of town
 - Worked with the Graduate School on recruitment activities

- 2015-2019 **Tide Together Mentoring Program, Mentor**, The University of Alabama
- Mentored underrepresented students on becoming acclimated to graduate school and UA
 - Proposed appropriate college/departmental/program/professional activities
 - Helped mentees reach personal and professional success as they navigated higher education
- 2014-2015 **Tide Together Mentoring Program, Participant**, The University of Alabama
- Participated in underrepresented graduate student mentoring and development program
 - Engaged in personal and professional development workshops and learning sessions
 - Learned how to enhance my professional and academic development

Departmental Leadership

- 2022 - **AWM Student Chapter Co-advisor**, *Clemson University*
- Current ○ Co-advisor for the School of Mathematical and Statistical Sciences student chapter of the Association for Women in Mathematics
- 2021 - 2023 **Math Club**, *Clemson University*
- Facilitated a "Poster Workshop" that provided students with tools to prepare for presenting at a research conference
- 2020 **Gulf States Math Alliance Conference Graduate School Fair**, *Tulane University Math Department Representative*, Recruiting Table
- 2019 **AWM LaTeX Workshop**, *UA Math Department*
- Collaborated with UA Libraries Vincent Scafani
 - Provided beginner and intermediate lessons for undergraduates and graduate students
- 2017-2019 **AWM Student Chapter University of Alabama**, *Founder and President*
- Chartered the first UA Student Chapter of AWM (Association for Women in Mathematics)
 - Provided networking opportunities for women mathematicians at and outside of UA
 - Organized seminars and panels exhibiting women who have excelled in the field of mathematics
- 2017 **The University of Alabama Graduate School Fair**, *Math Department Representative*, Recruiting Table
- 2017-2019 **JMM Conference Graduate School Fair**, *University of Alabama Math Department Representative*, Recruiting Table
- 2015-2019 **Graduate Recruiting Expo**, *Panelist and Math Department Representative*
- Panel Session Topic: "Being a UA Graduate Student"
 - Introduced prospective students to the many opportunities, programs, and support available at UA
 - Answered questions for prospective math students to help them get to know the Math Department

Professional Leadership, Organized Conferences & Workshops, & Activities

- 2023 - 2024 **SIAM Conference on Education (ED24)**, *Organizing Committee*, Spokane, WA
- Organized the conference which provides a broad view of educational practices for teaching applied mathematics through invited presentations, minitutorials, minisymposia, contributed presentations, and posters

- 2023 **Michigan Research Experience for Graduates (MREG)**, *Lecturer*, University of Michigan
- A two week-long workshop designed to provide early graduate students in pure, applied, and interdisciplinary mathematics an opportunity to engage in research with their peers, and to network with early-career faculty and professionals working in these fields.
- 2023 **Undergraduate Quantitative Biology Summer School**, *Lecturer, Speaker, Panelist*, Colorado State University
- Teaching courses on (1) Stoichiometries, propensities and ODE models, and (2) Stochastic simulations
 - A summer school for undergraduate and first year graduate students to acquire skills to advance predictive modeling of cellular regulatory systems
- 2023 **Applied mathematics skills improvement for graduate studies advancement (AMIGAs) at IPAM**, *Lecturer, Organizer*, University of California, Los Angeles
- A week-long summer program for incoming second or third year graduate students designed to support and train a new generation of mathematical scientists in applied and computational mathematics.
- 2023 **Enhancing Diversity in Graduate Education (EDGE) Program Admission Committee**, *Application reviewer*
- 2022 - **MORE Conference**, *Organizer*, Clemson University, Emory University, Clemson, SC, Atlanta, GA
- A conference bringing together undergraduate students interested in mathematics to learn about opportunities in research and education
 - Joint conference with Virginia Tech, Clemson University, and Emory University
- 2022 - **National Association of Mathematicians (NAM)**, *Programming Committee*
- Current
- 2022 **AWM Research Symposium: EDGE Session**, *Minisymposium Organizer*, Minneapolis, MN
- Organized a minisymposium for new EDGE program PhDs
- 2022 **Math For All Satellite Conference**, *Organizer*, Clemson, SC
- A conference bringing together all mathematicians in the Greater New Orleans area and satellite institutions; specifically highlighting underrepresented minorities in mathematics
- 2021 - 2022 **SIAM Annual Meeting (AN22)**, *Organizing Committee*, Pittsburgh, PA
- Organized the Annual Meeting which provides a broad view of the state of the art in applied mathematics, computational and data science, and their applications through invited presentations, prize lectures, minitutorials, minisymposia, contributed presentations, and posters
 - Speaker host for Rebecca Willett plenary lecture and facilitator of the closing remarks
- 2021 - 2023 **SIAM Diversity Advisory Committee**, *Committee Member*
- 2022 **MSRI ADJOINT Workshop**, *Participant*, Berkeley, CA.
- 2021 **AMS Fall Southeastern Sectional Meeting**, *Minisymposium Organizer*, Mobile, AL, *virtual due to COVID-19
- Organized a minisymposium on "New Developments in Intracellular Transport"

- 2021 **Broadening Participation in MPS Workshop for New Investigators**, *Participant*, *virtual due to COVID-19
- Received valuable information and advice on the policies, procedures, and opportunities available at NSF
 - Trained with a pool of future reviewers and was encouraged to volunteer to review as a way to learn about NSF process
- 2021 **Undergraduate Quantitative Biology Summer School**, *Learning Assistant*, Colorado State University
- A summer school for undergraduate and first year graduate students to acquire skills to advance predictive modeling of cellular regulatory systems
- 2021 **Undergraduate Quantitative Biology Summer School**, *Speaker*, Colorado State University
- Led a session on diversity, equity, and inclusion
- 2021 **SCMB Modeling Accelerator Summer Program**, *Faculty Sponsor*, Southeast Center for Mathematics and Biology, Georgia Institute of Technology
- A workshop training undergraduate students to develop mathematical models for complex biosystems of interest
- 2021 **Society of Mathematical Biology Conference**, *Mentor*
- 2021 **SIAM Dynamical Systems Conference**, *Mentor*
- 2021 **Reviewer**, *Birkhauser: Foundations for Undergraduate Research in Mathematics Journal*
- 2020-2021 **Reviewer**, *Association for Women in Mathematics: The First Fifty Years, an AWM-Springer Book*
- 2021 **Math For All in New Orleans**, *Conference Organizer*, New Orleans, LA
- A conference bringing together all mathematicians in the Greater New Orleans area; specifically highlighting underrepresented minorities in mathematics
- 2020 - 2023 **SIAM Workshop Celebrating Diversity**, *Workshop Organizer*
- Three year appointment; served as committee chair in 2021
 - Assist SIAM in addressing policy issues that arise in relationship to underrepresented groups
 - Organized a workshop consisting of 6 sessions, each with 4 speakers.
 - Organized and led luncheon with interactive exercises on diversity in academia
- 2020 - 2022 **National Association of Mathematicians (NAM)**, *Membership Committee*
- Developed and implemented recruitment strategies and ensured accurate membership records
 - Implemented a new membership platform
- 2020 **MSRI ADJOINT Workshop**, *Participant*, Berkeley, CA. *virtual due to COVID-19
- Group/Topic: Abba Gumel, Assessing COVID-19
 - A workshop enhancing the mathematical sciences and its community by positively affecting the research and careers of African-American mathematicians and supporting their efforts to achieve full access and engagement in the broader research community
- 2020 **SIAM Annual Meeting**, *Mini-Symposium Organizer*, Toronto, Ontario, CA. *cancelled COVID-19
- Topic: Diversity in Mathematical Biology
 - A workshop highlighting African American researchers in mathematical biology who have made significant contributions at liberal arts universities, research universities, and research laboratories

- 2020 **SIAM Conference on the Life Sciences, *Mini-Symposium Co-Organizer***, Garden Grove, CA. *cancelled COVID-19
- Topic: Modeling and Inference for Microparticle Transport and Intracellular Dynamics
 - A workshop highlighting researchers in dynamical systems, stochastic processes, and statistical approaches used to model dynamics within cells
- 2019 **AMS Mathematical Research Community, *Participant***, University of Rhode Island, Whispering Pines, RI
- Topic: Stochastic Spatial Models
 - Studied the Chase-Escape model applied to an infinite rooted binary tree
 - Began a research collaboration with researchers from multiple institutions with various mathematical backgrounds
- 2019 **Minority Research Faculty Development Summit, *Participant***, University of North Carolina-Chapel Hill, Chapel Hill, NC
- Topic: Advancing Minority Research Agendas
 - Translated research for consideration in academia and industry
 - Engaged with minority faculty at various institutions in order to develop a network of minority researchers
- 2018 **Q-Bio Summer School, *Student***, Rice University, Houston, TX
- Course: Stochastic Cell Regulation
 - Acquired knowledge and skills in the research area of quantitative biology
 - Completed research project and conducted presentation on the topic of cell extinction analysis
- 2017 **EDGE Program For Women in Math, *Mentor***, Mills College, Oakland, CA
- Fostered a collaborative and supportive network between the group of participants
 - Conducted group study sessions to assist in the improvement of the participants' math skills
 - Facilitated panel discussions relating to guidance throughout graduate school experience
- 2014 **EDGE Program For Women in Math, *Participant***, Pomona College and Harvey Mudd College, Claremont, CA
- Acquired knowledge of skills necessary for success throughout graduate school
 - Became familiar with graduate level math classes, group study, and work sessions
 - Completed research sessions and conducted presentations

Community Service

- 2022 - 2023 **Society for Science: Regeneron Science Talent Search, *Science and mathematics competition reviewer***, Washington, DC
- 2023 **GREAT Minds Math, *After school science and math activity leader***, Pink Space Theory in Washington, DC
- 2021 **Girls Talk Math Summer Camp, *Meet a Mathematician Panel***, University of Maryland College Park and UNC-Chapel Hill
- Spoke to high school girls about the journey through mathematics and gave them advice for their futures
- 2019 - 2021 **STEM NOLA, *Volunteer Table Leader***, New Orleans, LA
- Facilitated collaborative STEM experiments and demonstrations for K-12 students on the second Saturday of every month
 - Inspired students to pursue STEM majors leading to STEM careers

- 2020 **Greater New Orleans Science and Engineering Fair (GNOSEF)**, *Judge for Senior Division*, New Orleans, LA
 - Judged the Senior Computational Biology, Bioinformatics, and Biomedical Engineering (SCBBE) projects.
 - Science fair for 6th-12th grade students in Orleans, Jefferson, St. Bernard and Plaquemines parishes
- 2019 **Delta Sigma Theta Women in STEM Panel**, *Panelist*, University of Alabama
 - Spoke to the sorority chapter about careers in STEM
 - Answered questions regarding applying, succeeding, and finding support in graduate school
- 2015-2018 **Hands-On Family Night at the Museum**, *Alabama Museum of Natural History*
 - Yearly UA Graduate Student Association service event (Themes: Pirates, Space and Oceans)
 - Collaborate with graduate students in the Mathematics Department
 - Designed interactive mathematics activities for K-12 students
- 2017 **College and Career Talk**, *Central High School*, Tuscaloosa, AL
 - Community service project with the African American Graduate Student Association
 - Met with 11th graders to discuss the college application process and life after high school
 - Focused on inspiring and supporting underrepresented students

Committees Served On

- Shuhei Morita. Mathematics. Clemson University. (Graduate MS advisory committee member)
- Sandra Tsiorintsoa. Mathematics and Ecology. Clemson University. (Graduate PhD advisory committee member)

University Committees

- Clemson University Hiring Committee for EPIC-SMSS Pathways Postdoc
- University of Alabama Search Committee for the VP for Research and Economic Development
- University of Alabama Graduate Council
- University of Alabama Information and Technology Committee
- University of Alabama Faculty and Staff Benefits Committee
- University of Alabama Graduate Admissions and Recruitment Committee

Fellowships and Scholarships

2022-2024 **MGB-SIAM Early Career Fellowship**

Awarded by the Society for Industrial and Applied Mathematics. Fellowship for underrepresented early career tenure-track professors of mathematics

2018-2019 **SREB Doctoral Scholars Award Fellow**

Awarded by the Southern Regional Education Board. Fellowship for graduate students who are pursuing PhDs and plan to become college and university professors.

2014-2019 **Edith and Richard Ainsworth Scholarship**

Awarded by the University of Alabama Department of Mathematics. Scholarship for graduate students studying Applied Mathematics.

Honors and Awards

- 2023 Outstanding Alumni Award - University of Alabama
- 2019 Outstanding Graduate Teaching Assistant Service Award - UA Math Department
- 2016 National Black Graduate Student Association Conference - 3rd Place Poster Presentation
- 2015 Women In STEM Experience Conference - 1st Place STEM Poster Presentation
- 2014, 2015 Black Faculty and Staff Academic Achievement Award
- 2014 The University of Alabama Undergraduate Research Conference - 1st Place in Education Category

Professional Organizations

- SMB Society for Mathematical Biology
- AWM Association for Women in Mathematics
- AMS American Mathematical Society
- SIAM Society for Industrial and Applied Mathematics
- MAA Mathematical Association of America
- NAM National Association of Mathematicians

References

Available upon request