

CLEMSON UNIVERSITY

Doctoral Hooding Ceremony

MAY 5, 2021



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DOCTORAL HOODING CEREMONY

WEDNESDAY, MAY 5, 2021

5:00 P.M.

BON SECOURS WELLNESS ARENA
GREENVILLE, SOUTH CAROLINA

ORDER OF CEREMONIES

PROCESSIONAL

Stage Party

NATIONAL ANTHEM

(Please stand as you are able)

WELCOME AND INTRODUCTIONS

John Lopes

Associate Provost and Dean of the Graduate School

GRADUATE ADDRESS

Tanin Haidary

Ph.D. Candidate, Planning, Design and the Built Environment

Selected by the Graduate Student and Postdoctoral Advisory Committee

PRESENTATION OF AWARDS

Tia N. Dumas

Associate Dean of the Graduate School

See page 4 for award recipients

REMARKS

John Lopes

Associate Provost and Dean of the Graduate School

and

Robert H. Jones

Executive Vice President for Academic Affairs and Provost

CONFERRING OF DEGREES

President James P. Clements

ALMA MATER

Today's ceremony is being streamed live with captioning at tv.clemson.edu.

The recording will be posted at tv.clemson.edu/live/archive when available.

Sign language interpretation available on the arena floor near the stage.

Captioning displayed on center-hung scoreboard and screens beside the stage.

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Dean of the Graduate School

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Director of Athletics
Kyra Lobbins
Deputy Chief of Staff

THE GRADUATE SCHOOL

John Lopes
Associate Provost and Dean of the Graduate School

David S. Fleming
Associate Dean

Tia N. Dumas
Associate Dean

Brian N. Dominy
Associate Dean

William G. Ferrell
Associate Dean

GRADUATE STUDENT GOVERNMENT

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COLLEGE OF AGRICULTURE, FORESTRY AND LIFE SCIENCES

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Associate Dean of Research
Jean Bertrand
Associate Dean of Undergraduate Studies
Thomas Dobbins
Associate Dean of Outreach and Engagement

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Charles F. Rosenkrans, Jr..... Animal and Veterinary Sciences
J. Keith Bertrand, interim..... Food, Nutrition, and Packaging Sciences
Todd Petty..... Forestry and Environmental Conservation
Carlyle C. Brewster Plant and Environmental Sciences

COLLEGE OF ARCHITECTURE, ARTS AND HUMANITIES

James M. Burns
Associate Dean for Undergraduate and Graduate Studies
Winifred E. Newman
Associate Dean for Research and Academic Affairs

James C. Stevens School of Architecture
Valerie A. Zimany..... Art
John A. Gaber..... City Planning and Real Estate Development
N. Mike Jackson..... Nieri Family Department of Construction
Science and Management
Susanna M. Ashton English
Amit Bein..... History
Salvador A. Oropesa Languages
Linda Dzuris Performing Arts
Kelly C. Smith..... Philosophy and Religion

COLLEGE OF BEHAVIORAL, SOCIAL AND HEALTH SCIENCES

Rachel M. Mayo
Associate Dean for Research and Graduate Studies
Denise M. Anderson
Associate Dean for Undergraduate Studies, Faculty Affairs
and Inclusive Excellence

Kathleen L. Valentine..... School of Nursing
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Jeffrey S. Peake Political Science
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Katherine E. Weisensee Sociology, Anthropology and
Criminal Justice

WILBUR O. AND ANN POWERS COLLEGE OF BUSINESS

Gregory M. Pickett
Associate Dean, Director of M.B.A. Programs and Greenville ONE
Carl W. Hollingsworth
Associate Dean for Academic Affairs

Sally K. Widener School of Accountancy
Scott L. Baier Economics
Angela G. Morgan..... Finance

Charles “Chip” Tonkin..... Graphic Communications
Craig Wallace Management
Jennifer D. Siemens Marketing

COLLEGE OF EDUCATION

Jeff C. Marshall
Associate Dean for Research and Graduate Studies
Michelle P. Cook
Associate Dean for Undergraduate Studies
and Faculty Engagement

Debi M. Switzer Education and Human Development
Jane Clark Lindle..... Educational and Organizational
Leadership Development
Cynthia Deaton Teaching and Learning

COLLEGE OF ENGINEERING, COMPUTING AND APPLIED SCIENCES

Douglas E. Hirt
Associate Dean for Faculty Achievement and Strategic Initiatives
Daniel L. Noneaker
Associate Dean for Research
Bradley J. Putman
Associate Dean for Undergraduate Studies
Oliver J. Myers
Associate Dean for Inclusive Excellence – Undergraduate
Melissa C. Smith
Associate Dean for Inclusive Excellence – Graduate

Zoran S. Filipi Automotive Engineering
Martine LaBerge Bioengineering
David A. Bruce Chemical and Biomolecular Engineering
Jesus M. de la Garza Civil Engineering
Amy W. Apon School of Computing
Hai Xiao Electrical and Computer Engineering
Cindy M. Lee Engineering and Science Education
David L. Freedman Environmental Engineering and
Earth Sciences
R. Joe Watkins General Engineering
Kevin M. Taaffe, interim..... Industrial Engineering
Kyle S. Brinkman Materials Science and Engineering
Atul Kelkar..... Mechanical Engineering

COLLEGE OF SCIENCE

Stephen E. Creager
Associate Dean for Discovery, Graduate Education,
Space Optimization and Faculty Affairs
Calvin L. Williams
Associate Dean for Undergraduate Excellence, Global Engagement,
Community Engagement and Inclusive Excellence

Saara DeWalt Biological Sciences
William T. Pennington Chemistry
David F. Clayton Genetics and Biochemistry
Kevin L. James School of Mathematical and Statistical Sciences
Sean D. Brittain Physics and Astronomy

Special Thanks to Graduate Program Directors and Staff

Although there are too many to list, the graduate program coordinators, graduate faculty, administrative contacts, and student services coordinators for each graduate degree program are essential to the success of graduate education at Clemson University. We thank each and every one of you.

2020-2021 AWARDS IN GRADUATE EDUCATION

FRANKIE O. FELDER GRADUATE STUDENT AWARD OF EXCELLENCE

William H. Edwards
International Family and Community Studies

OUTSTANDING GRADUATE RESEARCHER AWARD

Xiurui Zhao
Physics

Xiaohong Zhang
Chemical Engineering

OUTSTANDING GRADUATE TEACHING ASSISTANT AWARD

Sara Krivacek
Business Administration

Leah Wiitablake
Engineering and Science Education

DISTINGUISHED DOCTORAL MENTORING AWARD

Lori Dickes
Associate Professor
Department of Political Science

Hai Yao
Ernest R. Norville Endowed Chair and Professor
Department of Bioengineering

DISTINGUISHED GRADUATE STUDENT SUPPORT STAFF AWARD

Laura Kinard
Student Services Program Manager
Department of Materials Science and Engineering

DOCTORAL PIN

Earning a doctoral degree is never easy. Finishing a program in the midst of a global pandemic is truly remarkable. To honor the extraordinary dedication and achievement of our 2021 doctoral graduates, each one will receive a lapel pin designed for our doctoral graduates.

The pin features a block “C” logo that was in use in 1955 when Clemson offered its first doctoral degree program. Across the C are three stripes like the ones graduates are wearing on their sleeves today.

DOCTORAL HOODING

The doctoral hood is a symbolic honor of distinction bestowed upon scholars who have attained the highest level of formal education available in the world, representing a typical range of five to seven years of study beyond the bachelor’s degree. Clemson’s 46-inch-long doctoral hood is usually draped over the shoulders by the faculty member who, as chair of the advisory committee, has formally mentored and guided the student’s research and education. Because of the COVID-19 precautions being taken for today’s ceremony, graduates will be wearing their hoods when they enter the arena.

You will note that faculty members are wearing gowns, caps and hoods of many colors and designs. These academic costumes of medieval origin are, for faculty with degrees from U.S. institutions, specified by a uniform code maintained by the American Council on Education. Caps are black and are usually mortar boards or tams with tassels. Doctors of philosophy wear gold tassels usually of metallic thread; those with other degrees wear black or discipline colors. Those who have received their degrees from institutions outside the United States wear regalia specified by the awarding institutions.

Doctors’ gowns are full, with bell-like sleeves. The front is bordered with velvet panels and the sleeves are marked by three velvet bars. While some gowns are black with black velvet, one variation is to replace black velvet with velvet in the discipline color. A second variation is a colored gown usually of the university’s colors.

All hoods specify the level of degree, the type of discipline studied and the awarding institution. The width of the velvet trim conveys the degree. In addition, the degree is indicated by the color of the trim edging the hood to form the throat over the gown. The most frequently seen color is dark blue, which designates the Doctor of Philosophy (Ph.D.) degree. Finally, the color of the hood’s lining is specific to the awarding institution. The colors are displayed in combinations that are drawn from heraldry. Notice that the Clemson University hood is lined with purple through which is an orange chevron (a “V”). Although many combinations are duplicated by dozens of institutions, Clemson is presently the only institution with that registered combination of purple and orange.

The officers, trustees and honored guests wear academic, ecclesiastical or military regalia as set forth by their professions. The president of Clemson University wears a purple gown with four velvet bars piped in orange and the University seal embroidered on the panels. Each trustee wears a similar gown with three velvet bars piped in orange for doctorates and an embroidered palmetto tree on each sleeve for those who do not hold doctorates. Trustee hoods are either from Clemson or from the awarding school.

A BRIEF HISTORY OF GRADUATE EDUCATION AND THE GRADUATE SCHOOL AT CLEMSON UNIVERSITY

[Clemson's faculty] would engage in original and important research, by which knowledge would be increased, whilst the immediate objects... would be the diffusion of facts on all scientific subjects. It would be vain to attempt to fix a limit to the benefits that would thus be conferred upon mankind and their effects upon society...
— THOMAS GREEN CLEMSON¹

In conceptualizing a “high seminary of learning” for South Carolina, Thomas Green Clemson knowingly set the stage for graduate education to emerge as an engine of economic development in the state. Graduate education quickly became synonymous with the application of theory to improving the practices of education and agriculture. The analysis of fertilizer, a contracted activity of the chemistry department that began in the late 1930s, would help restore depleted South Carolina soils, increase agricultural production, and spur a rapid development in opportunities for students at Clemson College to study beyond the baccalaureate degree.

Graduate coursework initially responded to the needs of veterans and to the interests of teachers wanting to improve their classroom skills, but also — from its inception — attracted international students' attention. On June 3, 1924, Patrick Hobson of Sandy Springs, South Carolina, earned the first master's degree awarded at Clemson. He used his degree in vocational education to serve as a high school principal and later as superintendent of schools in York County, South Carolina and Mitchell County, North Carolina. The third graduate degree, a master's in textile industrial education awarded to Ko-Chia Li from Mukden, China, on June 1, 1926, initiated an enrollment trend that has catapulted China to its present status as the number-one sending country for international graduate students at Clemson. Mr. Li returned to China and taught as a professor of textile engineering at Peking University, and served as head of the construction department in LiaoBei Province.

From 1938 until 1945, all aspects of graduate education (courses, programs, policies, procedures, admission, and graduation) developed under the auspices of the Committee on Graduate Instruction, chaired by F.H.H. Calhoun, Dean of the School of Chemistry and Geology. Twice during these years the University's attempts to formalize graduate education were thwarted because of the challenges to the Committee to maintain the necessary standards of quality. Clemson faculty recognized early that to establish a graduate program that enabled Clemson alumni to enroll would require strengthening the undergraduate curriculum and courses to prevent knowledge gaps “between the two.”²

On March 14, 1945, President Poole received the Committee's resolution requesting the appointment of a Dean of the Graduate School. It had been ascertained by that time that 19 courses could be offered immediately by the schools of agriculture, chemistry, engineering, textiles, and arts and sciences. On July 27, 1946, the Board of Trustees approved the Committee's proposed graduate program of study and, that fall, formally admitted the first class of students into “the Graduate School.” However, it would not be until June 15, 1951, that Herbert J. Webb, Chair of the Department of Chemistry and Toxicology, was appointed as the first Dean of the Graduate School.

Masterfully stewarded by President Poole himself and modeled initially after several prestigious southern institutions, Clemson's graduate programs grew cautiously but steadily, introducing the first doctoral degree, in plant pathology, in 1955. Today, the Graduate School proudly enrolls more than 5,000 graduate students and is committed to continued growth at both the master's and doctoral levels.

1. Holmes, A. and G. R. Sherrill. *Thomas Green Clemson: His Life and Work*. 1937, p. 129.

2. Clemson University Library System archives. *Minutes of the Committee on Graduate Instruction, 1945-1953*, p. 7.

CANDIDATES FOR THE DOCTORAL DEGREE

John Lopes, Dean of the Graduate School

COLLEGE OF AGRICULTURE, FORESTRY AND LIFE SCIENCES

DOCTOR OF PHILOSOPHY

Food, Nutrition and Packaging Sciences

Joel Anthony Hamilton Clemson, SC

B.S., Northwest Missouri State University; M.S., Southern Illinois University
Dissertation: A 360-Degree Analysis of the Produce Prescription (Rx) Program
Adviser: Dr. Margaret Condrasky

Joel has publications in the *Journal of Food and Nutritional Sciences* and *Dimensions of Oral Hygiene*. He will continue his work as a registered dietitian with the Paducah, KY Veterans' Administration.

Ana Cecilia Romero Vega..... Vázquez de Coronado, Costa Rica

B.S., Universidad de Costa Rica; M.S., Clemson University
Dissertation: Intelligent Packaging Prototypes with Color pH Indicators to Determine Spoilage of Cow Milk and Beef Using Sustainable Materials
Adviser: Dr. Kay Cooksey

Plant and Environmental Sciences

Nimisha Edayilam..... Kasaragod, India

B.S., St. Aloysius College Mangalore University; M.S., Central University of Kerala
Dissertation: Elucidating the Role of Plant-Induced Biogeochemical Processes on the Mobilization and Transport of Uranium and Phosphorus In Soils
Adviser: Dr. Nishanth Tharayil

Nimisha has five peer-reviewed publications and received the college's Graduate Research Award of Excellence for the 2019-20 academic year.

English Lane Ratliff Summerville, SC

B.S., M.S., Clemson University
Dissertation: Consumer Preferences for Value Added Products: A Case Study for South Carolina
Advisers: Dr. Michael Vassalos; Dr. Marzieh Motallebi

English is currently an assistant professor teaching agricultural economics at Angelo State University in Texas and is faculty adviser of the Angelo State Agricultural Business Student Association.

Sirjan Kumar Sapkota..... Devadaha, Nepal

B.Sc., Tribhuvan University; M.S., University of Georgia
Dissertation: Genomics-Assisted Breeding for Grain Yield and Composition in Sorghum
Adviser: Dr. Stephen Kresovich

Wildlife and Fisheries Biology

Lauren Amanda Hernandez-RubioCharleston, SC
B.S., Wofford College; M.S., College of Charleston
Dissertation: Advancing Waterfowl Ecology and Management: Assessments of an Online Course, Professional Credentials, and Graduate Student Publication Performance
Advisers: Dr. Richard Kaminski; Dr. Daniel Hitchcock
Lauren received her college's 2021 Outstanding Graduate Student Award for Graduate Teaching.

COLLEGE OF ARCHITECTURE, ARTS AND HUMANITIES

DOCTOR OF PHILOSOPHY

Planning, Design, and the Built Environment

Robert Dawson Coffey.....Greenville, SC
B.L.A., Kansas State University; M.C.S.M., Clemson University
Dissertation: The Community of Inquiry Effect on Learning for an Online Course
Adviser: Dr. Shima Clarke

Michelle Ann EichingerLancaster, PA
B.S., M.S., M.P.A., University of Delaware
Dissertation: Spatial Planning to Examine Regional Racial and Ethnic Disparities in Obesity and Diabetes by Analyzing the Supplemental Nutrition Assistance Program (SNAP) Retail Environment: Applying a Machine Learning Approach
Adviser: Dr. James Spencer
Michelle has three peer-reviewed publications and a book chapter.

Tanin A. Haidary Kapisa, Afghanistan
B.Sc., Kabul University; M.S., Clemson University
Dissertation: Identification of Best Practices to Aid Streamline the Transportation Project Development Process: A Study of the States Department of Transportation
Adviser: Dr. Dennis Bausman
Tanin is a Fulbright Scholar, has three peer-reviewed publications, and was recognized as Clemson Campus Life Graduate Student Leader of the Year in 2019. He has accepted a project engineering position with DPR Construction in the Bay Area of California.

Rutali Shirish Joshi Mumbai, India
B.Arch., University of Mumbai; M.S., Clemson University
Dissertation: Impact of Workstation Enclosure and Visual Exposure on Interruptions, Collaboration and Auditory Environment During Emergency Physician Handoffs
Adviser: Dr. Anjali Joseph
Rutali has contributed to five published, peer-reviewed journal articles and two under-review publications in the realm of healthcare design and research. She was awarded the 2019 Richard H. Pennell Student Fellowship for her dissertation research and has accepted a healthcare research position at HKS Architects in Detroit.

Shaobo Li Yan'an, China
B.S., China University of Political Science and Law; M.S., Clark University
Dissertation: A Critical Evaluation of Chinese Thirteenth Five-Year Plans for Economic and Social Development
Adviser: Dr. Mickey Lauria

Rhetorics, Communication, and Information Design

Charmayne Lavone Smalls Brown.....Boiling Springs, SC

B.A., College of Charleston; M.B.A., Nova Southeastern University
Dissertation: BREAKING NEWS: Professional Participatory Journalism
Adviser: Dr. Cameron Bushnell

Eric Reid HamiltonLos Angeles, CA

B.A., M.A., California State University
Dissertation: Revolutions of Virtues: Revisiting the Underpinnings of Rhetorical
Education
Adviser: Dr. David Beasley
Eric has two peer-reviewed publications and plans to work in the private sector.

Michael David Measel.....Sherwood, AR

B.A., M.A., University of Arkansas
Dissertation: "Questioning Attitude": The Rhetoric of Kenneth Burke's Musical
Compositions
Adviser: Dr. David Blakesley

Diane Mary Quaglia Beltran.....Providence, RI

B.A., Mount Holyoak College; M.A., University of Rhode Island
Dissertation: Reading Remembrance: A Dual Heuristic Method for Interpreting Rhetorical
Architectural Memory Texts
Adviser: Dr. Cameron Bushnell

COLLEGE OF BEHAVIORAL, SOCIAL AND HEALTH SCIENCES

DOCTOR OF PHILOSOPHY

Healthcare Genetics

Hanan Nasser R. Almousa.....Riyadh, Saudi Arabia

B.S., King Saud University; M.S., Georgia State University
Dissertation: Molecular Genetics Analysis of Arginine Biosynthetic Genes in the Human
Fungal Pathogen *Cryptococcus neoformans*
Advisers: Dr. Jane DeLuca; Dr. Kerry Smith

Karin M. Klimek FredriksonIjamsville, MD

B.S., Virginia Polytechnic Institute and State University; M.S., Johns Hopkins University
Dissertation: Frequency of Non-Normal Phenotypes in *CYP2D6*, *CYP2C9*, and *CYP2C19*
Pharmacogenes Associated with Pain Medication Management
Adviser: Dr. Tracy Fasolino
Karin has two peer-reviewed publications as part of her doctoral dissertation and has co-authored
another 10 genetics publications.

Lavanya Jain Delhi, India
B.Tech., M.Tech., Jaypee University of Information Technology
Dissertation: Clinical and Genetic Profiling in Phelan-McDermid Syndrome (PMS)
Advisers: Dr. M. Ann Wetsel; Dr. Sara Sarasua
Lavanya has two peer-reviewed publications and one submitted first-author, peer-reviewed publication. She has served in the student-led Health Care Genetics Society as Treasurer and President for one year each and has been a part of several stage events. She plans to work in the healthcare industry.

Ryan Miller..... Beacon, NY
B.S., University of New England; M.S., Johns Hopkins University
Dissertation: Preimplantation Genetic Testing and Embryo Selection: Developments in Assisted Reproductive Technology
Adviser: Dr. Jane DeLuca

Human Factors Psychology

Sarah Christine Beadle Ottumwa, IA
B.A., Simpson College; M.S., Clemson University
Dissertation: A Meta-Analytic Approach to Simulator Sickness in Head-Mounted Displays: Sex Differences, Latency Effects, Time-Course, and Comparison of Subjective Symptom Reports
Adviser: Dr. Christopher Pagano
Sarah has commissioned as a Lieutenant in the U.S. Navy serving as an Aerospace Experimental Psychologist.

Kathryn Michelle Lucaites Greenwood, IN
B.A., Oberlin College; M.S., Clemson University
Dissertation: Visually Guided Action for the Person-Plus-Object System: Generalizing the Optic Flow Equalization Control Law to Asymmetrical Bodies
Adviser: Dr. Christopher Pagano
Katie was named her department's Outstanding Doctoral Student in 2020 and won the Graduate Research Paper award in 2021. She was president of the Clemson Human Factors and Ergonomics Society in 2019. She has three peer-reviewed publications and will be pursuing a career in human factors consulting.

Industrial/Organizational Psychology

Joseph Ligato..... Central, SC
B.S., M.A., M.S., Clemson University
Dissertation: Personality Style Clusters Using Unsupervised Machine Learning
Adviser: Dr. Fred Switzer

Natalie Vanelli..... Santo Domingo, Dominican Republic
B.A., M.S., Clemson University
Dissertation: Choosing Between Pathways Towards the Life Well-Lived
Adviser: Dr. Cynthia Pury
Natalie is a program manager with Zillow on their Equity and Belonging team, focusing on diversity and inclusion initiatives.

Chloë A. Wilson Castle Rock, CO
B.S., Colorado State University; M.S., Clemson University
Dissertation: Trauma or Trapped: Conceptualizing Moral Suffering and the Impact of
Occupational Stigma
Adviser: Dr. Thomas Britt
Chloë was recognized for Best Student Paper (for published research) by her department in 2021
and received her college's Doctoral Teaching Award in 2020 and 2021. She has five publications in
peer-reviewed journals and has co-authored a book chapter. She plans to work as an occupational
research psychologist.

International Family and Community Studies

Amanda Megan McDougald Scott Greenville, SC
B.A., University of South Carolina; M.S., Augusta State University
Dissertation: Examining the Everyday Life of Child Care Workers: How Low Wages and
the Lack of Benefits Affect Their Lives and Decisions About Employment
Advisers: Dr. Susan Limber; Dr. Bonnie Holaday

Parks, Recreation and Tourism Management

Thomas Ray Clanton Darlington, SC
B.S., Clemson University; M.S., Texas A&M University
Dissertation: Examining Religious and Spiritual Commitment Across Late-Adolescence
and Young Adulthood
Advisers: Dr. Harrison Pinckney; Dr. Barry Garst

Taylor Andrew Parker Long Beach, CA
B.A., California State University; M.S., Clemson University
Dissertation: Forest/People
Adviser: Dr. Elizabeth Baldwin

Alexandra Sandoval Durham, NC
B.S., Appalachian State University; M.S., Southern Illinois University
Dissertation: Exploring the Role of Youth-Adult Relationships in Promoting Positive
Outcomes of Youth: An Application of the Rhodes' Mentoring Model
Adviser: Dr. Edmond Bowers

Policy Studies

Temitope Mary Arogundade Abeokuta, Nigeria
B.S., Badcock University; M.S., Drexel University
Dissertation: Three Essays on Environmental Justice in Georgia and Gentrification in
Greenville, South Carolina
Adviser: Dr. Lori Dickes

WILBUR O. AND ANN POWERS COLLEGE OF BUSINESS

DOCTOR OF PHILOSOPHY

Economics

Shubhashrita BasuKolkata, India

B.Sc., St. Xavier College; M.A., Jadavpur University

Dissertation: Essays on Children's Health, Maternal Outcomes, and Teen Childbearing

Adviser: Dr. Patrick Warren

Shubha has accepted a position as a postdoctoral research associate at the University of Wisconsin-Madison.

Shannon Rae Graham Columbus, NE

B.S., University of South Dakota

Dissertation: Essays on Law Enforcement Incentives

Adviser: Dr. Michael Makowsky

Seyedmajid Hashemi..... Tehran, Iran

B.S., University of Semnan; M.S., Eastern Mediterranean University

Dissertation: The Economic Value of Electricity Reliability

Advisers: Dr. William Dougan; Dr. Robert Fleck

Majid has three peer-reviewed publications and was named his college's Outstanding Graduate Researcher in 2020-21. He has accepted a postdoctoral position at Queen's University, Canada.

Shilpi MukherjeeKolkata, India

B.Sc., Presidency College; M.Phil., M.Sc., University of Calcutta

Dissertation: Three Essays in Political Economy

Adviser: Dr. Patrick Warren

Shilpi was her department's Graduate Student of the Year in 2016, received a Don Lavoie Fellowship from George Mason University in 2020, and has been invited to the 2022 Nobel Laureate meeting in Economic Sciences.

Guangshun QiaoShenzhen, China

B.S., Lanzhou University; M.S., Zhongnan University of Economics and Law

Dissertation: Essays on Capital Expenditure, Business Model, and Operating Performance
in the Global Semiconductor Industry

Adviser: Dr. Paul Wilson

Jaejeong Shin Anyang, Republic of Korea

B.A., M.A., Sungkyunkwan University; M.A., Clemson University

Dissertation: Essays on Response to Entry Threats

Adviser: Dr. Matthew Lewis

Jaejeong has accepted a research fellow position at Korea Energy Economics Institute.

Adam Markley WithamSunset, SC

B.A., Hampden-Sydney College; M.A., Clemson University

Dissertation: Essays on Urban and Rural Economic Growth

Adviser: Dr. Robert Tamura

Adam will begin a position this fall as an assistant professor of economics at Salve Regina University in Newport, RI.

COLLEGE OF EDUCATION

DOCTOR OF PHILOSOPHY

Curriculum and Instruction

Laura C. Eicher.....Tamassee, SC

B.S., Lander University; M.A.Ed., The Citadel

Dissertation: Science Teacher Identity Development Throughout a Yearlong Clinical Placement and into the First Year of Teaching

Adviser: Dr. Michelle Cook

Laura has accepted a position as Director of Teacher Residency in the College of Education at Clemson University.

Qianyi Gao..... Beijing, China

B.A., Capital University of Economics and Business; M.Ed., Vanderbilt University

Dissertation: Promoting Dual Language Learners' Social and Emotional Development Through Creative Drama: A Case Study

Adviser: Dr. Anna Hall

Adeyanju Oluwatosin Okungbowa.....Spartanburg, SC

B.S., Auburn University at Montgomery; M.S., M.A.E., University of Alabama

Dissertation: Black, Confident, and Capable: The Science Student Beliefs of Four Black Male Science Students in a Rural Middle School Science Classroom

Adviser: Dr. Michelle Cook

Hilary René TanckPlatte City, MO

B.S., Southwest Baptist University; M.S.E., Arkansas State

Dissertation: Mapping Middle School Mathematics Teachers' Curriculum Assemblages: A Post-Qualitative Inquiry

Advisers: Dr. S. Megan Che; Dr. Carlos Nicolas Gomez

Educational Leadership

Joshua Blake Barnes.....Clemson, SC

B.B.A., North Georgia College and State University; M.Ed., University of West Florida

Dissertation: A Qualitative Exploration of How Positional Student Leaders Develop Social Capital Through Participation in College Student Organizations

Adviser: Dr. Tony Cawthon

Lashia A. BowersWalkertown, NC

B.A., University of North Carolina; M.A., Prairie View A&M University

Dissertation: None But Ourselves: An Afrocentric Case Study Examining Emancipatory Practices Within Three African-Centered Schools

Adviser: Dr. Hans Klar

Lashia is a licensed professional counselor. She was a Jackson Scholar from 2017-2019 and has two peer-reviewed publications, two international conference presentations, and three national conference presentations.

Sharad Hasseini Creasman Brevard, NC
B.A., Brevard College; M.Div., Interdenominational Theological Center; Th.M., Emory
University
Dissertation: Soulful Leadership: How Black Presidents Engage Critical Spirituality in
their Leadership of Historically Black Theological Institutions
Adviser: Dr. Natasha Croom

Rebecca Lynn Morgan Wichita Falls, TX
B.A., Wofford College; M.Ed., Clemson University
Dissertation: Confronting Becky: An Autocritographic Examination of White Women’s
Gendered Racism in Higher Education
Adviser: Dr. Rachel Wagner

Jacquelyn Nicole Williams Simpsonville, SC
B.A., Lenoir-Rhyne University; M.Ed., Clemson University
Dissertation: “It Comes with the Job”: A Mixed Methods Study on Teacher Mental Health,
the School Environment, and School Leader Practices
Adviser: Dr. Hans Klar

Learning Sciences

Karen Bunch Franklin Clemson, SC
B.A., M.S., Clemson University
Dissertation: Comparing Faculty Perceptions of Importance and Perceived Competencies
of Online Best Practices Through the Encore Components
Adviser: Dr. Matthew Madison

Literacy, Language and Culture

Arsenio Frankie Silva Williamstown, NJ
B.A., M.A.T., Coastal Carolina University
Dissertation: Negotiating Disciplinary Literacy Instruction in Secondary Science: A Multi-
Case Study
Adviser: Dr. Phillip Wilder
Arsenio has three peer-reviewed publications, received his college’s Student Award for Excellence in
Clinical Service in 2017, and plans to work as an education and training consultant.

COLLEGE OF ENGINEERING, COMPUTING AND APPLIED SCIENCES

DOCTOR OF PHILOSOPHY

Automotive Engineering

Yi Chen Hunan, China
B.S., Shanghai Jiao Tong University; M.S., University of Florida
Dissertation: Human-Robot Collaboration in Automotive Assembly
Adviser: Dr. Yunyi Jia

Bioengineering

Maria Margarita Rodriguez Bruce Bogotá, Colombia
B.S., M.S., Clemson University
Dissertation: Development of a Tissue Engineered Pulmonary Heart Valve for Pediatric Patients
Adviser: Dr. Dan Simionescu
Margarita was named Outstanding Teaching Assistant in her department in 2018. She plans to pursue a career in academia.

Jesse Daniel Rogers Raleigh, NC
B.S., University of North Carolina
Dissertation: Systems Modeling to Predict Mechano-Chemo Interactions in Cardiac Fibrosis
Adviser: Dr. William Richardson

Dongkai Zhu Beijing, China
B.E., Capital Medical University; M.S., Syracuse University
Dissertation: The Fundamentals of Fretting Crevice Corrosion of Metallic Biomaterials for Orthopedic Implants
Adviser: Dr. Jeremy Gilbert
Dongkai has eight peer-reviewed publications, received the Page Morton Hunter Bioengineering Graduate Researcher award in 2021, and has accepted a research fellow position with the FDA.

Biomedical Data Science and Informatics

Min-Jae Woo Goyang, Republic of Korea
B.S., University of California; M.S., Clemson University
Dissertation: Deep Learning Frameworks to Improve Inter-Observer Variability in CT Measurement of Solid Tumor
Adviser: Dr. Ronald Gimbel
Min-Jae has accepted a position as a tenure-track assistant professor of data science and analytics at Kennesaw State University beginning in fall 2021.

Biosystems Engineering

Ning Zhang Shijiazhuang, China
B.S., Xi'an Jiaotong University; M.S., East China Normal University; M.S., Clemson University
Dissertation: Pretreatment of Cellulosic Biomass Through Bioleaching to Reduce Inorganic Ingredients
Adviser: Dr. Terry Walker

Chemical Engineering

Junhuan Ding Shanghai, China
B.S., Illinois Institute of Technology
Dissertation: Tailoring Lignin Properties for Materials Applications Using the ALPHA
Process: Measuring Liquid Phase Behavior, Tuning Processing Parameters, and
Characterizing Molecular Structure
Adviser: Dr. Mark Thies

Civil Engineering

Md Mhafuzul Islam Clemson, SC
B.S., Bangladesh University of Engineering and Technology; M.S., Clemson University
Dissertation: Improving the Security and Safety of Transportation Cyber-Physical Systems
Advisers: Dr. Mashrur Chowdhury; Dr. Amy Apon
Mahfuz has eight peer-reviewed journal publications and six peer-reviewed conference publications.
He received the James Edwin Clark Fellowship from his department.

William Robert Locke, Jr. Kings Mountain, NC
B.S., M.S., Clemson University
Dissertation: Experimental Evaluation of System Identification Techniques and
Development of a Bayesian Damage Detection Strategy for Drive-By Health
Monitoring
Adviser: Dr. Laura Redmond

Computer Engineering

Xiaonan Zhang Clemson, SC
B.S., Beijing University of Chemical Technology; M.S., Binghamton University
Dissertation: Enable Reliable and Secure Data Transmission in Resource-Constrained
Emerging Networks (degree conferred August 2020)
Adviser: Dr. Linke Guo
Xiaonan has 10 peer-reviewed publications and has accepted a faculty position in the computer
science department at Florida State University.

Electrical Engineering

Ali Arzani Tehran, Iran
M.Sc., Royal Institute of Technology
Dissertation: Enhancing Real-Time Operations of Photovoltaic Systems in Smart Grids
Adviser: Dr. Ganesh Venayagamoorthy
Ali received the 2016 Clemson University Power Systems Conference (PSC) Best Student Reviewer
award, received a 2018 PSC Best Student Paper award, and was a finalist for the 2021 Harris Award
for outstanding graduate researcher.

Ferhat Bayram Afyonkarahisar, Turkey
B.S., Istanbul University; M.S., Clemson University
Dissertation: Nonlinearity in Piezotransistive III-Nitride Resonant Microcantilevers
Adviser: Dr. Goutam Koley

Chase Gilbert Frazelle Lexington, NC
B.S., M.S., Clemson University
Dissertation: Continuum Robots: Interfacing, Modeling, and Automation
Adviser: Dr. Ian Walker
Chase has been a NASA Space Technology Research Fellow since 2017 and has six first-author, peer-reviewed publications. He plans to continue working as a researcher in the robotics industry.

Environmental Engineering and Earth Sciences

Mara Mae Watson..... Plainwell, MI
B.S.E., University of Michigan; M.S., Clemson University
Dissertation: Developing a Novel Neutron Spectrometer Using the Inverse Bonner Sphere
Concept for International Safeguards
Adviser: Dr. Timothy DeVol

Human-Centered Computing

John Junius Porter, III Newport News, VA
B.S., Morehouse College; M.S., Clemson University
Dissertation: An Analysis of Presence and User Experiences Over Time
Adviser: Dr. Andrew Robb
John has three peer-reviewed publications, has been a Graduate Diversity Fellow throughout his seven-year tenure at Clemson, and served two consecutive terms as Vice President of Graduate Student Government. He plans to work in academia as a university administrator and student advocate.

Matias Volonte..... Clemson, SC
B.S., Universidad Blas Pascal; M.F.A., Clemson University
Dissertation: Effects of Virtual Human in Dyadic and Crowd Settings on Emotion, Visual Attention and Task Performance in Interactive Simulations
Adviser: Dr. Sabarish Babu
Matias has seven peer-reviewed publications and plans to continue his career in academic research.

Materials Science and Engineering

Mingyang Zhao Beijing, China
B.S., Hohai University; M.S., University of Florida
Dissertation: An Investigation of Structure, Thermochemistry, Electrochemistry, and Stability of Tunnel Structured Hollandite Materials
Adviser: Dr. Kyle Brinkman
Mingyang has nine peer-reviewed publications and received the American Ceramic Society Nuclear and Environmental Technology Division's Outstanding Student Researcher award in 2019. He has accepted a postdoctoral position at Clemson University.

Mechanical Engineering

Robert Austin Dollar Davidson, NC
B.S., Purdue University; M.S., Clemson University
Dissertation: Efficient Automated Driving Strategies Leveraging Anticipation and Optimal Control
Adviser: Dr. Ardalan Vahidi

Devin M. Keck.....Charleston, SC
B.S., Clemson University
Dissertation: A Multifunctional Tool for the Electrokinetic Manipulation and
Characterization of Cells
Adviser: Dr. Rodrigo Martinez-Duarte

Amirreza MalekanfardClemson, SC
B.S., Amirkabir University of Technology
Dissertation: Nonlinear Electrokinetic Phenomenon in Insulator-Based Dielectrophoretic
Microdevices
Adviser: Dr. Xiangchun Xuan
Amir has nine peer-reviewed publications, won his department's Doctoral Award in 2021, and plans
to work in the biotech industry.

Sahand Sadeghi..... Tehran, Iran
B.S., Sharif University of Technology
Dissertation: Uncovering the Nonlinear Dynamics of Origami Folding
Adviser: Dr. Suyi Li

Shervin Shoai Naini Tehran, Iran
B.S., Tehran Azad University; M.S., Clemson University
Dissertation: Innovative Thermal Management Systems for Autonomous Vehicles –
Design, Model, and Test
Advisers: Dr. John Wagner; Dr. Richard Miller
Since coming to Clemson University in 2013, Shervin has had 11 peer-reviewed scientific articles
published in international journals and conference proceedings. He plans to work in the automotive
industry.

Photonic Science and Technology

Wenzhe Li Liaoning, China
B.S., M.Eng., Nanjing University of Science and Technology
Dissertation: Generation and Manipulation of Higher Order Fractional and Integer Bessel
Gaussian Beams
Adviser: Dr. Eric Johnson

COLLEGE OF SCIENCE
DOCTOR OF PHILOSOPHY

Biological Sciences

Aidan Mikkel Sokolov Millville, NJ

B.S., Stockton University

Dissertation: Regulation of Neuron Development by Slc7a5-mTOR-Ulk1

Adviser: Dr. David Feliciano

Aidan has four peer-reviewed publications including three as a first author. He was also awarded the Outstanding Graduate in Discovery award for his work studying neuron development.

Chemistry

Katja Adean Hall Fairfax, VA

B.S., Winthrop University

Dissertation: Optimization of the Liquid Sampling-Atmospheric Pressure Glow Discharge for Varied Spectrochemical Applications

Adviser: Dr. Kenneth Marcus

Katja has six peer-reviewed publications and 10 conference presentations. She received her department's Mandel Fellowship and Graduate Faculty award, a Clemson University dissertation completion grant, and the Earl C. Ray '38 Student Assistant Endowment. She has accepted a position in scientific consulting for the biopharmaceutical industry.

Kerrick Connor Rees Elizabeth, CO

B.S., M.S., Colorado State University

Dissertation: Progress Toward the Development of Inhibitory Small Molecules for the *Bacteroides* and *Toxoplasma* Microorganisms

Advisers: Dr. Daniel Whitehead; Dr. Kristi Whitehead

Anthony Daniel Santilli Dillon, SC

B.S., Newberry College

Dissertation: Small Molecule Disruption of Starch Utilization in *Bacteroides* as a Non-Bactericidal Therapeutic Method

Adviser: Dr. Daniel Whitehead

Anthony has two peer-reviewed publications and has accepted a postdoctoral position at the Cleveland Clinic in Ohio.

Tyler J. Williams Hanover, MA

B.S., West Virginia University

Dissertation: Diverse Mass Spectrometric Couplings and Applications of the Liquid Sampling-Atmospheric Pressure Glow Discharge as a Combined Atomic and Molecular Ionization Source

Adviser: Dr. Kenneth Marcus

Tyler has five first-author, peer-reviewed publications, a pending patent, and has delivered 14 conference presentations. He has been accepted into the National Nuclear Security Administration Graduate Fellowship Program.

Hui Xu Yantai, China
B.S., Shandong University
Dissertation: The Development and Applications of Nuclear Magnetic Resonance Spectroscopy in Surface Interaction of Nanoparticles
Adviser: Dr. Leah Casabianca
Hui has seven peer-reviewed publications and was named a Mandel Fellow in 2018. She received her department's Outstanding Graduate Researcher award and her college's Outstanding Graduate in Discovery award in 2021.

Environmental Toxicology

Kursten Alyse Anderson Brandy Station, VA
B.S., Coastal Carolina University
Dissertation: The Influence of Environmental Health Indices on Antibody Responses Against *Streptococcus agalactiae* in Bottlenose Dolphins, *Tursiops truncatus*
Adviser: Dr. Charles Rice

Genetics

Christina Lillie Wilkinson Longwood, FL
B.S., University of South Florida
Dissertation: Glycosome Heterogeneity, Import Complex, and Metabolism in *Trypanosoma brucei*
Adviser: Dr. Meredith Morris
Christina has accepted a postdoctoral fellowship at the National Institute of Environmental Health Sciences.

Mathematical Sciences

Jason A. Kurz Easley, SC
B.S., Wheaton College; M.S., Clemson University
Dissertation: Exact Controllability and Inverse Problem for the Mindlin-Timoshenko System
Adviser: Dr. Shitao Liu

Physics

Komal Kumari Begusarai, India
B.S., M.S., Indian Institute of Science Education and Research Kolkata
Dissertation: Short-Term Variability of Atmospheric Tides in Earth's Mesosphere and Lower Thermosphere Region
Adviser: Dr. Jens Oberheide
Komal had three peer-reviewed publications, received his department's Outstanding Graduate Researcher Award in 2021, and has accepted a postdoctoral position at the Arizona State University.

Yamei Liu Wuhan, China
B.E., M.E., Wuhan University of Technology
Dissertation: The Ionic Degree of Freedom in Thermoelectric Materials
Adviser: Dr. Jian He

Lea Marcotulli..... Fermo, Italy

B.S., Università di Bologna; M.S., Clemson University

Dissertation: Chasing Supermassive Black Holes at the Dawn of the Universe

Adviser: Dr. Marco Ajello

Lea has three peer-reviewed papers, was nominated her college's Outstanding Graduate in Engagement, and was awarded the NASA Hubble Fellowship which will take her to Yale University.

Fanchen MengDongying, China

B.S., Xihua University; M.S., Southwest Jiaotong University

Dissertation: First Principles Methods for Calculating Thermoelectric Transport Properties

Adviser: Dr. Jian He

Fanchen has more than 20 peer-reviewed publications and was named his college's Outstanding Graduate Researcher in 2020. He was also the single recipient of the Summer Fellowship from the International Thermoelectric Society in 2018. He has accepted a research associate position at Brookhaven National Laboratory.

Rafael Luiz Araújo de MesquitaJoão Pessoa, Brazil

B.S., Universidade Federal de Campina Grande

Dissertation: An Observational Investigation of Mid-Latitude Thermospheric Temperatures and High-Latitude E-Region Neutral Wind Structures

Adviser: Dr. Stephen Kaeppler

Rafael has four peer-reviewed publications, is a member of Phi Kappa Phi academic honor society, and has accepted a postdoctoral position at Johns Hopkins University's Applied Physics Laboratory.

Indrajit SenBokaro Steel City, India

B.E., Birla Institute of Technology and Science Pilani; M.Sc., Indian Institute of Technology Madras

Dissertation: Exploring Alternatives to Quantum Nonlocality

Adviser: Dr. Murray Daw

Indrajit has four peer-reviewed publications and won the Carolyn Curry Elbel Memorial Fellowship last year. He begins a postdoctoral research position at Institute for Quantum Studies at Chapman University later this year, where he will continue investigating the foundational issues of quantum mechanics.

CLEMSON ALMA MATER

Farmer and McGarity/arr. Freeman

Where the Blue Ridge yawns its greatness,
Where the Tigers play;

Here the sons of dear Old Clemson
Reign supreme always.

Chorus

Dear Old Clemson, we will triumph
And with all our might,

That the Tiger's roar may echo
O'er the mountain height.

We will dream of greater conquests,
For our past is grand,

And her sons have fought and conquered
Every foreign land.

Where the mountains smile in grandeur
O'er the hill and dale,

Here the Tiger lair is nestling
Swept by storm and gale.

We are brothers strong in manhood,
For we work and strive;

And our alma mater reigneth
Ever in our lives.

Candidates appearing in this program may not be certified graduates. Likewise, academic honors designations are based upon performance prior to final grades. Both certification of graduation and honors designations must come from the Registrar of the University.

