

CLEMSON UNIVERSITY

Doctoral Hooding Ceremony

AUGUST 5, 2021



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DOCTORAL HOODING CEREMONY

THURSDAY, AUGUST 5, 2021

3:00 P.M.

LITTLEJOHN COLISEUM
CLEMSON, 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

Victoria Houser

Ph.D. Candidate: Rhetorics, Communication, and Information Design
Selected by the Graduate Student and Postdoctoral Advisory Committee

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

(Please stand as you are able and remain standing for
the recessional of the stage party)

*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 and captioning are displayed on the center-hung scoreboard.*

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Dean of Undergraduate Studies

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Dean of the Graduate School

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Arts and Humanities

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and Health Sciences

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Dean of University Libraries

EXECUTIVE OFFICERS

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Chief Diversity Officer and
Special Assistant to the President for Inclusive Excellence
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Director of Athletics
Tracy Arwood
Chief Ethics and Compliance Officer

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

Robert O'Hara, President
Abi Roberts, Vice President

ASSOCIATE DEANS AND DEPARTMENT CHAIRS

COLLEGE OF AGRICULTURE, FORESTRY AND LIFE SCIENCES

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

Charles V. Privette, III Agricultural Sciences
Charles F. Rosenkrans, Jr..... Animal and Veterinary Sciences
Charles R. Santerre..... 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
William Stockton 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
Brian Denham, interim Communication
Jeffrey Hallo, interim..... Parks, Recreation and Tourism Management
Jeffrey S. Peake Political Science
Patrick H. Raymark..... Psychology
Sarah F. Griffin, interim Public Health Sciences
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
Hans W. Klar, interim 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 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 Success
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.

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 today's 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 coliseum.

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

Animal and Veterinary Sciences

Keelee Jae McCarty..... Shady Spring, WV

B.S., M.A., Mississippi State University

Dissertation: Effects of Exogenous Glucocorticoid Infusion at Birth on Appetitive Center Brain Development During Early Postnatal Life and Its Impact on Voluntary Feed Intake in Beef Cattle

Adviser: Dr. Nathan Long

Entomology

Anthony Daniel GreeneNewport, TN

B.S., Lincoln Memorial University; M.S., University of North Carolina

Dissertation: Spatial Distributions of Arthropods in Soybean and Implications for Pest Management

Advisers: Dr. Jeremy Greene; Dr. Francis Reay-Jones

Daniel has two peer-reviewed publications, received the University's Wade Stackhouse Graduate Fellowship from 2017-20 and the Entomological Society of America's Robert T. Gast award in 2017. He plans to teach and conduct research in an academic setting.

Forest Resources

Julie Carl Ureta.....Los Banos, Philippines

B.S., M.S., University of the Philippines

Dissertation: Sustainable Financing Mechanism for Landscape Sustainability Management: A Systematic Approach to Designing a Payments-for-Ecosystem Services (PES) in Santee River Basin Network, South Carolina

Advisers: Dr. Marzieh Motallebi; Dr. Robert Baldwin

Carl has four peer-reviewed publications and is a member of the Phi Kappa Phi international honor society. He plans to pursue further research on ecological economics.

Plant and Environmental Sciences

Samara Azevedo de Oliveira.....Greenville, SC

B.S., Pontifical Catholic University of São Paulo; M.S., São Paulo State University

Dissertation: Biology and Genetic Variability of the Leaf Gallling Nematode *Ditylenchus gallaeformans*

Advisers: Dr. Paula Agudelo; Dr. Saara DeWalt

Sarah Powers Lexington, NC

B.S., North Carolina State University

Dissertation: Evaluating Pea (*Pisum sativum* L.) for Nutritional Traits and Implications for Organic Agriculture and Biofortification

Adviser: Dr. Dil Thavarajah

COLLEGE OF ARCHITECTURE, ARTS AND HUMANITIES

DOCTOR OF PHILOSOPHY

Planning, Design, and the Built Environment

Roxana Jafarifiroozabadi Clemson, SC

B.S., M.Arch., University of Tehran

Dissertation: The Impact of Daylight and Window Views on Health and Recovery:

A Quasi-Experimental Study of Patients with Heart Disease in a Cardiac ICU

Adviser: Dr. Anjali Joseph

Rhetorics, Communication, and Information Design

Stacy Renee Cacciatore Fort Mill, SC

B.S., Gardner Webb University; M.A., Queens University

Dissertation: Princesses, Divas, and Mother Runners: Gendered Institutional and Vernacular Rhetorics in Running Events

Adviser: Dr. Michelle Smith

Stacy has authored seven books and has published in *Gender, Place, & Culture*, *Contemporary Drug Problems* and the *Digital Rhetoric Collaborative*. She has 20 years' experience in the financial services industry and plans to continue corporate communications management for Wells Fargo, as well as to continue writing, publishing, and coaching.

Michael Alan Collins Reno, NV

B.A., University of California; M.A., Washington State University

Dissertation: Building a Film, Communications, and Productivity Studio Computer with Free and Public Software Promoting Software and Technology Democratization

Adviser: Dr. David Blakesley

Victoria Grace Houser Eagle River, AK

B.A., Roberts Wesleyan College; M.A., Washington State University

Dissertation: Altared Bodies: Evangelical Purity Rhetorics in the Age of Sexual Politics

Adviser: Dr. Cynthia Haynes

Victoria has three single-authored, peer-reviewed publications. In 2019, she received the Thomas E. Douglass Award for excellence in teaching and has accepted a faculty position at Methodist University.

COLLEGE OF BEHAVIORAL, SOCIAL AND HEALTH SCIENCES

DOCTOR OF NURSING PRACTICE

Christopher K. Broome Anderson, SC

B.S., Carson-Newman College; B.S., University of South Carolina; M.S., East Tennessee State University; M.S., Clemson University

Terminal Project: Implementing a Risk Index Tool to Guide Healthcare Providers Prescribing Opioid Therapy for Chronic Pain

Adviser: Dr. Mary Ellen Wright

Jennifer Leigh Cheek.....Piedmont, SC
B.S., University of South Carolina; M.S., Clemson University
Terminal Project: Implementation of an Educational Toolkit and the Effect on Perceived
Self-Efficacy
Adviser: Dr. Stephanie Davis

Shana S. Keller.....Greenwood, SC
B.S., Lander University; M.S., Clemson University
Terminal Project: The Role of Telehealth for the Elderly in Rural Communities Following
Hospitalization
Adviser: Dr. Tracy Fasolino

DOCTOR OF PHILOSOPHY

Applied Health Research and Evaluation

Laura Jane Rolke.....Greensboro, NC
B.A., M.P.H., University of North Carolina
Dissertation: Pediatric Asthma Management: Navigating Child, Family, Healthcare, and
Community Factors
Adviser: Dr. Sarah Griffin
Laura will join the Healthy Living team with Texas A&M AgriLife Extension in Dallas this fall as a
postdoctoral researcher.

Industrial-Organizational Psychology

Katherine Brown D'Souza.....Atlanta, GA
B.S., Florida Southern College; M.S., Clemson University
Dissertation: The Effectiveness of a Diversity and Inclusion Intervention in Higher
Education in the Context of COVID-19
Adviser: Dr. Patrick Rosopa
Katie has three peer-reviewed publications and has accepted a position on the Cox Enterprises
people analytics team.

Annie McCord Wilson.....Sylva, NC
B.S., M.A., Western Carolina University
Dissertation: Comparing Cyberincivility and Cyberbullying in the Workplace:
Measurement, Outcomes, and the Power Imbalance
Advisers: Dr. Robin Kowalski; Dr. Patrick Rosopa
Annie has three peer-reviewed publications and has accepted a faculty position at Western Carolina
University in the Psychology Department.

Parks, Recreation and Tourism Management

Tarah Loy.....Webster, MA
B.A., Wells College; M.Ed., Springfield College
Dissertation: Intersections of Ageism and Gender Stigma: Exploring Long-Term Care
Employees' Attitudes Towards Aging
Advisers: Dr. Brent Hawkins; Dr. Marieke Van Puymbroeck

Jason Page.....Homer, NY
B.A., Canterbury Christchurch University; B.A., M.A., State University of New York
Dissertation: Resident and Staff Attitudes on Leisure and Leisure Constraints in
Residential Programs for Individuals in Early Recovery from Substance Use Disorders
Adviser: Dr. Brent Hawkins

WILBUR O. AND ANN POWERS COLLEGE OF BUSINESS

DOCTOR OF PHILOSOPHY

Economics

Tyler Francis.....Roanoke, VA
B.S., Radford University; M.A., Clemson University
Dissertation: Three Essays in Applied Banking and Finance
Adviser: Dr. Gerald Dwyer
Tyler has accepted a faculty position at Lincoln Memorial University.

Shen ZhangJinan, China
B.A., University of Minnesota, Twin Cities; M.S., University of California, Davis
Dissertation: Consumer Welfare Analysis of Bike Renting System and Assessing the Impact
of COVID-19 on It
Adviser: Dr. Babur De los Santos

COLLEGE OF EDUCATION

DOCTOR OF EDUCATION

Education Systems Improvement Science

Natasha Yvette Harvin-Wright.....Salters, SC
B.S., Livingstone College; M.S., Saint Mary's University; M.Ed., Ed.S., The Citadel
Dissertation: Personalized Professional Development Using Improvement Science:
Induction Teachers' Sense of Teacher Self-Efficacy
Adviser: Dr. Noelle Paufler
Natasha is the first African American Director of Human Resources for Berkeley County School
District, SC, and the first African American to graduate from the Education Systems Improvement
Science program.

Melissa Lynn LaBergeCharleston, SC
B.S., College of Charleston; M.S., The Citadel
Dissertation: The Use of Improvement Science by a Principal to Increase Teacher
Satisfaction and Teacher Retention Rates in an Elementary School Setting
Adviser: Dr. Daniella Hall-Sutherland

Aubrey Leigh MorelandCharleston, SC
B.S., College of Charleston; M.A., The Citadel
Dissertation: "All I Needed Was Somebody to Talk to Me": Using Improvement Science to
End Exclusionary Discipline Practices with Black Girls
Adviser: Dr. Daniella Hall-Sutherland

DOCTOR OF PHILOSOPHY

Curriculum and Instruction

Michelle Elaine FowlerSimpsonville, SC
B.A., M.A., M.Ed., Winthrop University
Dissertation: A Qualitative Study of Connected Middle and High School Broadcast
Journalism Programs and Their Relationship to Career Broadcast Journalism
Adviser: Dr. Jacquelynn Malloy

Learning Sciences

Abigail Holcombe Baker.....Pickens, SC
B.S., Clemson University
Dissertation: Exploring Student Perspectives on Informal and Formal Learning in
University Makerspaces
Adviser: Dr. Danielle Herro
Abby has published an article and a book chapter. She won both the Clemson/University of
Pittsburgh poster session and the Excellence in Service - Outreach awards in 2021 for the College of
Education. The latter recognized Abby for her work founding and directing a local nonprofit for arts
and education since 2016.

Amanda Elizabeth Bennett..... Hershey, PA
B.A., M.S., University of Tennessee
Dissertation: Teachers' Conceptualizations and Experiences with STEAM Instruction
in the Early Childhood Classroom in Connection with Children's Social Emotional
Competencies
Adviser: Dr. Faiza Jamil

DeOnte Teon Brown..... Quincy, FL
B.S., University of Central Florida; M.Ed., Florida Agricultural and Mechanical University
Dissertation: Educating Black Collegians: Examining the Influence of Blackness on
Educational Outcomes Related to Life and Career Perspectives
Adviser: Dr. Faiza Jamil
DeOnte has published a book chapter and participated in numerous conference presentations. He
was recognized as an outstanding advocate for first-year students and was actively engaged in equity,
diversity and inclusion efforts at Clemson. He has accepted a specialized faculty position at Florida
State University.

Literacy, Language and Culture

Alicia Diane Kelley.....Easley, SC
B.S., M.S., Bob Jones University
Dissertation: Power and Agency in Teachers' Digital Writing Feedback: A Virtual
Education Environment
Advisers: Dr. Emily Howell; Dr. Jacquelynn Malloy

Mary-Celeste M. Schreuder Burnsville, MN
B.A., Northwestern College; M.Ed., Anderson University
Dissertation: “We are girls. We are warriors. We are writers”: Middle School Girls and
Gender Identity Construction in an After-School Writing Workshop
Adviser: Dr. Susan Cridland-Hughes
Mary-Celeste has five first-author, peer-reviewed publications, received her college’s Graduate
Student Award of Excellence in Service in 2019, and has accepted a position as a tenure-track
assistant professor at Lander University.

Special Education

Sharon Melchioris WaltersSalem, SC
B.S., University of Georgia; M.A., University of Tennessee
Dissertation: Clarifying Vocabulary in a Mixed-Reality Classroom: Coaching Preservice
Teachers
Adviser: Dr. Shanna Hirsch
Sharon has seven peer-reviewed publications and has accepted a position in a local school district
providing speech-language services and consultative autism and assistive technology support services.

COLLEGE OF ENGINEERING, COMPUTING AND APPLIED SCIENCES

DOCTOR OF PHILOSOPHY

Automotive Engineering

Longxiang Guo Beijing, China
B.S., Tsinghua University; M.S., University of the Chinese Academy of Sciences
Dissertation: Human-Automated Vehicle Interactions
Adviser: Dr. Yunyi Jia
Longxiang has seven peer-reviewed publications, was named the college’s Outstanding Graduate
Researcher in 2020 and plans to work in academia.

Ziming YanTaiyuan, China
B.S., Taiyuan University of Science and Technology; M.S., Stony Brook University
Dissertation: An Assessment of Thermal Barrier Coatings for the Low-Temperature
Combustion Family: From HCCI To GCI
Advisers: Dr. Benjamin Lawler; Dr. Zoran Filipi

Bioengineering

Andrew Benjamin BaldwinAsheville, NC
B.S., North Carolina State University
Dissertation: The *in Vivo* and *in Vitro* Characterization of Collagen/Tannic Acid Beads as
an Injectable Tissue Regenerative Scaffold for Breast Reconstruction Post-Lumpectomy
Adviser: Dr. Brian Booth

Andrew Harry DeMaria.....Ocean City, NJ
B.S., College of New Jersey; M.S., Clemson University
Dissertation: Development of a Hybrid Hydrogel Drug Delivery System for Treatment of
Ischemic Injury
Advisers: Dr. Ken Webb; Dr. JeoungSoo Lee

Zhanhe Liu..... Xinxiang, China
B.Eng., Beijing Institute of Technology; M.S., Clemson University
Dissertation: Machine Learning Methods for Simulator-Based Cannulation Skill
Assessment
Adviser: Dr. Joseph Singapogu
Zhanhe has seven peer-reviewed publications during his time at Clemson and has accepted a
postdoctoral research position in Clemson's Department of Bioengineering.

Meredith Kaitlyn Owen..... Pendleton, SC
B.S., Mercer University
Dissertation: Design, Development, and Evaluation of Additively Manufactured
Technologies for Use in Lower Limb Prostheses
Adviser: Dr. John DesJardins

Chemical Engineering

Anna Malakian Las Cruces, NM
B.S., M.S., Azad University; M.S., New Mexico State University
Dissertation: New Strategies to Combat Fouling in Membrane-Based Water Treatment
Applications
Adviser: Dr. Scott Husson

Weigao Wang..... Changge, China
B.S., Henan University; M.S., Jiangnan University
Dissertation: Engineering of Robust Enzymes and Their Production in the Non-
Conventional Oleaginous Yeast *Yarrowia lipolytica*
Adviser: Dr. Mark Blenner

Xiaohong Zhang..... Shangqiu, China
B.S., Changsha University of Science and Technology; M.S., South China University of
Technology; M.S., Clemson University
Dissertation: Development of Improved Models for Simulating Adsorption Kinetics and
Solvation Free Energies of Catalytic Species at Pt(111)/Liquid Water Interfaces
Adviser: Dr. Rachel Getman
Xiaohong has seven peer-reviewed publications, was named the University's Outstanding Graduate
Researcher in 2021 and plans to work as a data scientist.

Civil Engineering

Emmanuel Adjei Tarkwa, Ghana
B.Sc., University of Mines and Technology
Dissertation: Modeling Households' Evacuation-Related First Decisions, Actual Evacuation
Decision, Accommodations, and Destinations During Hurricane Matthew
Advisers: Dr. Pamela Murray-Tuite; Dr. Wayne Sarasua
Emmanuel received his department's James Edwin Clark Fellowship. He twice received a Jacobs
Scholarship from the Conference of Minority Transportation Officials (COMTO).

Weimin Jin..... Shanghai, China

B.S., Southwest Jiaotong University; M.S., Tongji University
Dissertation: Risk-Based Freeway Merging and Lane-Changing Decisions for Autonomous Vehicles

Adviser: Dr. Mashrur Chowdhury

Weimin has ten peer-reviewed publications. He was awarded Dr. James Edwin Clark Endowed Fellowship in 2020. He also received other awards from the Transportation Research Board and IEEE ITSS. He works as a traffic and intelligent transportation system engineer at Arcadis.

MD Zadid Khan..... Rajshahi, Bangladesh

B.Sc., Bangladesh University of Engineering and Technology; M.S., Clemson University
Dissertation: Security and Reliability of Vehicular Networks and Autonomous Vehicle Applications Using Artificial Intelligence and Edge Computing in a Cyber-Physical Systems Environment

Adviser: Dr. Mashrur Chowdhury

Zadid has nine peer-reviewed journal publications and 125 Google scholar citations. He was named the outstanding graduate researcher by GSG in 2020, and by the civil engineering department in 2020 and 2021. He plans to work in data science and AI in the future.

Sourav Mukherjee..... Durgapur, India

B.E., Bengal Engineering and Science University; M.Tech., Indian Institute of Technology, Guwahati

Dissertation: Quantification of Compound and Cascading Hydroclimatic Extreme Events

Adviser: Dr. Ashok Mishra

Sourav has eight peer-reviewed publications and plans to work in academia.

Dac Trong Nguyen Hanoi, Vietnam

B.S., Irkutsk State University; M.S., Victoria University

Dissertation: Improving Disaster Resilience by Quantifying Wildland Urban Interface Community Ember Exposure

Adviser: Dr. Nigel Kaye

Amal Pradeep Ponathil Thrissur, India

M.S., Clemson University

Dissertation: Determinants of Consumer Decisions in an Online Marketplace: The Decision-Making Process in the Home Improvement Service Domain

Adviser: Dr. Kapil Chalil Madathil

Amal has six first-author, peer-reviewed journal publications and eight first-author, peer-reviewed conference proceedings. He was named a student member with honors at the Human Factors and Ergonomics Society's annual conference. He plans to work as a user experience researcher.

Computer Engineering

Qing Wang..... Nanjing, China

B.S., Nanjing University of Aeronautics and Astronautics; M.S., University of Detroit Mercy

Dissertation: Supporting Scalable Data-Intensive Applications Using Software Defined Internet Exchanges

Adviser: Dr. Kuang-Ching Wang

Electrical Engineering

Digangana KhanKolkata, India
B.S., West Benfal University of Technology
Dissertation: Plasmon Enhanced GaN MEMS Photoacoustic Sensors
Adviser: Dr. Goutam Koley

Environmental Engineering and Earth Sciences

Hamed Torkzadeh..... Bushehr, Iran
B.S., Sharif University of Technology; M.S., Hamburg University of Technology
Dissertation: Biofilm Deterrence on Surfaces Exposed to Continuous Ultraviolet-C
Radiation as a Tool for Mitigating Bacterial Pathogens: Developing a Biofilm-UVC
Intensity Response Model
Adviser: Dr. Ezra Cates
Hamed has received awards for his presentations and publications, including the “UV Best Paper”
award from the International Ultraviolet Association. He has accepted a postdoctoral position at
Auburn University.

Ao XieTianjin, China
B.S., Tianjin University; M.S., University of Washington
Dissertation: Evaluation of Microbial and Electrochemical Technologies for Resource
Recovery from Rendering Wastewater
Adviser: Dr. Sudeep Popat

Human-Centered Computing

Paritosh Pradeep BahiratPune, India
B.E., University of Pune; M.S., Clemson University
Dissertation: Smart Home Privacy Decision Making: A Web of Context, Conceptual
Models, Heuristics and Interfaces
Adviser: Dr. Bart Knijnenburg
Paritosh has co-authored several peer-reviewed conference and journal publications and received a
best paper award at ACM IUI 2018 conference. He plans to work in industry as a UX Researcher.

David Brickler..... Tallahassee, FL
B.S., Morehouse College
Dissertation: Investigating Visuo-Haptic Interaction Fidelity and Display Metaphors on
Near-Field Fine Motor Selection and Manipulation Tasks in Virtual Reality
Adviser: Dr. Sabarish Babu

Byron Matthew LowensMonroe, LA
B.S., Southern University and A&M College; M.S., Virginia State University
Dissertation: Interaction Techniques for In-the-Moment Privacy Control Over Data
Generated by Wearable Technologies
Adviser: Dr. Kelly Caine
Byron has co-authored five peer-reviewed publications, was named Outstanding Ph.D. Student in
Human Centered Computing in 2019, and has accepted a postdoctoral research position at the
University of Michigan in the School of Information.

Olivia Mambo Nche Clemson, SC
B.S., Anderson University; M.S., Northwestern University
Dissertation: Integrating Game Mechanics with Basic Programming Concepts to Teach
K-12 Students
Advisers: Dr. Murali Sitaraman; Dr. Victor Zordan

Industrial Engineering

Mustafa Can Camur Istanbul, Turkey
B.S., Yıldız Technical University; M.S., Rensselaer Polytechnic Institute
Dissertation: Large-Scale Optimization Models with Applications in Biological and
Emergency Response Networks
Adviser: Dr. Thomas Sharkey
Mustafa Can has three peer-reviewed publications, won the Edwin J. Freeman Memorial Award for
Outstanding Graduate Research Assistant this year, and is a postdoctoral research associate at Rice
University.

Berkay Eren Gulcan Istanbul, Turkey
B.S., Sabancı University; M.S., Clemson University
Dissertation: Stochastic Optimization for Renewable Energy System Design and Operation
Adviser: Dr. Yongjia Song

Joshua Taylor Margolis Langhorne, PA
B.S., Dickinson College; M.S., Lehigh University
Dissertation: Optimization Models and Algorithms for Vehicle Routing and Target
Surveillance
Advisers: Dr. Yongjia Song; Dr. Scott Mason
Josh has two peer-reviewed publications and one currently under review. He received the Gilbreth
Memorial Fellowship from IISE and the Bonder Scholarship for Applied Operations Research in
Military and Security Applications from INFORMS. He was named his department's Outstanding
Graduate Teaching Assistant in 2018 and received the Student Development Award from his
department this spring.

Murwan Siddig Khartoum, Sudan
B.S., University of Khartoum; M.S., Clemson University; M.S., University of Manchester
Dissertation: Multistage Stochastic Programming: Algorithms, Modelling and Applications
Adviser: Dr. Yongjia Song

Materials Science and Engineering

Jun Gao Anqing, China
B.S., Nanjing Tech University; M.S., Shanghai Institute of Ceramics
Dissertation: The Development of High-Performance Protonic Ceramic Conducting
Membranes by Interfacial Engineering
Adviser: Dr. Kyle Brinkman

Michelle M. Greenough Davis, CA
B.S., Wagner College
Dissertation: Carbon Rich Polymer-Derived Ceramics: Processing, Characterization, and
Properties
Adviser: Dr. Rajendra Bordia
Michelle was a National Science Foundation Graduate Research Fellow and has accepted a position
at Lawrence Livermore National Laboratory in California.

-
- Changlong Li Shaoyang, China
 M.S., Clemson University
 Dissertation: The Effects of Composition on the Structural Symmetry, Ionic Conductivity,
 and Stability of Garnet-Type $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$
 Advisers: Dr. Kyle Brinkman; Dr. Lindsay Shuller-Nickles
- Jianxing Ma Liaocheng, China
 B.S., Beijing University of Chemical Technology; M.S., University of Akron
 Dissertation: Fabrication of Cerium- and Uranium-Based Ceramic Microspheres Using the
 Sol-Gel Process with Polymer Additives
 Adviser: Dr. Fei Peng
- Zichun Yan Binzhou, China
 B.S., Nanjing Tech University; M.S., University of Florida
 Dissertation: Tuning the Structures of Magnetic Nanoparticles and Thermoresponsive
 Polymers Towards Magneto-Thermoresponsive Particles
 Adviser: Dr. O. Thompson Mefford
- Zeyu Zhao Zhengzhou, China
 B.S., Beijing University of Chemical Technology
 Dissertation: Mixed Conducting Composite Materials for Intermediate-Temperature
 Protonic Ceramic Fuel Cells
 Adviser: Dr. Jianhua Tong
 Zeyu has three peer-reviewed publications, one submitted book chapter, and nine co-authored
 publications.

Mechanical Engineering

- Faraz Ashtiani Tehran, Iran
 B.S., University of Tehran
 Dissertation: Optimal Pacing of Cyclists in a Time Trial Based on Experimentally
 Calibrated Models of Fatigue and Recovery
 Adviser: Dr. Ardalan Vahidi
- Longsheng Jiang Jiangsu, China
 B.S., Taiyuan University of Technology; M.S., University of Florida
 Dissertation: Human-Like Risk-Aware Decision-Making Modeling and Its Applications in
 Human-Robot Interaction: A Regret Theory Approach
 Adviser: Dr. Yue Sophie Wang
- Sai Hamsini Kosaraju Hyderabad, India
 B.E., Osmania University; M.S., Clemson University
 Dissertation: Asymptotic Homogenization and Wave Analysis of Pantographic Lattices with
 Variable Order Rotational Resistance at Pivots
 Adviser: Dr. Lonny Thompson
 Sai has two published papers and four papers under review, received his department's Outstanding
 Graduate Teaching Award, and plans to work in the field of finite element analysis.

Apurva Rajesh Patel..... Easley, SC
B.S., M.S., Clemson University
Dissertation: Exploring the Role of Individual Differences in Function Structure Modeling:
A Theory Building Approach
Advisers: Dr. Joshua Summers; Dr. Marissa Shuffler
Apurva has authored ten peer-reviewed publications and contributed to several more. He plans
to pursue a career in academia where he will continue research and teaching while finding
opportunities to collaborate with peers in service of the research community.

COLLEGE OF SCIENCE

DOCTOR OF PHILOSOPHY

Biochemistry and Molecular Biology

Yuqing Hang Suzhou, China
B.S., Ningbo University
Dissertation: Identification of Biomarker Systems in the Human Brain and Lung
Adviser: Dr. Alex Feltus

Piotr Ryszard Stempinski Wrocław, Poland
B.S., M.S., University of Wrocław
Dissertation: Genetic Contribution to Growth of *Cryptococcus neoformans* in the
Environment of the Human Host
Adviser: Dr. Lukasz Kozubowski

Chemistry

Tatiana Alexandra Estrada-Mendoza Ibarra, Ecuador
B.S., M.S., McNeese State University
Dissertation: Synthesis of Nanoparticles in a Silicate Matrix
Adviser: Dr. George Chumanov
Tatiana has two peer-reviewed papers and was awarded a Graduate School dissertation completion
grant and a Mandel fellowship in 2020-21.

Sisi Huang Luoyang, China
B.S., Zhengzhou University; M.S., Northwest A&F University
Dissertation: Rapid Isolation and Quantification of Exosome and Lentivirus by
Hydrophobic Interaction Chromatography on a Polyester Capillary-Channeled Polymer
Fiber Stationary Phase
Adviser: Dr. Kenneth Marcus

Michael John Skriba Elsie, MI
B.S., M.S., Central Michigan University
Dissertation: Synthesis of Novel Pyrene-Neomycin and Pyrrole-Imidazole Polyamide-
Neomycin Conjugate Libraries for Recognition of GC-Rich Nucleic Acid Sequences
Adviser: Dr. Dev Arya

Lisi Wang Lengshuijiang, China
B.S., Clemson University
Dissertation: Computational Study of Catalytic Activity of a H-D-Pro-Pro-Glu-NH₂
Derivatives in an Emulsion
Adviser: Dr. Brian Dominy

Genetics

Brandon Michael Baker Cincinnati, OH
B.S., University of Cincinnati
Dissertation: Systems Genetics of Cocaine and Methamphetamine Consumption in
Drosophila melanogaster
Adviser: Dr. Trudy MacKay

Mathematical Sciences

Hugh Roberts Geller Devens, MA
B.A., Goucher College; M.S., Clemson University
Dissertation: Minimal Differential Graded Resolutions of Fiber Products
Adviser: Dr. Keri Sather-Wagstaff
Hugh received a Clemson Doctoral Completion Grant and was named his department's
Outstanding Graduate in Research. He has accepted a visiting assistant professor position at
Sewanee: The University of the South.

Rui Gong Chengdu, China
B.S., Sichuan University; M.S., Otto von Guericke University Magdeburg; M.S., Clemson
University
Dissertation: Bayesian Poisson Mortality Projections with Incomplete Data
Adviser: Dr. Xiaoqian Sun

James Edward Gossell Lee's Summit, MO
B.S., M.S., University of Central Missouri; M.S., University of Utah
Dissertation: Characterizing Unmixed Trees with Respect to Total Domination and PMU
Covers
Adviser: Dr. Keri Sather-Wagstaff

Li He Zhengzhou, China
B.S., Zhengzhou University; M.S., Mississippi State University
Dissertation: Bayesian Framework for Causal Inference in Complex Data Structure
Advisers: Dr. William Bridges, Jr.; Dr. Yu-Bo Wang

Zhen Liu Beijing, China
B.S., M.S., Beijing University of Posts and Telecommunications; M.S., Clemson University
Dissertation: Bayesian Poisson Log-Normal Model with Regularized Time Structure and
Spatial Framework for Mortality Projection of Multi-Population
Advisers: Dr. Xiaoqian Sun; Dr. Yu-Bo Wang

Tiantian Yang Luohe, China
B.S., Central China Normal University; M.S., Georgia Southern University
Dissertation: Comparison of Missing Data Imputation Techniques and Analysis with
Multilevel Data
Advisers: Dr. William Bridges, Jr.; Dr. Deborah Kunkel

Microbiology

Shayesteh Beladi Behbahani Ahvaz, Iran
M.S., Clemson University
Dissertation: Orthopedic Implant Associated Infection, Detection, Prevention and Treatment
Adviser: Dr. Tzuen-Rong Jeremy Tzeng

Physics

Shailendra Chiluwal Lamjung, Nepal
M.S., Bowling Green State University
Dissertation: Three-Dimensional Electrode Architectures for Beyond Lithium-Ion Batteries
Adviser: Dr. Ramakrishna Podila

Patrick Roy Johnson Charlestown, Saint Kitts and Nevis
B.S., Clemson University
Dissertation: Flexible Molecular Dynamics for Simulating Ion-Surface Scattering Trajectories
Adviser: Dr. Chad Sosolik
Patrick has two first-author, peer-reviewed publications and plans to continue working in experimental physics with an emphasis on highly charged ion beam research.

Xiurui Zhao Shenyang, China
B.S., Lanzhou University
Dissertation: Heavily Obscured Active Galactic Nuclei in the *NuSTAR* Era
Adviser: Dr. Marco Ajello
Xiurui has five first-author, peer-reviewed publications, was named the University's Outstanding Graduate Researcher this year, and was an SAO predoctoral fellow in 2020. He has accepted a postdoctoral position in the Center for Astrophysics at Harvard and Smithsonian.

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.

