

CLEMSON UNIVERSITY

# Doctoral Hooding Ceremony

MAY 12, 2022



Candidates appearing in this program may not be certified graduates. Certification of graduation must come from the Registrar of the University.

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# DOCTORAL HOODING CEREMONY

THURSDAY, MAY 12, 2022

5:00 P.M.

BROOKS CENTER FOR THE PERFORMING ARTS

CLEMSON, SOUTH CAROLINA

## ORDER OF CEREMONIES

### PROCESSIONAL

Stage Party

(Please stand as you are able and remain standing  
for the National Anthem)

### NATIONAL ANTHEM

### WELCOME AND INTRODUCTIONS

John Lopes

Associate Provost and Dean of the Graduate School

### GRADUATE ADDRESS

Josh Loebner

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

### PRESENTATION OF AWARDS

Natasha N. Croom

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

(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](http://tv.clemson.edu). and at  
[Youtube/ClemsonUniversity](https://www.youtube.com/ClemsonUniversity), where it will be archived after the ceremony.  
Sign language interpreting is available in the right front corner of the theater.*

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**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.

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**2021-2022 AWARDS IN GRADUATE EDUCATION**

**FRANKIE O. FELDER GRADUATE STUDENT AWARD OF EXCELLENCE**

Rebecca Pool  
Communication, Technology and Society

**OUTSTANDING GRADUATE RESEARCHER AWARD**

Moses Namara  
Human-Centered Computing

Andrew Peloquin  
Chemistry

**OUTSTANDING GRADUATE TEACHING ASSISTANT AWARD**

Pranith Abbaraju  
Management

Jenny Presgraves  
Policy Studies

**PHIL AND MARY BRADLEY GRADUATE STUDENT AWARD FOR  
MENTORING IN CREATIVE INQUIRY**

Lauren Elizabeth Stoczynski  
Biological Sciences

**DISTINGUISHED GRADUATE STUDENT SUPPORT STAFF AWARD**

Michael Jeremiah Farmer  
Student Services Manager  
Automotive Engineering

**DISTINGUISHED DOCTORAL MENTORING AWARD**

Xiangchun Xuan  
Professor  
Department of Mechanical Engineering

Patrick Rosopa  
Professor  
Department of Psychology

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## 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.

The University has named "Clemson purple" *Regalia* in a nod to these stately gowns.

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



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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 CLEMSON<sup>1</sup>

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.”<sup>2</sup>

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.



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## GRADUATE REFLECTIONS

Before every hooding ceremony at Clemson, each of the seven academic colleges is invited to nominate one graduating doctoral student to deliver the student address at the ceremony. Each of the nominees submits a written speech for consideration, and a short list of nominees is chosen. The students on the short list then submit videos of themselves delivering their speeches. The Graduate Student and Postdoctoral Scholar Advisory Committee then votes to determine which student will deliver the student address that semester.

This semester, the reviewers felt that all of the submissions were interesting reflections on the past, present and future of the authors and Clemson University and the world. So, in addition to the student address delivered by Josh Loebner (see page 1), we've included some of those other speeches below.

### JOSH LOEBNER

#### RHETORICS, COMMUNICATION & INFORMATION DESIGN

Speech Delivered at Doctoral Hooding Ceremony, May 12, 2022

##### Clearly See The Best In Everyone

My regalia includes a unique added feature that I decorated especially for this occasion. The white and red cane that I use to navigate is, just for today, orange and purple. That's because today is a celebration where I'm not only proud to share that I'm blind, but to be hooded and recognized as a Clemson PhD, a doctor with a disability.

I wasn't supposed to be here today, or any day. I was born three months premature and only weighed two and a half pounds. The doctors told my parents to not name me, because I wouldn't survive. In the precariousness of that moment, my parents gave me the strongest and longest name: Joshua Bernard Zachary Loebner, and I survived. I was isolated for the first three months of my life in an incubator. I had two bouts of pneumonia, jaundice, scar tissue in my lungs and retinopathy of prematurity, which meant I was fully blind in my left eye and legally blind in my right.



*Josh Loebner, Ph.D., Rhetorics, Communication and Information Design*

My life continued to have bumps in the road. I was raised by a single mother, who struggled financially. When I was nine, I was sent to a school for the blind. After my mother suffered a cerebral aneurysm, we needed to move to a slower pace of life from Anaheim, California, to Hancock County, Tennessee, which is still one of the most impoverished places in the United States. I was in New York City on 9/11 with several of my family members who are here this evening, and bore witness to the atrocities of terrorism. My path could have driven me to doubt, regret, fear and anger, but I clearly see the best in everyone.

I do want to share that among all of those challenges, I have had wonderfully amazing successes, moments and milestones to celebrate. My mom, who, directly after her aneurysm, would look at a newspaper but couldn't form the letters into words, went on to earn a Masters in Library Sciences, went back to teaching and was a librarian for 20 years until she

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retired. I'm so proud of my entrepreneurial wife and my intelligent, curious, talented and beautiful daughters. I recognized the need for new knowledge to elevate conversations and commitments surrounding disability in advertising, and Clemson University and the Rhetorics, Communication and Information Design faculty provided that fulcrum to continue momentum.

Through all of this I was, and still am blind. I never have, nor will I take pity on myself, or want anyone to pity me. Clearly see the best in others. I celebrate who I am and the more than one million other people in South Carolina and the one billion people throughout the world who have disabilities. People with disabilities are a growing community. Many in this community are under-educated, underemployed, financially struggling and are discriminated against. Disability is not a bad word. Everyone in this room will be disabled at some point in your life. We have an obligation to clearly see the best in these individuals and the disability community as a whole.

This means more university courses should consider incorporating inclusion and accessibility in bold new ways. Our media, entertainment and advertising need to do a better job of positively portraying and building a workforce of more people with disabilities. This was my doctoral focus, and quite honestly, my life passion. Inclusive design is a methodology that can be used in any industry or knowledge focus, and it has 3 driving principles: recognize exclusion, solve for one and extend to many, and learn from diversity.

Others have clearly seen the best in me, from my wife, family and friends to my committee chair, David Blakesley, RCID faculty and others. I have an amazing opportunity in my career path because others have seen the best in me. I've accepted the position of Global Head of Inclusive Design at Wunderman Thompson, a global advertising agency...and I start on Monday!

All of us here that are about to go across this stage, have found gaps in knowledge to bridge, brought new insights into the world, inspired students and others to strive for better. As faculty, parents, partners and friends, we're able to use everything we've learned here, in graduate school, and throughout our lives to achieve more. When you're able to clearly see the best in everyone, they will clearly see the best in you.

Thank you.

## ANDREW EDMUNDS

### EDUCATIONAL LEADERSHIP

Fellow graduates, administration, faculty, family, and friends – we are here today as a collective to celebrate our individual journeys and accomplishments. Though each of our journeys is as unique as our dissertation titles suggest, as doctoral students we faced and overcame many common challenges.

When our advisors said we were too ambitious, we still asked big questions. When we found ourselves in a class or space where no one else shared our same gender, race, identity, or faith, we forged our own communities of support. When forced to prioritize academics over our personal lives, we left spouses and children at home or simply put our personal lives on hold. We spent countless hours running experiments, collecting data, scrutinizing historical texts, and instructing students. We spent entire weekends at our computers poring over data and many of us consumed an unhealthy amount of caffeine to power through the dissertation writing process.

#### Transformation

Our Graduate School both advertises—and perhaps cautions—students that “transformation begins here.” Each of us has our own story of transformation as PhD students.

Like most students, my answer to the proverbial question “What do you want to be when you grow up?” changed over the years. Preacher, teacher, architect, and civil engineer all took turns as my answer when asked. In hindsight I think what attracted me to each of those career possibilities was the prospect of transforming something, some space, or someone's life.

Being a researcher or faculty member never occurred to me as a career option because prior to stepping onto campus as an undergraduate I'd never really known one. My own transformative



*Andrew Edmunds, Ph.D., Educational Leadership*

undergraduate education experience showed me how university professionals can change lives, and I eventually set aside my plans to become a high school teacher to pursue a career in the field of higher education.

When each of us leaves this place, we will go on to transform our respective fields in different ways. Some of us will head off to other universities, others to national labs; some will create works of art, while others will develop innovative advances in technology. Together we will tackle 21st century challenges, mold the minds of young thinkers like ourselves, and make the world a safer and more just place in the process.

In my own research, I examine how land-grant institutions like Clemson can adapt and thrive in the face of future challenges. I argue that both engaging in research and expanding graduate education are essential in that effort. Those findings are important reminders that each doctoral degree awarded represents the transformation of a career, institution, and academic discipline.

The road to the doctorate can be lonely. Not just because we each navigated research and coursework during the pandemic, but also because no one can ever know your research as well as you do. No matter how much you friends, family, or spouses support you, if they don't share your same passion for "Friction Element Welding Using Finite Element Modeling" or "Impact Analysis of Business Incentive Strategies at the State and Local Level" it can be hard to appreciate daily updates on the dissertation writing progress. There is nothing quite like stumbling on a scholar or body of research that unlocks something otherwise hidden in your quest to tackle your research questions. Unless you've been where we just traveled from you cannot understand the joy of discovering the methodology that will enable you to answer the questions you've posed.

Despite the loneliness and occasional feelings of isolation, we have not traveled along this road alone. While today is a day to celebrate our accomplishments, it should also be a day to thank all those who inspired us to take this journey, patiently listened to us vent our frustrations, and cheered us across the finish line.

Were it not for the talented faculty who taught me and capable PhD practioners who went before me, I wouldn't have dreamed of pursuing a doctorate. Personally, I couldn't have spent so many nights in class and dedicated weekends for dissertation writing without my husband's support. Each supervisor and colleague who checked on us and cheered us on deserves our thanks. Finally, we each owe a great deal of gratitude to our advisors and committee members - they actually read our dissertations. So celebrate today, but at some point in the day take time to show your appreciation to all those who stood alongside us on this journey.

So, let's celebrate, give thanks, and go forth to transform our world in 100 different ways. Go Tigers!

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## GUNCHA BABAJANOVA

### ECONOMICS

It is common to think of education as a fundamentally feasible objective. Yet cultural biases, social norms, financial hurdles, and political barriers still hinder many individuals' ability to fulfill their hunger for knowledge. Ironically, for these same individuals, education is also an opportunity to achieve financial freedom and undo the constraints artificially created by the cultural and social norms.

I have come to appreciate the privilege of possessing sovereignty over educational choices and having access to higher education through my life experiences. I was born in a small developing country, in a society with strong cultural biases about gender roles. I learned early on that it is not typical for girls to attend chess clubs, study mathematics, or dream of becoming an astronaut. Girls are taught to be obedient and to keep busy with house chores. These biases naturally influence the decisions and outcomes for girls. These biases influenced my parents' decision to enroll me in a high school with a linguistic focus despite my predilection for mathematics. I am fortunate, however, since through learning English, I was able to find my way to America and back into the quantitative world. Besides, thanks to my parents' decision, I walked away with a husband from this school!

I've always dreamed of going to a university with a Western-style education, renowned for its training to think critically and develop independent thinkers. Though most such universities are prohibitively expensive for someone born in a developing country, I managed to gain admission to the American University of Central Asia (AUCA) with a four-year scholarship. At AUCA, I immediately fell in love with Economics for its vital role in dealing with social and economic issues; I also appreciated the extent to which quantitative methods are used in the discipline. I loved Economics so much that by the end of my third year, I had taken all of the Economics courses offered by the university, or 45 credits to be exact!

However, due to the political instabilities, I could not complete my degree at AUCA and had to look for other alternatives. Consequently, with just one suitcase and \$500 in my pocket, I came to America with dreams even bigger than before, and, yes, it involved Economics. My undergraduate degree depended on the collaboration, kindness, and generosity of others. The GPA, honors, tenacity, and passion for knowledge were no longer enough. That year was nothing but miraculous. I was humbled by the actions of my professors, my undergraduate mentor – Clemson alumni, University staff, family, and friends who made today possible.

My Ph.D. journey began with careful planning and preparation for the program well before my acceptance into the program itself. I enrolled in a graduate program in Statistics and Mathematics as part of the preparation and deliberately decided to become a mother in the first year of the program. Believe it or not, having a child was part of the plan. Coming to Clemson, I was prepared for the added challenges that came with motherhood, but I was not ready for the encouragement, support, and thoughtfulness of the professors and Clemson community.

My goal at Clemson was to play it safe and complete my degree. Nothing more, nothing less. Hence, encouragement and reassurance from the professors were invaluable in overcoming self-



*Guncha Babajanova, Ph.D., Economics, with her husband, Dovlet Babajanov, and their daughter, Guillie Babajanova.*



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doubt and fear of failure in favor of reaching new horizons. As a result, during my time at Clemson, I had the opportunity to be the head teaching assistant, to attend Stanford's Hoover Institution Summer Policy Boot Camp, and to present at professional conferences despite the interruptions caused by the pandemic. The kind gestures of my professors and many others at Clemson left me grateful, deeply moved, and inspired me to set bold goals.

Today, I would like you to reflect on your journey, the pivotal moments, and the people that enabled your achievements. What obstacles did you overcome, and whose kindness helped you achieve each line on your CV and the coveted three letters behind your name? It is easy to overlook the significance of individuals that contributed to our achievements. Therefore, as we embark on our next chapter, let's remember to be thankful and to make our own contributions to someone else's life. Each one of us has the power to make the world a better place by spreading kindness, patience, and humility. Not everyone is privileged to have the opportunities we do, but your actions can inspire change and improve the outcome for others.

## STEVEN RICHARDS PLANT AND ENVIRONMENTAL SCIENCES

It feels really good to be here, officially earning my Ph.D. This is the culmination of many years of thought and study. And, I have to say that my experience in Clemson's Graduate School has been characterized by encouragement. For me, it's taken 25 years to complete my Ph.D. I started a Ph.D. program at Ohio State in 1997 and settled for a master's degree instead of finishing. And, before you groan about me going to Ohio State, I am a Tiger now! And Ohio isn't all that bad. It's where I grew up and where all my relatives are from.

One of those relatives, a cousin of my grandmother named AB Graham, held the first meeting of the Agricultural Experiment Club in the basement of a Springfield, Ohio, post office one hundred and twenty years ago. These meetings would eventually be credited for starting what we now know as 4H. I bring this up because I work for Clemson University Cooperative Extension, of which 4H is a critical part. So, for this reflection, I read up on AB Graham to see if he had any words of inspiration. One passage struck me ~ AB Graham talked about working in rural America as the work of "building souls." In the language of the day, he meant that a soul is a person, and he was in the work of building people up. You see, AB Graham was a teacher, an educator.

So, along with being encouraged, I also feel built up, prepared to do something with my degree. And, like some people graduating with me, I am not sure what comes next. Not being sure of what



*Steven Richards, Ph.D., Plant and Environmental Sciences*

happens next can cause some apprehension, right? So, I would like to share a story of encouragement for those who are a bit apprehensive.

I graduated from my bachelor's program 30 years ago during the recession of 1992, and my only prospect was to work the night shift in a ham plant in Appalachian Kentucky. I wasn't exactly thrilled. However, in 2020, while I was pondering my research proposal, grocery stores suddenly ran out of meat, people panicked, and farmers couldn't get their animals to market fast enough. Presto! I had my research question! It made me realize that even the time I spent in a Kentucky ham plant was valuable for something. It also made me realize that my apprehension was energy not well spent at that time. Graduate school has shown me that even if the current situation looks bleak, that situation will eventually pass.

I just got married in December, and another example of encouragement is my wife, Marzieh. She is the one that encouraged me to

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finish my Ph.D. I would not be here today if not for her encouragement. I would also like to share a bit of her story. Marzieh is not from the United States – she had to learn English as a second language, study hard, travel to the US without family or friends, and successfully earn her Ph.D. and her citizenship.

Isn't Marzieh's story inspirational as well? What Marzieh has done and what all international students have done is encouraging. The challenges faced by international students are both intellectual and personal. One of my wife's friends recounted how sad Christmas is for her when everyone else is with their families, and she and her fiancé are all alone in the graduate student apartments. As I tip my hat to the international students and graduates, I'd like to acknowledge all of us for what we have lived through in the last three years. Haven't we all been similarly tested with COVID-19 lockdowns and isolation? Not seeing family or friends for years? Possibly losing family members and friends? And now that miserable time has passed as well. If you are like me, the challenges of earning your Clemson degree helped carry you through that time. Thank you, Clemson! When people ask how I finished my Ph.D. while working full time, the answer is simple: I didn't have anything else to do during COVID-19!

To temper my newfound "built-upness," my wife says that graduate school teaches you humility. I think the humility she's talking about is learning about how much you don't know. Also, graduate school teaches you to accept advice and encouragement from others. Thank you to all the graduate student advisors at Clemson! So, graduate school has taught me that to encourage others, I must also allow others to encourage and advise me.

Doesn't it feel great to have that dissertation defense deadline, like a cloud that's been following you for years, finally disappear? I still remember moving to South Carolina six years ago. I had just spent five months in the Pacific Northwest, and it had rained every day with clouds no higher than the treetops. When I was about halfway here, in Kansas, the sky lifted. There were still some clouds, but they were way up high and far away. At that moment, I felt that there was going to be a new opportunity in my life.

Now, here we are, at graduation. We have survived graduate school and COVID-19. It's time to celebrate what we accomplished. The thesis or dissertation is complete, and the sky has lifted. Clemson has built us up with education and advice provided to us by our professors. Now is our opportunity to encourage others and to be encouraged by others. I hope you are as excited about the future as I am, even if you don't exactly know what comes next.

Congratulations to everyone graduating. Go Tigers!

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# 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

Alissa H. Moritz .....Roselle Park, NJ

B.S., University of Delaware

Dissertation: Effects of Tannin-Free Grain Sorghum Varieties on the Metabolizable Energy, Performance, and Intestinal Health of Poultry

Adviser: Dr. Mireille Arguelles-Ramos

Alissa has one peer-reviewed publication and plans to work in the poultry industry.

Brittany Susanne Perron ..... Los Alamos, CA

B.S., Oklahoma State University; M.S., Sul Ross State University

Dissertation: Evaluation of Grazing Techniques as a Nutrition Source for Horses in a Pasture Environment

Adviser: Dr. Kristine Vernon

Brittany has three manuscripts under review for publication and was named her college's Outstanding Graduate Student in Teaching earlier this year. She has accepted a postdoctoral position at the University of Georgia, Tifton Campus.

#### Forest Resources

Joan Urquiola Ureta ..... Laguna, Philippines

B.S., Palawan State University; M.S., University of the Philippines

Dissertation: Determining the Value of Ecosystem Services Provided by Green Stormwater Infrastructure in Coastal South Carolina

Adviser: Dr. Marzieh Motallebi

Joan has 11 peer-reviewed publications with 101 citations and has accepted a postdoctoral fellowship at Clemson University.

#### Plant and Environmental Sciences

Steven Todd Richards ..... Columbus, OH

B.S., M.S., Ohio State University; M.B.A., Antioch University

Dissertation: Factors Affecting Consumer and Restaurant Procurement Purchasing Decisions and Willingness to Pay for Local Proteins in Restaurants and at Home in South Carolina

Advisers: Dr. Michael Vassalos; Dr. Brian Ward

Steve has four peer-reviewed publications with plans to write more in his position with Clemson University Extension. One of Steve's recent publications won a Notable State Document award from the South Carolina State Library.

Sean Michael Toporek .....Johnsburg, IL

B.S., Iowa State University; M.S., Clemson University

Dissertation: Cucurbit Downy Mildew of Melon: Pathogen Diversity and Host Resistance

Advisers: Dr. Anthony Keinath; Dr. Patrick Wechter

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# COLLEGE OF ARCHITECTURE, ARTS AND HUMANITIES

## DOCTOR OF PHILOSOPHY

### Planning, Design, and the Built Environment

Marchell Magxaka ..... Oudtshoorn, South Africa

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

Dissertation: Overcoming Provision Challenges and Barriers to Affordable Housing  
Development in Small Towns of South Carolina

Adviser: Dr. Jason Lucas

Lela has three peer-reviewed publications and plans to work on advancing how the built environment impacts poor communities of the world.

Jueminsi Wu ..... Shorewood, Wisconsin

B.S., Suzhou University of Science and Technology; M.S., Clemson University

Dissertation: Evaluation of the Chinese Sponge City Program: The Resilient Transition of  
Urban Stormwater Management

Adviser: Dr. Mary Padua

### Rhetorics, Communication, and Information Design

Michael Arthur Caves ..... Sacramento, CA

B.A., University of Maryland; M.P.A., American Military University; M.A., California State  
University; L.L.M., University of New Hampshire School of Law

Dissertation: Poetic Justice: Connecting the Modern American Prosecutor to Her Rhetorical  
Roots

Adviser: Dr. Cynthia Haynes

Michael has authored seven books and will be sworn in as a California superior court judge in January.

Shauna Euna Chung ..... Dalton, GA

M.A., California State University

Dissertation: Coding Christianity: Negotiating Religious Dialogue in Online Participatory  
Spaces

Adviser: Dr. Cynthia Haynes

Shauna has accepted an assistant professor of English position at the New York City College of  
Technology.

Cody Sage Hunter ..... Auburn, CA

B.A., Colorado State University; M.A., University of North Texas

Dissertation: Walking Back the System Trope: Reimagining Incarceration and the State  
Through a Spatial Theory Approach

Adviser: Dr. David Blakesley

Joshua Bernard Zachary Loebner ..... Knoxville, TN

B.S., M.S., University of Tennessee

Dissertation: Crip Theory and Creative Briefs: Interpreting Disability in the Creative Process

Adviser: Dr. David Blakesley

Josh has accepted the position of Global Head of Inclusive Design for Wunderman Thompson.



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Charlotte Estelle Lucke.....San Antonio, TX  
B.A., University of North Texas; M.A., University of Houston  
Dissertation: Ecologies of (Domestic) Trauma, Ecologies of (Domestic) Violence: A Rhetorical  
Procession Toward Mourning  
Adviser: Dr. Cynthia Haynes  
Charlotte has two publications and received the Humanities Hub Graduate Research Award in 2018.  
During the summers of 2018 and 2019, she attended the European Graduate School and the School of  
Critical Theory to study with formative scholars in her field.

Kristin Santa Maria..... Waterbury, CT  
B.A., Providence College; M.F.A., Western Connecticut State University  
Dissertation: Narrating Madness: Building Narratives Against Privileged Identity  
Adviser: Dr. David Blakesley

## COLLEGE OF BEHAVIORAL, SOCIAL AND HEALTH SCIENCES

### DOCTOR OF PHILOSOPHY

#### Applied Health Research and Evaluation

Kerry Ann Howard ..... Landgrove, VT  
B.A., Stonehill College; M.S., Seton Hall University; M.S., Clemson University  
Dissertation: Methodological Considerations for the Study of Cognitive Reserve and Its  
Relationship to Cognitive Decline in Older Adults  
Adviser: Dr. Lior Rennert  
Kerry has seven peer-reviewed publications, received the Alumni Graduate Fellowship award in 2018,  
and won Student Poster of Distinction at the American Academy of Health Behavior Conference in  
2022.

Brian Alex Witrick.....Anderson, SC  
B.S., University of Georgia; M.P.H., Armstrong Atlantic State University; M.S., Clemson  
University  
Dissertation: Advanced Epidemiologic Methods to Estimate Disparities in Peripheral Artery  
Disease in South Carolina by Geographic Location, Payor Status, and Socio-Demographics  
Adviser: Dr. Corey Kalbaugh  
Brian has six peer-reviewed publications, was named his department's Outstanding Graduate Student in  
spring 2022, and received his department's Ph.D. Award for Mentoring and Teaching Excellence.

#### Healthcare Genetics

Jessica A. Cooley Coleman.....Greenwood, SC  
B.S., Erskine College  
Dissertation: Characterization of *MEF2C*-Related Disorders: Genotype, Phenotype, and Gene  
Pathway Dysregulation  
Advisers: Dr. Jane DeLuca; Dr. Sara Sarasua  
Jessica has four peer-reviewed publications, three as first author. She will move into a new role at the  
Greenwood Genetic Center where she has worked for the past 11 years. She plans to pursue training to  
become a clinical laboratory director.

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## Human Factors Psychology

Ellen Campbell Szubski ..... Mt. Pleasant, SC  
B.S., M.S., Clemson University  
Dissertation: The Influence of Pedestrian Biological Motion on Time-to-Collision Estimates at Night  
Adviser: Dr. Rick Tyrrell  
Ellen received the Hoechst Celanese Graduate Student Research Award and has one peer-reviewed publication, six conference presentations, and five posters. She plans on pursuing a career in human factors consulting.

## Industrial-Organizational Psychology

Alexander Moore ..... Alpharetta, GA  
B.S., University of Georgia; M.S., Clemson University  
Dissertation: I Can See the Forest for the Trees: Exploring Personality Traits with Transformers  
Adviser: Dr. Fred Switzer  
Alex has accepted a role as a people analytics and reporting manager at Gartner, Inc.

Riley Lawrence McCallus Pegram ..... Pawleys Island, SC  
B.S., Furman University; M.A., Western Carolina University  
Dissertation: On the Frontlines of COVID-19: A JD-R Approach to Better Understand Emergency Medicine Clinicians' Psychological Well-Being  
Adviser: Dr. Marissa Shuffler-Porter  
Riley has three peer-reviewed publications, received the Doctoral Outstanding Research award for her college in 2021 and was named a Joyce-Thayer fellow by the Society for Industrial-Organizational Psychology in 2021. She has accepted a postdoctoral fellowship at Clemson University and plans to continue working in healthcare.

## International Family and Community Studies

Cledenin Veras ..... Santo Domingo, Dominican Republic  
B.S., Universidad Iberoamericana; M.S., Villanueva University  
Dissertation: Teacher Training and Mentoring: The Relationship Between Classroom Practices and Student Outcomes  
Adviser: Dr. Mark Small  
Cledenin has two peer-reviewed publications and is currently promoting research in the educational field as a basis for decision-making and policy development in the Dominican Republic. Teacher training and literacy acquisition continue to be her fields of interest.

## Parks, Recreation and Tourism Management

Peter Marwa Ezra ..... Morogoro, Tanzania  
B.Sc., Sokoine University of Agriculture; M.Sc., Victoria University of Wellington  
Dissertation: Mapping the Tourism Value Chain for Fair-Trade and Tourism Handicraft Clusters in Tanzania  
Advisers: Dr. Kenneth Backman; Dr. Lauren Duffy

Sandy Heath ..... Austin, TX  
B.S., M.Ed., Texas State University  
Dissertation: Queering the Outdoors: LGBTQ2SIA+ Experiences in Outdoor Recreation  
Adviser: Dr. Lauren Duffy

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Anup K C.....Syangja, Nepal  
B.Sc., M.A., M.Sc., Tribhuvan University  
Dissertation: Homestays in Nepal in the Era of COVID-19  
Adviser: Dr. Jeffrey Hallo  
Anup has more than 500 Google Scholar citations with 17 i-10 index and 14 h-index, received his department's Outstanding Graduate Student Award in 2021 and 2022, and was awarded his college's Outstanding Doctoral Research Award in 2022. He will continue as an assistant professor at Tribhuvan University, Nepal.

Kaitlin Elizabeth Mueller..... Cleveland, OH  
B.S., Slippery Rock University; M.S., Indiana University  
Dissertation: Development and Testing of the Mueller Assessment of Transition (MAT): A Tool for Measuring Older Adults' Wellbeing when Transitioning into Assisted Living Facilities  
Adviser: Dr. Marieke Van Puymbroeck  
Kaitlin received the Francis A. McGuire Graduate Student Teaching Award and twice received her department's Outstanding Graduate Student Award. She won Clemson's 2021 Virtual 3-Minute Thesis competition and created a standardized assessment to help older adults transitioning into assisted living facilities. This fall, she joins Catawba College as a recreational therapy professor.

Lauren Townson ..... Roswell, GA  
B.S., Georgia Southern University; M.S., North Carolina State University  
Dissertation: Managing the Environmental Crisis Amidst a Health Crisis: An Exploratory Study of Alternative Sustainable Strategies for Tourism Destinations  
Adviser: Dr. Lauren Duffy

### Policy Studies

Richard Shawn Nanney .....Martin, TN  
B.A., University of Tennessee; M.S., University of Southern Mississippi  
Dissertation: Public Policy, Economic Development, and Taxes: An Impact Analysis of Business Incentive Strategies at the State and Local Level  
Adviser: Dr. Gregory Pickett  
Shawn was Graduate Student Government Vice President and Senate President 2016-2017 and will continue researching and teaching at the University of Tennessee.

Betsy Virginia White Presgraves .....Anderson, SC  
B.A., Erskine College; M.S., Clemson University  
Dissertation: Allegories and Alleles: A Narrative Policy Framework Analysis of the Debate over Animal Bioengineering  
Adviser: Dr. James Strickland  
Betsy has one peer-reviewed publication, received the University's Outstanding Graduate Teaching Award, and was awarded the graduate teaching award from her college. Betsy was a 2019 Farm Foundation Cultivator and has accepted a full-time faculty position at Clemson University.

Cindy Gorze Roper..... Travelers Rest, SC  
B.A., M.S., Clemson University  
Dissertation: The Delaware River Basin Compact: A Case Study in Successful Transboundary Water Resource Management  
Advisers: Dr. Catherine Mobley; Dr. Jeffery Allen

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# WILBUR O. AND ANN POWERS COLLEGE OF BUSINESS

## DOCTOR OF PHILOSOPHY

### Economics

Chitraporn Amrapala .....Bangkok, Thailand

B.S., Chulalongkorn University; M.S., University of Bristol; M.A., Clemson University

Dissertation: Bayesian Analysis of Combining Forecasts

Adviser: Dr. Gerald Dwyer

Guncha Babajanova ..... Turkmenabat, Turkmenistan

B.A., M.S., Minnesota State University; M.A., Clemson University

Dissertation: Essays on Bank Performance, Strategic Behavior, and Community Development  
with a Focus on Minority Depository Institutions and the Political Economy of Forgiving  
Student Loans

Adviser: Dr. Paul Wilson

Matthew Lee Cronin ..... McLean, VA

B.S., University of Mary Washington; M.A., Clemson University

Dissertation: Essays on Nonparametric Benchmarking of Energy Firms and Natural Gas  
Market Integration

Adviser: Dr. Paul Wilson

Yinlin Dai ..... Chengdu, China

B.A., Southwestern University

Dissertation: Essays on Economics of the Family

Adviser: Dr. Jorge Luis Garcia

Yinlin has accepted a position as visiting assistant professor at Wake Forest University.

Tabitha Rose Knott ..... Wilmington, NC

B.A., University of North Carolina; M.A., Clemson University

Dissertation: Policy Complementarities Between and Within Jurisdictions: The Case of  
Alcohol Consumption and Driving

Adviser: Dr. William Dougan

Cory Simpkins ..... Egg Harbor Township, NJ

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

Dissertation: Essays on Delegation and Voter Preferences

Adviser: Dr. Patrick Warren

Cory has accepted a faculty position at Miami University.

Aspen Fryberger Underwood ..... Beulah, CO

B.A., B.S., Colorado State University

Dissertation: Essays on the Economics of Electric Vehicle Charging Stations

Adviser: Dr. Babur De los Santos

Aspen has accepted a position as an economist at the MITRE Corporation.

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# COLLEGE OF EDUCATION

## DOCTOR OF PHILOSOPHY

### Curriculum and Instruction

Sunil Pokhrel .....Kathmandu, Nepal

M.A., M.Sc., Tribhuvan University

Dissertation: An Exploratory Multiple-Case Study of Nepal’s Science Teacher Educators’  
Knowledge and Practices of Active Learning and Culturally Responsive Teaching

Adviser: Dr. Jeffrey Marshall

Sunil has a long and celebrated experience in Nepal’s school systems and is passionate about organizing effective, sustainable professional development programs for teachers. He plans to use experience gained during his doctoral studies to create PD programs that enhance teachers’ instructional skills in Nepal.

### Educational Leadership

Andrew Copeland Edmunds .....Greenville, SC

B.S., M.S., Clemson University

Dissertation: The Future of Higher Education for Land-Grant Institutions: Considerations  
Beyond Short-Term Strategic Planning

Adviser: Dr. Michelle Boettcher

Andrew has one peer-reviewed publication and plans to continue his research and support of graduate students in the College of Engineering, Computing, and Applied Sciences at Clemson University.

Julia Pridmore McClanahan .....Ninety Six, SC

B.A., College of Charleston; M.A.T., Lander University; Ed.S. Clemson University

Dissertation: How Transformative Leaders Break Down Barriers to Increase Access to Arts  
Integration for Black and Hispanic Students: A Multiple Case Study

Adviser: Dr. Hans Klar

### Learning Sciences

Abigail Terese Stephan .....Greensboro, NC

B.A., Clemson University

Dissertation: Examining Intergenerational Relationships in the Family

Adviser: Dr. Faiza Jamil

Abigail has 12 peer-reviewed journal and conference proceeding publications. She has earned numerous awards for her research, was recognized as the 2020 student assistant of the year for her work with the General Engineering learning community, and has accepted a postdoctoral fellowship with the Institute for Engaged Aging.

### Special Education

Jordan Nicole Stierle ..... Johnson City, TN

B.S., B.S.W., M.Ed., East Tennessee State University

Dissertation: Using Smartphone Technology to Improve Daily Living Skills and Independent  
Living Skills for Individuals with Intellectual Disability

Adviser: Dr. Joseph Ryan

Jordan has three peer-reviewed publications and has accepted a special education teaching position with Greenville County Schools.

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# COLLEGE OF ENGINEERING, COMPUTING AND APPLIED SCIENCES

## DOCTOR OF PHILOSOPHY

### Automotive Engineering

Ryan Colletti.....Nashville, TN

B.E., Vanderbilt University; M.S., Clemson University

Dissertation: A Multi-Perspective Architecture Framework for Managing Multi-Fidelity Simulations Using Feature-Based Product Line Engineering

Adviser: Dr. Chris Paredis

Ryan has five peer-reviewed publications and currently works at Ford Motor Company as a systems engineer.

### Bioengineering

Annsley O'Dell Mace.....Johnsonville, SC

B.S., The University of Alabama

Dissertation: Single Asperity Fretting Corrosion of Traditional and Additively Manufactured Metallic Biomaterials: Quantitative Analysis from Acetabular Tapers to Micron and Nanometer Scale Tribocorrosion

Adviser: Dr. Jeremy Gilbert

Annsley has presented her work at the Society of Biomaterials and Orthopedic Research Society conferences and plans to pursue a career in medical device consulting.

Tanner Ryan Rathbone.....Catawba, NC

B.S., North Carolina State University

Dissertation: Nonviral Approaches for Delivery of CRISPR-Cas9 into Hepatocytes for Treatment of Inherited Metabolic Disease

Adviser: Dr. Renee Cottle

Anne Marie Holter Severyn.....Gilbert, AZ

B.S., Northern Arizona University

Dissertation: Development and Application of 3D Kinematic Methodologies for Biomechanical Modelling in Adaptive Sports and Rehabilitation

Adviser: Dr. John DesJardins

Amirreza Yeganegi.....Qa'em Shahr, Iran

B.S., University of Tehran; M.Sc., Tehran Polytechnic

Dissertation: Systems Modeling of Collagenous Tissue Degradation: Protease and Mechanical Interactions

Adviser: Dr. William Richardson

### Chemical Engineering

Abenazer Wossenu Darge.....Central, SC

B.S., Virginia Tech

Dissertation: Reactive Thin Film Polymers and Thin Film Composite Membranes for the Rapid Screening of Uranium Isotopes.

Advisers: Dr. Scott Husson; Dr. Timothy DeVol

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James C. Foster .....Spartanburg, SC  
B.S., Clemson University  
Dissertation: Extractive Membranes for the Detection and Screening of Waterborne Plutonium  
Adviser: Dr. Scott Husson

Molly Elizabeth Wintenberg.....Knoxville, TN  
B.S., The University of Tennessee  
Dissertation: Effects of Continuous *in Situ* Low-Dose Ionizing Radiation on Microorganisms  
Adviser: Dr. Jessica Larsen  
Molly has two peer-reviewed publications and two in process. She has accepted a postdoctoral research position at the National Institute of Standards and Technology.

### Civil Engineering

Vijay Gangadhar Bendigeri.....Sacramento, CA  
B.S., Visvesvaraiiah Technological University  
Dissertation: Machine Learning to Develop Contextual Complexity Criteria to Establish a Standardized Process for On-Road Evaluation of Medically At-Risk Drivers Considering Static and Dynamic Factors of the Roadway Environment  
Advisers: Dr. Jennifer Ogle; Dr. Johnell Brooks  
Vijay will join Bentley Systems, Inc. in Sacramento, California as a senior data scientist, working in the emerging field of mobility analytics.

Feiyang Chen .....Yunnan, China  
B.S., M.S., Tongji University  
Dissertation: Discrete Element Modeling of the Shape- and History-Dependent Behavior of Granular Materials  
Adviser: Dr. Qiushi Chen

Fahad Ul Hassan.....Sialkot, Pakistan  
B.Sc., University of Engineering and Technology  
Dissertation: Digitalization of Construction Project Requirements Using Natural Language Processing (NLP) Techniques  
Adviser: Dr. Tuyen Le  
Fahad has ten peer-reviewed publications. He received his department's Above and Beyond Teaching Assistant Award in 2021 and a Rozendale travel fellowship for emerging leaders in 2019. He has accepted a research and development position at Deloitte and Touche, LLP, but plans future work in academia.

Sababa Islam ..... Dhaka, Bangladesh  
B.S., Bangladesh University of Engineering and Technology; M.S., Clemson University  
Dissertation: Assessment of Parameters for a Safe and Equitable Roadway Network for Pedestrians of South Carolina  
Adviser: Dr. Jennifer Ogle  
Sababa has five peer-reviewed publications and was awarded the Glenn Teaching Fellowship in Spring 2021.

Rasna Sharmin .....Naogaon, Bangladesh  
B.Sc., Bangladesh University of Engineering and Technology; M.Sc., Technical University of Munich  
Dissertation: Computational Study of Dense Gas Dispersion in Urban Areas  
Advisers: Dr. Nigel Kaye; Dr. Abdul Khan

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Tharshikka Vickneswaran ..... Central, SC  
B.S., University of Jaffna; M.Sc., Technical University of Munich  
Dissertation: Performance of Geotechnical Systems Under Extreme Hydroclimatic Events  
Using Finite Element Modeling  
Adviser: Dr. Nadarajah Ravichandran  
Tharshikka has three peer-reviewed journal and four conference publications. She received a 2021-2022 Doctoral Dissertation Completion Grant, the Aniket Shrikhande Memorial Annual Graduate Fellowship, the David Rozendale Travel Grant, the Aniket Shrikhande Graduate Assistantship, and an Emerging Leaders Annual Fellowship. She has served as treasurer in the ASCE GI-GSO, Clemson University Geotechnical Engineering Society.

### Computer Engineering

Wesley B. Green..... Clover, SC  
B.S., Clemson University  
Dissertation: The Development of TIGRA: A Zero Latency Interface For Accelerator  
Communication in RISC-V Processors  
Adviser: Dr. Melissa Smith

### Computer Science

Zheng Miao ..... Yangzhou, China  
B.S., M.S., Nanjing University  
Dissertation: Scalable and Reliable Sparse Data Computation on Emergent High Performance  
Computing Systems  
Advisers: Dr. Rong Ge; Dr. Jon Calhoun

Xiang Zhang ..... Xi'an, China  
B.S., Northwestern Polytechnical University; M.S., Chinese Aeronautical Establishment; M.S.,  
Clemson University  
Dissertation: Cell Tracking at Low Frame Rate Using Deep Learning and Bayesian Integration  
Advisers: Dr. Federico Iuricich; Dr. Marc Birtwistle

### Electrical Engineering

Timothy Benjamin Anglea..... Rumney, NH  
B.S., Bob Jones University; M.S., Clemson University  
Dissertation: Pulse-Coupled Oscillator Networks: Achieving Phase Continuity and Learning  
Optimal Control in Physical Systems  
Adviser: Dr. Yongqiang Wang  
Timothy received the Harris Award for Outstanding Graduate Service from his department in 2020 and is pursuing a career as an assistant professor of electrical engineering in South Carolina.

Tahmid Hassan Talukdar..... Clemson, SC  
B.S., Shahjalal University of Science and Technology; M.S., Clemson University  
Dissertation: Porous Silicon Photonics for Label-Free Interferometric Biosensing and  
Flat Optics  
Adviser: Dr. Judson Ryckman  
Tahmid has six peer-reviewed publications and one patent. He has accepted a research and development position at Intel Corporation.



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Michael Benjamin Wooten.....Lewistown, PA  
B.S., M.S., Clemson University  
Dissertation: Environmental Exploration with Long, Thin Tendril Robots, or Building Plant  
Based Robots and Teaching Them How to Feel  
Adviser: Dr. Ian Walker  
Michael has eight peer-reviewed publications and intends to work in industry before eventually pursuing  
a faculty position at a university.

### **Environmental Engineering and Earth Sciences**

Jessica Anne Deaver..... Franklin, MA  
B.S., University of Miami  
Dissertation: Connecting Process Performance and Microbial Community Dynamics During  
Anaerobic Wastewater Treatment to Improve Microbial Resource Management  
Advisers: Dr. Sudeep Popat; Dr. Kevin Finneran  
Jessica has three peer-reviewed publications and one book chapter. She was a three-time SC Space Grant  
Consortium Graduate Research Fellowship recipient and earned an Engineering and Science Education  
Certification. She has accepted a postdoctoral research position at North Carolina State University.

Cagri Utku Erdem .....Ankara, Turkey  
B.Sc., Middle East Technical University; M.S., Clemson University  
Dissertation: The Control Strategies of Brominated Organic Disinfection By-Products:  
Adsorption with Pre-Chlorination and Photodegradation  
Adviser: Dr. Tanju Karanfil  
Utku has seven peer-reviewed publications. He was named a Thomas Keinath Water Environment  
Association Fellowship Endowment for two consecutive years. He will continue working as a  
postdoctoral fellow at Clemson University.

Abdullah Al Mamun..... Barishal, Bangladesh  
B.S., Bangladesh University of Engineering and Technology; M.S., Clemson University  
Dissertation: Characterization of Water Flow and Solute Transport Driven by Preferential Flow  
in Soil Vadose Zone  
Advisers: Dr. Brian Powell; Dr. Stephen Moysey  
Abdullah wants to pursue his career as a soil and groundwater remediation professional and has accepted  
a job in Geosyntec Consultants in Knoxville, Tennessee.

Connor Joseph Parker ..... Rancho Palos Verdes, CA  
B.S., University of Notre Dame  
Dissertation: Wetland Uranium Transport via Iron-Organic Matter Floccs and  
Hyporheic Exchange  
Adviser: Dr. Brian Powell

### **Human Centered Computing**

Earl Wendell Huff, Jr. ....Cinnaminson, NJ  
B.S., M.S., Rowan University  
Dissertation: Designing and Evaluating Accessible E-Learning for Students with Visual  
Impairments in K-12 Computing Education  
Adviser: Dr. Julian Brinkley  
Earl will start this fall as an assistant professor in the School of Information at the University of Texas at  
Austin.

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## Industrial Engineering

Vishal Badyal.....Kapurthala, India  
B.Tech., Dr. B.R. Ambedkar National Institute of Technology Jalandhar; M.S., Clemson University

Dissertation: Design and Analysis of Efficient Freight Transportation Networks in a Collaborative Logistics Environment

Adviser: Dr. William Ferrell

Vishal has two peer-reviewed publications and is currently working with BNSF Railway.

Di Liu.....Tianjin, China

B.S., Beihang University; M.S., Clemson University

Dissertation: Double Tolerance Design in Stochastic Production Environments

Adviser: Dr. Tuğçe Işık

Di was named her department's Outstanding Graduate Teaching Assistant in 2020 and Janine Bowen '89 Graduate Fellow in 2021. She has accepted a faculty position at Sichuan University-Pittsburgh Institute (SCUPI).

Di Hoai Nguyen.....Ho Chi Minh, Vietnam

B.S., Clemson University

Dissertation: Selected Interdiction Games with Uncertain, Risk-Averse, and Simultaneous Play Considerations

Adviser: Dr. Yongjia Song

Di received the Women in Operations Research Bayer Scholarship in 2021 and her college's Outstanding Graduate Teaching Assistant Award in 2022. She has accepted a faculty position at University College Dublin.

Nitin Srinath.....Bangalore, India

B.Tech., National Institute of Technology Karnataka; M.S., Clemson University

Dissertation: A Study of Scheduling Problems with Sequence Dependent Restrictions and Preferences

Adviser: Dr. Kevin Taaffe

Nitin has one peer-reviewed publication and another under review. He was named his department's 2019 Teaching Assistant of the Year and was runner-up in the 2019 IISE Logistics and Supply Chain case competition. He is a senior analyst for operations research at United Airlines.

Rong Yin ..... Taian, China

B.S., Beihang University; M.S., University of Sheffield

Dissertation: Examining the Impact of Design Features of Electronic Health Records Patient Portals on the Usability and Information Communication for Shared Decision Making

Adviser: Dr. David Neyens

Rong has worked on applying human factors principles in healthcare during his studies. He is a peer reviewer for several academic journals and has been session chair/co-chair of professional conferences. Rong has accepted a position as assistant professor at Sichuan University in Chengdu, China.

## Materials Science and Engineering

Seyedeh Mastooreh Seyedi Ghezghapan.....Redmond, WA

B.S., M.S., Amirkabir University of Technology

Dissertation: Graphene Oxide-Thermoplastic Nanocomposites: Fabrication and Properties

Adviser: Dr. Igor Luzinov

Mastooreh has two peer-reviewed publications and three under review. She was awarded the Jennings Memorial Fellowship in 2019. She began working at Meta six months before graduation.

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Siyang Wang..... Liaoning, China  
B.S., Lanzhou University; M.S., The University of Akron  
Dissertation: Synthesis and Molecular Processes Governing Self-Healing Polymeric Materials  
Adviser: Dr. Marek Urban  
Siyang has 12 peer-reviewed publications and has accepted a postdoctoral position at the University of Chicago.

Eric Zhang..... Clemson, SC  
B.S., Rutgers University  
Dissertation: Synthesis of Monodisperse Nanoscintillators at High Temperatures for Biomedical Relevant Applications  
Adviser: Dr. Stephen Foulger

### **Mechanical Engineering**

Kaitlynn Melissa Conway.....Damascus, MD  
B.S.M.E., LeTourneau University; M.S., Clemson University  
Dissertation: Investigating the Effects of Topology on the Fracture and Failure Mechanisms of Low-Density Metamaterials  
Adviser: Dr. Garrett Pataky  
Kaitlynn has accepted a postdoctoral position at Sandia National Laboratories.

Fangjian Li ..... Qingdao, China  
B.S., Hefei University of Technology; M.S., Clemson University  
Dissertation: Control, Decision-Making, and Learning Approaches for Connected and Autonomous Driving Systems with Humans-in-the-Loop  
Adviser: Dr. Yue Wang

Ankit Varma ..... Hyderabad, India  
B.S., Osmania University; M.S., Clemson University  
Dissertation: Characterization of Friction Element Welding Using Finite Element Modeling  
Adviser: Dr. Xin Zhao

## **COLLEGE OF SCIENCE**

### **DOCTOR OF PHILOSOPHY**

#### **Biochemistry and Molecular Biology**

Matthew Ballard Angel ..... Easley, SC  
B.S., Clemson University  
Dissertation: An Investigation into the Roles of Aldose Reductase and Acetate Kinase in the Metabolism of *Entamoeba histolytica*  
Adviser: Dr. Cheryl Ingram-Smith

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## Biological Sciences

Lauren Marie O'Connell..... Northampton, PA

B.Sc., Kutztown University; M.Sc., Nova Southeastern University

Dissertation: Dynamics of the Supragingival Dental Plaque Microbiome and Its Implications in Early Childhood Caries (ECC)

Adviser: Dr. Vincent Richards

Lauren has four peer-reviewed papers, was the winner of the 2021 Clemson Graduate Research Symposium competition, and has accepted a research and development scientist position at Colgate-Palmolive.

Lauren Elizabeth Stoczynski ..... Erie, PA

B.S., Westminster College; M.S., Clemson University

Dissertation: Incorporating Human Effects in Quantifying Mechanisms of Stream Fish Community Structure Using Metacommunity Theory

Advisers: Dr. Peter van den Hurk; Dr. Brandon Peoples

Lauren has three peer-reviewed publications. She received her College's Outstanding Graduate in Learning Award in 2019 and 2022 and the Creative Inquiry Bradley Award for best graduate student mentor in 2022. She has accepted a postdoctoral position at Purdue University.

## Chemistry

Mónica Andrea Gordillo Varela .....La Paila, Colombia

B.S., Universidad del Valle

Dissertation: Light Harvesting and Electrically Conducting Metal-Organic Framework

Adviser: Dr. Sourav Saha

Monica has seven peer-reviewed publications and was named her department's Outstanding Graduate Researcher. She was awarded a Doctoral Dissertation Completion Grant this year in addition to other prestigious awards. Monica has accepted a senior research specialist position at the Dow Chemical Company.

Cassandra Jo Hager..... Lake, MI

B.S., Trine University; M.S., Central Michigan University

Dissertation: Synthesis of Fluorinated Monomers and Polymers for Various Applications

Adviser: Dr. Joseph Thrasher

Cassandra has accepted a position as a senior research scientist and engineer at DuPont.

Kiridena Mudiyanseelage Sachindra Dulashini Kiridena.....Kandy, Sri Lanka

B.S., University of Kelaniya

Dissertation: Developing Hydrogel-Based X-Ray Visualized Implantable Sensors to Non-Invasively Measure pH for Tracking Tumor Response and Detecting Peritoneal Infections

Adviser: Dr. Jeffrey Anker

Sachindra has several peer-reviewed publications and has presented her work at international conferences. She was recently awarded the prestigious Mandel Fellowship from her department and has accepted a postdoctoral position at the University of California Berkeley.

Moira Kelly Lauer .....Virginia Beach, VA

B.S., James Madison University

Dissertation: Valorization of Biopolymers and Biomass to Produce Materials for a More Circular Economy

Adviser: Dr. Rhett Smith

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Menisha Sithumini Karunaratna Mahappu Koralalage..... Colombo, Sri Lanka  
B.Sc., University of Sri Jayewardenepura  
Dissertation: Sustainable Composites from Agricultural and Petroleum Waste  
Adviser: Dr. Rhett Smith  
Menisha has 11 peer-reviewed articles with 183 citations. She is a recipient of a doctoral dissertation grant (2021-2022) and the Mandel fellowship (2019), and has accepted a post-doc position at Oak Ridge National Laboratory, Tennessee.

Erina Hoshi Mills .....Aiken, SC  
B.S., Clemson University  
Dissertation: Automated Parallel Optimization of Simulation Parameters using Modified Nelder-Mead Simplex Algorithm  
Adviser: Dr. Steven Stuart

Uthpala Nawamali Wijyaratna.....Kandy, Sri Lanka  
B.S., University of Kelaniya  
Dissertation: Developing Implantable Hydrogel-Based Sensors to Measure Biomarkers in Synovial Joint Fluid Using Plain Radiography  
Adviser: Dr. Jeffrey Anker  
Uthpala has several peer-reviewed journal publications and has presented her work at national and international conferences. She was awarded the Mandel Fellowship from her department and has accepted a postdoctoral position at the University of California San Francisco.

### Genetics

Sarah Murphy Bell..... Loudonville, NY  
B.S., Clemson University  
Dissertation: Identification of Genetic Factors Underlying Megaesophagus and Startle Disease in Dogs  
Adviser: Dr. Leigh Anne Clark  
Sarah has three first-author peer-reviewed publications and was awarded the Canine Health Foundation Clinician-Scientist Fellowship in 2019 and 2020. She was named Outstanding Graduate in Engagement in the College of Science, 2021, and Outstanding Graduate in Discovery in the Department of Genetics and Biochemistry, 2022. She plans to work in the biotechnology industry.

### Mathematical Sciences

Fun Choi John Chan..... Hong Kong, Hong Kong  
B.S., The Chinese University of Hong Kong; M.S., Clemson University  
Dissertation: Some Improved Markov Chain Convergence Rates  
Advisers: Dr. Robert Lund; Dr. Peter Kiessler

Paul Cubre ..... Fair Oaks, CA  
B.S., University of California; M.S., Wake Forest University  
Dissertation: Groundwork for the Development of GPU Enabled Group Testing Regression Model  
Adviser: Dr. Christopher McMahan

John C. Nicholson..... Myrtle Beach, SC  
B.S., M.S., Clemson University  
Dissertation: Advancements in Gaussian Process Learning for Uncertainty Quantification  
Advisers: Dr. Peter Kiessler; Dr. Andrew Brown  
John is working as a research and development analyst for the Tampa Bay Rays.

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Trevor Squires .....Aynor, SC  
B.S., M.S., Clemson University  
Dissertation: Improved First-Order Techniques for Certain Classes of Convex Optimization  
Adviser: Dr. Yuyuan Ouyang  
Trevor has published in *Inverse Problems and Imaging* and the *SIAM Journal of Optimization*. He has accepted a decision scientist position at the Walt Disney Company.

Xiyan Tan ..... Chaling, China  
B.S., Xiangtan University; M.A., M.S., Clemson University  
Dissertation: Penalized Estimation of Autocorrelation  
Adviser: Dr. Colin Gallagher

Thanh Thien To ..... Ho Chi Minh, Vietnam  
B.S., Dickinson College; M.S., Kaiserslautern University of Technology; M.S., Clemson University  
Dissertation: Managing Risk for Power System Operations and Planning: Applications of Conditional Value-at-Risk and Uncertainty Quantification to Optimal Power Flow and Distributed Energy Resources Investment  
Adviser: Dr. Taufiqar Khan

### Physics

Norberto Javier Davila ..... Tampa, FL  
B.S., University of South Florida  
Dissertation: Exact Solutions for the Evolution of Directed Acyclic Reaction Networks with Applications to Nucleosynthesis  
Adviser: Dr. Bradley Meyer

Subash Chandra Godar ..... Clemson, SC  
M.S., Tribhuvan University  
Dissertation: Optimization of Modular, Long-Range, Ultra-Fast Optical Tweezers with Fluorescence Capabilities for Single-Molecule and Single-Cell Based Biophysical Measurements  
Adviser: Dr. Joshua Alper

George Lawrence Hamilton III ..... Raleigh, NC  
B.S., North Carolina State University  
Dissertation: Supertertiary Structural Dynamics Modulate Function in Postsynaptic Density Protein 95  
Adviser: Dr. Hugo Sanabria  
George has eight peer-reviewed publications with several underway and was awarded his department's Outstanding Graduate Researcher Award in 2022. He has accepted a postdoctoral position at New York University Langone Health.

Prakash Parajuli ..... Chitwan, Nepal  
B.S., M.Sc., Tribhuvan University  
Dissertation: Phonon Anharmonicity in Binary Chalcogenides for Efficient Energy Harvesting  
Advisers: Dr. Apparao Rao; Dr. Sriparna Bhattacharya  
Prakash has published 12 peer-reviewed publications during his Ph.D. program and was named "Outstanding Graduate Research Assistant-2021" in the Department of Physics and Astronomy.

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Changam Meenakshi Rajagopal.....Clemson, SC

B.S., Delhi University; M.S., Manipal Institute of Technology

Dissertation: Exploring the Glow of the Universe in Gamma-Rays and Hunting Distant AGN

Adviser: Dr. Marco Ajello

Meenakshi has five first-author peer-reviewed publications and over 10 publications as a co-author.

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# 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.







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doubt and fear of failure in favor of reaching new horizons. As a result, during my time at Clemson, I had the opportunity to be the head teaching assistant, to attend Stanford's Hoover Institution Summer Policy Boot Camp, and to present at professional conferences despite the interruptions caused by the pandemic. The kind gestures of my professors and many others at Clemson left me grateful, deeply moved, and inspired me to set bold goals.

Today, I would like you to reflect on your journey, the pivotal moments, and the people that enabled your achievements. What obstacles did you overcome, and whose kindness helped you achieve each line on your CV and the coveted three letters behind your name? It is easy to overlook the significance of individuals that contributed to our achievements. Therefore, as we embark on our next chapter, let's remember to be thankful and to make our own contributions to someone else's life. Each one of us has the power to make the world a better place by spreading kindness, patience, and humility. Not everyone is privileged to have the opportunities we do, but your actions can inspire change and improve the outcome for others.

## STEVEN RICHARDS PLANT AND ENVIRONMENTAL SCIENCES

It feels really good to be here, officially earning my Ph.D. This is the culmination of many years of thought and study. And, I have to say that my experience in Clemson's Graduate School has been characterized by encouragement. For me, it's taken 25 years to complete my Ph.D. I started a Ph.D. program at Ohio State in 1997 and settled for a master's degree instead of finishing. And, before you groan about me going to Ohio State, I am a Tiger now! And Ohio isn't all that bad. It's where I grew up and where all my relatives are from.

One of those relatives, a cousin of my grandmother named AB Graham, held the first meeting of the Agricultural Experiment Club in the basement of a Springfield, Ohio, post office one hundred and twenty years ago. These meetings would eventually be credited for starting what we now know as 4H. I bring this up because I work for Clemson University Cooperative Extension, of which 4H is a critical part. So, for this reflection, I read up on AB Graham to see if he had any words of inspiration. One passage struck me ~ AB Graham talked about working in rural America as the work of "building souls." In the language of the day, he meant that a soul is a person, and he was in the work of building people up. You see, AB Graham was a teacher, an educator.

So, along with being encouraged, I also feel built up, prepared to do something with my degree. And, like some people graduating with me, I am not sure what comes next. Not being sure of what



*Steven Richards, Ph.D., Plant and Environmental Sciences*

happens next can cause some apprehension, right? So, I would like to share a story of encouragement for those who are a bit apprehensive.

I graduated from my bachelor's program 30 years ago during the recession of 1992, and my only prospect was to work the night shift in a ham plant in Appalachian Kentucky. I wasn't exactly thrilled. However, in 2020, while I was pondering my research proposal, grocery stores suddenly ran out of meat, people panicked, and farmers couldn't get their animals to market fast enough. Presto! I had my research question! It made me realize that even the time I spent in a Kentucky ham plant was valuable for something. It also made me realize that my apprehension was energy not well spent at that time. Graduate school has shown me that even if the current situation looks bleak, that situation will eventually pass.

I just got married in December, and another example of encouragement is my wife, Marzieh. She is the one that encouraged me to