

CLEMSON UNIVERSITY

# Doctoral Hooding Ceremony

AUGUST 4, 2016



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# DOCTORAL HOODING CEREMONY

THURSDAY, AUGUST 4, 2016

3:00 PM

BROOKS CENTER FOR THE PERFORMING ARTS

## ORDER OF CEREMONIES

### PROCESSIONAL

*(Please stand for the processional and the National Anthem)*

### NATIONAL ANTHEM

### OPENING OF CEREMONY

University Marshal Deborah M. Switzer

### REFLECTION

Society for the Advancement of Chicanos/Hispanics and Native Americans in Science  
Clemson Chapter President  
Andrea A Gil

### WELCOME AND INTRODUCTIONS

Associate Provost and Dean of the Graduate School

Jason W Osborne

and

Executive Vice President for Academic Affairs and Provost

Robert H Jones

### CONFERRING OF DEGREES, DELIVERY OF DIPLOMAS, AND HOODING

President James P Clements

### ALMA MATER

### RECESSIONAL

Music by the Clemson University Brass Quintet and vocalist Haleigh Marcolini

Selections and credits on page 19

*Today's ceremony is being streamed live with captioning at [clemson.edu/graduate/hooding](http://clemson.edu/graduate/hooding)*

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## THE GRADUATE SCHOOL

Jason W Osborne  
Associate Provost and Dean

Frankie O Felder  
Senior Associate Dean

William G Ferrell  
Associate Dean

David S Fleming  
Associate Dean

## COLLEGIATE DEANS

George R Askew, Jr  
Dean of College of Agriculture, Forestry and Life Sciences

Richard E Goodstein  
Dean of College of Architecture, Arts and Humanities

Robert E McCormick  
Interim Dean of College of Business and Behavioral Science

Anand K Gramopadhye  
Dean of College of Engineering and Science

Brett A Wright  
Interim Dean of College of Health, Education and  
Human Development

George J Petersen  
Founding Dean of Eugene T Moore School of Education

Maggie Farrell  
Dean of Libraries

## GRADUATE STUDENT GOVERNMENT

Tyrese J Bryant  
President

R Shawn Nanney  
Vice President

David C Bivens  
Vice President of the Greenville Council

## SPECIAL THANKS TO GRADUATE PROGRAM DIRECTORS AND STAFF

Although there are too many to list, the graduate program coordinators, the administrative contacts, and the student services coordinators for each graduate degree program are essential to the success of graduate education at Clemson University. We hope you take great pride in seeing today's graduates walk across the stage, because this would not have been possible without you. Thank you.

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## ASSOCIATE DEANS AND DEPARTMENT CHAIRS

### College of Agriculture, Forestry and Life Sciences

Joseph D Culin  
Associate Dean for Research and Graduate Studies  
Ted Whitwell  
Associate Dean for Undergraduate Studies

Patricia A Zungoli ..... Agricultural and Environmental  
Sciences  
James R Strickland ..... Animal and Veterinary Sciences  
Robert S Cohen ..... Biological Sciences  
E Jeffery Rhodehamel ..... Food, Nutrition, and Packaging  
Sciences  
William R Marcotte, Jr ..... Genetics and Biochemistry  
Greg K Yarrow ..... Forestry and Environmental Conservation

### College of Architecture, Arts and Humanities

Constancio K Nakuma  
Senior Associate Dean for Academic Affairs  
James H Spencer  
Acting Associate Dean for Research and Graduate Studies

Katherine L Schwennsen ..... School of Architecture  
Greg W Shelnuttt ..... Art  
Bryan E Denham, interim ..... Communication Studies  
Roger W Liska ..... Construction Science and Management  
Lee J Morrissey ..... English  
James M Burns ..... History  
Mary G Padua ..... Landscape Architecture  
Salvador A Oropesa ..... Languages  
David J Hartmann ..... Performing Arts  
Charles Starkey, interim ..... Philosophy and Religion  
James H Spencer ..... Planning, Development and Preservation

### College of Business and Behavioral Science

Gregory M Pickett  
Senior Associate Dean  
Douglas “Kinly” Sturkie  
Associate Dean for Academic Affairs

Jeffrey J McMillian, interim ..... School of Accountancy  
Scott L Baier ..... Economics  
Angela G Morgan, interim ..... Finance  
Charles Tonkin ..... Graphic Communications  
“Sri” V Sridharan ..... Management  
Gregory M Pickett, interim ..... Marketing  
Gregory M Pickett ..... MBA and Greenville ONE  
Jeffrey S Peake ..... Political Science  
Patrick H Raymark ..... Psychology  
David J Eitle ..... Sociology and Anthropology  
Christopher R Mann ..... Aerospace Studies  
Kenneth T Crawford ..... Military Leadership

### College of Engineering and Science

Douglas E Hirt  
Associate Dean for Research and Graduate Studies  
Karen High  
Associate Dean of Undergraduate Studies

Eileen T Kraemer ..... School of Computing  
Zoran S Filipi ..... Automotive Engineering  
Martine LaBerge ..... Bioengineering  
Douglas E Hirt ..... Chemical and Biomolecular  
Engineering  
R Karl Dieter ..... Chemistry  
James R Martin ..... Civil Engineering  
Daniel L Noneaker ..... Electrical and Computer Engineering  
Cindy M Lee ..... Engineering and Science Education  
David L Freedman ..... Environmental Engineering and  
Earth Sciences  
R Joe Watkins ..... General Engineering  
J Cole Smith ..... Industrial Engineering  
Rajendra “Raj” Bordia ..... Materials Science and Engineering  
Christopher L Cox, interim ..... Mathematical Sciences  
Melur “Ram” Ramasubramanian ..... Mechanical Engineering  
Terry M Tritt, interim ..... Physics and Astronomy

### College of Health, Education and Human Development

Eric R Muth  
Associate Dean for Research and Graduate Studies

Margaret A Wetsel, interim ..... School of Nursing  
Francis A McGuire, interim ..... Parks, Recreation and Tourism  
Management  
Ronald W Gimbel ..... Public Health Sciences  
Mark A Small ..... Youth, Family and Community Studies

### Eugene T Moore School of Education

Kathy N Headley  
Senior Associate Dean of the Division of  
Collaborative Academic Services  
David E Barrett  
Associate Dean of Academic Affairs and Research

Deborah M Switzer ..... Education and Human Development  
Robert C Knoepfel ..... Educational and Organizational  
Leadership Development  
Suzanne N Rosenblith ..... Teaching and Learning

### The Graduate School

Bruce Ransom ..... Policy Studies

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## 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, and used his degree in vocational education to serve as 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 4,682 graduate students and, including today's graduation, has awarded 36,356 master's degrees, 498 education specialist degrees, and 4,534 doctoral degrees.

1. Holmes, A, and GR 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.

### 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" long doctoral hood is draped over the shoulders by the faculty member who, as chair of the advisory committee, has formally mentored and guided the student's successful research and education journey.

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# CANDIDATES FOR THE DOCTORAL DEGREE

Jason W Osborne, Dean, Graduate School

## COLLEGE OF AGRICULTURE, FORESTRY AND LIFE SCIENCES

### DOCTOR OF PHILOSOPHY

#### Animal and Veterinary Sciences

Mariano Alende ..... Toay, Argentina

B.S., M.S., National University of La Plata

Dissertation: Evaluation of High Sugar Ryegrass Varieties

Advisor: Dr. J Andrae

Gabriela Volpi Lagreca ..... Santa Rosa, Argentina

M.S., National University of La Plata

Dissertation: Ruminant Supplementation of Gluconeogenic Substrates via Drinking Water

Advisor: Dr. S Duckett

#### Entomology

Francesca Louise Stubbins ..... York, United Kingdom

B.A., University of Cambridge; M.Sc., London School of Hygiene and Tropical Medicine

Dissertation: Ecology of *Megacopta cribraria* (Hemiptera: Plataspidae) with Implications for Management on Soybean

Advisors: Dr. F Reay-Jones and Dr. J Greene

Francesca has two peer-reviewed publications and received the College of Agriculture, Forestry, and Life Sciences Outstanding Graduate Student Research Assistant Award in 2016.

#### Food Technology

Najla Ahmed Khateeb ..... Anderson, SC

B.S., King Abdulaziz University; M.S., Clemson University

Dissertation: Examination of Infographics-Based Reusable Learning Objects (RLO) and Traditional Didactic Lectures (TDL) to Improve Consumer Knowledge and Perceptions About the Safe Use of Plastic Food Containers in a Microwave Oven

Advisor: Dr. K Cooksey

#### Genetics

Krystal A Cadle ..... Cuthbert, GA

B.S., University of West Georgia

Dissertation: The Role the N-terminal Domain Plays in Spidroin Assembly

Advisor: Dr. W Marcotte

Ning Yuan ..... Chengdu, China

B.S., M.S., Southwest China Jiaotong University

Dissertation: Tackling Adverse Environment – Molecular Mechanism of Plant Stress Response and Biotechnology Tool Development

Advisor: Dr. H Luo

Ning has three peer-reviewed publications and one patent. Ning was awarded the Wade Stackhouse Graduate Fellowship based on outstanding academic achievement.

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**COLLEGE OF ARCHITECTURE, ARTS AND HUMANITIES**

**DOCTOR OF PHILOSOPHY**

**Rhetorics, Communication, and Information Design**

S Andrew Stowe ..... Travelers Rest, SC  
B.A., University of South Carolina; M.A., Clemson University  
Dissertation: The Drive to Deceive: Lance Armstrong’s Image Repair and Maintenance  
Advisor: Dr. D Blakesley  
Drew has accepted a faculty position at Anderson University, and will serve as the writing center director.

**COLLEGE OF BUSINESS AND BEHAVIORAL SCIENCE**

**DOCTOR OF PHILOSOPHY**

**Economics**

Yucheng Jiang..... Yi Yang, China  
B.A., Huazhong University of Science and Technology; L.L.B., Wuhan University;  
M.A., Clemson University  
Dissertation: Essays on Empirical Monetary and Financial Economics  
Advisors: Dr. G Dwyer and Dr. R Tamura

Andrew L Swanson .....Oberlin, OH  
BA., Oberlin College; M.A., Clemson University  
Dissertation: Geographic Diversification and Commercial Bank Insolvency Risk and Essays on Crowdfunding and Subscription Games  
Advisors: Dr. P Wilson and Dr. P Warren

**Human Factors Psychology**

Michael Lee Wilson ..... Pendleton, SC  
B.S., Embry-Riddle Aeronautical University; M.S., Clemson University  
Dissertation: The Effect of Varying Latency in a Head-Mounted Display on Task Performance and Motion Sickness  
Advisor: Dr. E Muth  
Mike is a retired U.S. Army officer and a Science, Math and Research Transformation scholarship recipient. He works at the Army’s Aeromedical Research Lab in Fort Rucker, AL.

**Industrial/Organizational Psychology**

Alice Michelle Brawley..... Keithville, LA  
B.A., Louisiana Technical University; M.S., Clemson University  
Dissertation: Performance Management in Family Microbusinesses  
Advisor: Dr. C Pury  
Alice has two peer-reviewed publications and has won multiple research and teaching awards. She has accepted a visiting faculty position at Michigan State University.



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Crystal Mary Burnette .....Athens, TN  
B.S., Wofford College; M.S., Clemson University  
Dissertation: Burnout Among Pastors in Local Church Ministry in Relation to Pastor,  
Congregation Member, and Church Organizational Outcomes  
Advisor: Dr. R Sinclair  
Crystal was awarded the College's Graduate Teaching Assistant Excellence award in 2014. She  
is currently employed as an Associate Director of Healthy Campus at Clemson University.

Deanna Karol Burns .....Manorville, NY  
B.S., M.S., Clemson University  
Dissertation: What Work and Family Mean to You: An Investigation of Demographic  
Differences in Work-Family Conflict Using Qualitative and Quantitative Item Analysis  
Advisor: Dr. R Sinclair

Janelle Hiu Ngae Cheung .....Hong Kong, China  
B.A., M.S., Clemson University  
Dissertation: Employee Well-Being Profiles: A Person-Centered Approach to Understanding  
Multiple Dimensions of Psychosocial Well-Being  
Advisor: Dr. R Sinclair  
Janelle has 14 peer-reviewed publications, was named the Outstanding Graduate Researcher  
in 2015, and will be a postdoctoral researcher at Oregon Health and Science University.

Sarah DuBose Coldiron .....Hampton, VA  
B.S., Christopher Newport University; M.S., Clemson University  
Dissertation: Demand-Control Interactions in Older Workers: Health and Well-being  
as Outcome Measures  
Advisor: Dr. M Taylor

## EUGENE T. MOORE SCHOOL OF EDUCATION

### DOCTOR OF PHILOSOPHY

#### Curriculum and Instruction

Daniel M Alston ..... Columbia, SC  
B.S., M.T., University of South Carolina  
Dissertation: The Initial Design and Validation of the Teacher's Emotions, Appraisals, and  
Coping Habits when Facilitating Inquiry-Based Instruction (TEACH-FIBI) Instrument for  
Science Education  
Advisor: Dr. J Marshall  
Daniel has four peer-reviewed publications, was one of the School of Education's Outstanding  
Graduate Researchers in 2015, and has accepted a faculty position at University of North  
Carolina-Charlotte.

Tracy Dawn Butler ..... Redding, CA  
B.A., University of Minnesota; M.A., Furman University  
Dissertation: Middle School Subject Area Teachers' Self-Efficacy with English Language  
Learners: A Mixed Methods Study  
Advisor: Dr. L Medford  
Tracy has two peer-reviewed publications.

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Dennis Aminiel Kombe..... Kakamega, Kenya  
B.Ed., Moi University; M.Ed., College of Charleston  
Dissertation: An Examination of International Teachers' Pedagogical Adaptation to U.S.  
Secondary Mathematics Classes  
Advisor: Dr. M Che  
A husband, a dad, and an educator, Dennis has two peer reviewed publications, and has  
accepted a faculty position with California State University at Monterey Bay.

Sang-ho Pang..... Seoul, South Korea  
B.S., M.S., Korea University  
Dissertation: A National Survey of Literacy Faculty's Practices, Beliefs and Attitudes Toward  
Online Courses  
Advisor: Dr. D Reinking  
Sang-ho has three peer-reviewed publications. He formerly taught high school in South Korea  
and has a keen interest in online education research.

### **Educational Leadership**

Bridget Carver Briley .....Seneca, SC  
B.S., Southern Wesleyan University; M.S., Capella University  
Dissertation: Exploring the Effects of Network Dynamics on Student Test Scores in a  
Rural Middle School  
Advisor: Dr. R Marion

Matthew Robert Burns ..... Greenville, SC  
B.A., Furman University; M.Ed., Clemson University  
Dissertation: Ethical Decision-Making Examined in Greek Letter Organization Members:  
A Case Study  
Advisor: Dr. P First  
Matthew's dissertation was selected for the 2015–2016 Paul T Begley Award to be presented  
at the CSLEE Values and Leadership Conference in October.

Caroline Wright Canty.....Indian Land, SC  
B.S., Winthrop University; M.A., Hampton University; M.A., Columbia College  
Dissertation: An Analysis of Three TRIO Student Support Services Projects at Public Two-Year  
Institutions in South Carolina  
Advisor: Dr. J Satterfield  
Caroline wrote two proposals in the last federal TRIO Student Support Services grant  
competition and now directs both projects: SSS Classic and SSS STEM/Health Science.

Steven Brian Joyce II..... Lexington, KY  
B.A., Eastern Kentucky University; M.Ed., University of South Florida  
Dissertation: Examining the Influence of Whiteness on the Group Socialization Process of  
College Men in the Traditionally White Fraternity System  
Advisor: Dr. T Cawthon  
Brian was awarded one of the Eugene T. Moore School of Education Outstanding Graduate  
Student awards in April 2016, and has accepted a position at Dartmouth College.

Forrest Murray Stuart ..... Greenville, SC  
B.A., Birmingham-Southern College; M.A., University of Alabama  
Dissertation: Sustainable Enrollment Management: A Dynamic Network Analysis  
Advisor: Dr. R Marion

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# COLLEGE OF ENGINEERING AND SCIENCE

## DOCTOR OF PHILOSOPHY

### Automotive Engineering

Dee Wood Kivett ..... Greenville, SC  
B.S., Virginia Polytechnic Institute and State University; M.S., Rensselaer Polytechnic Institute;  
M.B.A., Clemson University  
Dissertation: Clarity of View: An Analytic Hierarchy Process (AHP)-Based Multi-Factor  
Evaluation Framework for Driver Awareness Systems in Heavy Vehicles  
Advisors: Dr. Z Filipi and Dr. D Smith  
Dee plans to continue teaching in the CU-ICAR Automotive Engineering Department  
and running her successful consulting practice, NextGen Supply Chain Integrators in  
Greenville, SC.

Xueyu Zhang ..... Hengshui, China  
B.S., Huazhong University of Science and Technology  
Dissertation: Supervisory Control Optimization for a Series Hybrid Electric Vehicle with  
Consideration of Battery Thermal Management and Aging  
Advisor: Dr. Z Filipi

### Bioengineering

Tigran Abramyan ..... Moscow, Russia  
M.Pharm., First Moscow State Medical University; M.Sc., University College London School  
of Pharmacy  
Dissertation: Computational Studies of Molecular Mechanisms Mediating Protein Adsorption  
on Material Surfaces  
Advisor: Dr. R Latour

Sarah Elizabeth Cisewski ..... Isle of Palms, SC  
B.S., Clemson University  
Dissertation: Nutrient Related Mechanisms of Intervertebral Disc Degeneration  
Advisor: Dr. H Yao  
A National Science Foundation Graduate Research Fellow, Sarah has seven peer-reviewed  
publications. She has accepted a postdoctoral position at the Medical University of  
South Carolina.

Nasim Nosoudi ..... Clemson, SC  
B.S., Iran University of Science and Technology; M.S., Amirkabir University of Technology  
Dissertation: Targeted Nano-Therapeutics for the Reversal of Calcification and ECM  
Degradation in Abdominal Aortic Aneurysms  
Advisor: Dr. N Vyavahare  
Nasim has 15 peer-reviewed publications, was chosen as the bioengineering department's  
Outstanding Graduate Researcher in 2016, and plans to work in academia.

Matthew C Rusin ..... Dublin, OH  
B.S., Rose-Hulman Institute of Technology; M.S., Clemson University  
Dissertation: Impact of Ionizing Radiation Dose and Dose Rate on Adipose Stem  
Cell Function  
Advisor: Dr. D Dean

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Hobey Tam..... Fishers, IN  
B.S., Rose-Hulman Institute of Technology; M.S., Clemson University  
Dissertation: Novel Chemical Crosslinking to Stabilize Extracellular Matrix for Bioprosthetic Heart Valve Materials to Resist Calcification and Structural Degradation  
Advisor: Dr. N Vyavahare

Michael Aaron Vaughn.....Anderson, SC  
B.S., M.S., Clemson University  
Dissertation: Development of Poroelastic Polyvinyl Alcohol Based Hydrogels as a Synthetic Cartilage Substitute  
Advisors: Dr. K Burg and Dr. J Corbett  
Aaron completed his dissertation project in a program with Poly-Med, Inc. and Clemson's Department of Bioengineering. He plans on continuing his employment at Poly-Med, Inc. after graduation.

### Chemical Engineering

Juan Wang.....Tianjin, China  
B.S., Tianjin University  
Dissertation: Development of a New Multimodal Membrane Adsorber and Its Application in Chromatographic Bioseparations  
Juan received an AIChE graduate research award in 2015 and a NAMS fellowship award in 2016. She will work in a biopharmaceutical company.

### Chemistry

Tingting Han .....Jinan, China  
B.S., Xi'an Jiaotong University  
Dissertation: Molecular Mechanics Study of Protein Folding and Protein-Ligand Binding  
Advisor: Dr. B Dominy

Daniel A Hercules..... Clemson, SC  
B.S., University of Costa Rica  
Dissertation: Development of a Pilot-Scale Polymerization Facility and Monomer Preparation for the Determination of Reactivity Ratios for Tetrafluoroethylene (TFE)-Based Copolymers  
Advisors: Dr. J Thrasher and Dr. D DesMarteau  
Daniel has three first-author peer-reviewed publications and was awarded best poster awards in 2012 and 2014 by the American Chemical Society Fluoropolymer Division.

Zhe Jia .....Tianjin, China  
B.S., Tianjin University  
Dissertation: Molecular Mechanics Studies of Protein Signaling and Conformation Change  
Advisor: Dr. B Dominy

Liuwei Jiang..... Wuhan, China  
B.S., Guangdong Pharmaceutical University  
Dissertation: Surface Modifications of Capillary-Channeled Polymer (C-CP) Fiber Stationary Phases for Protein Separations  
Advisor: Dr. K Marcus

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Melissa Marie Rogalski .....Phillipsburg, NJ  
B.S., Kutztown University  
Dissertation: Development of Position-Dependent Luminescent Sensors: Spectral Rulers and  
Chemical Sensing Through Tissue  
Advisor: Dr. J Anker  
Melissa received a MacDonald Fellowship in 2010, a graduate teaching assistant award in 2013,  
and has one patent. She has accepted a senior scientist position at Sealed Air.

Jamie Amanda Shetzline..... Doylestown, PA  
B.S., Delaware Valley University  
Dissertation: Advanced Cathode Materials and Electroanalytical Techniques for Proton  
Exchange Membrane Hydrogen-Oxygen Fuel Cells  
Advisor: Dr. S Creager

Daniel R Willett.....Gilbertsville, KY  
B.S., Murray State University  
Dissertation: Synthesis and Applications of Highly Concentrated Silver Nanoparticles with  
an Ultra-Thin Silica Shell  
Advisor: Dr. G Chumanov

### Civil Engineering

Nicole Maria Barclay..... Siparia, Trinidad and Tobago  
B.S., South Carolina State University; M.S., Clemson University  
Dissertation: The Role of Community Participation for Green Stormwater Infrastructure  
Development  
Advisor: Dr. L Klotz  
Nicole has accepted a faculty position at the University of North Carolina at Charlotte.

Kweku Tekyi Brown .....Cape Coast, Ghana  
B.S., Kwame Nkrumah University of Science and Technology; M.S., University  
of Connecticut  
Dissertation: A Safety Analysis of Spatial Phenomena About the Residences of Drivers  
Involved in Crashes  
Advisors: Dr. W Sarasua and Dr. J Ogle  
Kweku won the Outstanding Lab Assistant Award in the civil engineering department in  
2014 and 2015. He won the Outstanding Paper at the 2016 AASHTO GIST. He will  
be joining faculty at The Citadel

Diana A Chen.....Cerritos, CA  
B.S., Harvey Mudd College; M.S., Clemson University  
Dissertation: The Adaptable Growth of Seashells: Informing the Design of the Built  
Environment Through Quantitative Biomimicry  
Advisors: Dr. B Ross and Dr. L Klotz  
Diana has accepted a faculty position at the University of San Diego.

He Jin ..... Yanji, China  
B.A., Yanbian University; M.S., Stevens Institute of Technology; M.S., Yonsei University  
Dissertation: Decision-Making Guidance for Selecting Culvert Renewal Techniques  
Advisor: Dr. K Piratla  
He graduated in Civil Engineering department. He gives all glories to his Lord.

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Srimaruthi Jonnalagadda..... Vijayawada, India  
B.T., Nagarjuna University; M.T., Mangalore University  
Dissertation: Artificial Neural Networks, Non Linear Auto Regression Networks (NARX) and  
Causal Loop Diagram Approaches for Modelling Bridge Infrastructure Conditions  
Advisor: Dr. B Ross  
Sri thanks his wonderful wife, Sirisha, for her exemplary sacrifice and outstanding support as  
he pursued his dream of a PhD.

Audra Ann Kiesling..... Wall, TX  
B.S., Texas Tech University; M.E., University of Florida  
Dissertation: Public Perceptions of Individual Natural Hazard Resilience Related to the  
Built Environment  
Advisor: Dr. L Klotz

Frederick Eugene Paige..... Binghamton, NY  
B.S., M.S., Clemson University  
Dissertation: Learning Energy Literacy Concepts from Energy-Efficient Homes  
Advisors: Dr. L Klotz and Dr. J Martin

Tao Ruan..... Zibo, China  
B.S., Yantai University; M.S., Dalian University of Technology  
Dissertation: Development of an Automated Electrical Impedance Tomography System and  
Its Implementation in Cementitious Materials  
Advisor: Dr. A Poursaee

Garrison Nicole Stevens ..... Salisbury, NC  
B.S., M.S., Clemson University  
Dissertation: Experiment-based Validation and Uncertainty Quantification of Partitioned  
Models: Improving Predictive Capability of Multi-scale Plasticity Models  
Advisor: Dr. S Atamturktur  
Garrison was named the Outstanding Woman Graduate Student in 2014. She has accepted  
a postdoctoral position at Los Alamos National Laboratory.

Ali Tohidi..... Tehran, Iran  
B.S., Islamic Azad University; M.S., Sharif University of Technology  
Dissertation: Experimental and Numerical Modeling of Wildfire Spread via Fire Spotting  
Advisor: Dr. N Kaye

### **Computer Engineering**

Liuhua Chen..... Zhanjiang, China  
B.S., M.S., Zhejiang University  
Dissertation: Optimizing Virtual Resource Management in Cloud Datacenters  
Advisor: Dr. H Shen

Yuhua Lin ..... Yunfu, China  
B.E., M.E., Sun Yat-Sen University  
Dissertation: Effective and Economical Content Delivery and Storage Strategies for  
Cloud Systems  
Advisor: Dr. H Shen

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Jinwei Liu ..... Wuhan, China  
M.S., University of Science and Technology of China; M.S., Clemson University  
Dissertation: Towards an Efficient Cloud Computing System: Data Management, Resource  
Allocation and Job Scheduling  
Advisor: Dr. H Shen

### **Electrical Engineering**

Karthikeyan Balasubramaniam..... Chennai, India  
B.E., Anna University; M.S., University of Vermont  
Dissertation: Optimization Techniques for Modern Power Systems Planning, Operation and  
Control  
Advisor: Dr. E Makram

### **Engineering and Science Education**

Eliza Dargan Gallagher ..... Brevard, NC  
B.S., M.S., North Carolina State University  
Dissertation: On Becoming a Graduate Student Teacher of Mathematics  
Advisors: Dr. L Benson and Dr. G Potvin  
Eliza has accepted a tenure-track faculty appointment at Clemson University.

Jennifer Elizabeth Van Dyken..... Round Rock, TX  
B.A., Southwestern University; M.S., Clemson University  
Dissertation: The Effects of Mathematics Placement on Successful Completion of an  
Engineering Degree and How One Student Beat the Odds  
Advisor: Dr. L Benson

### **Environmental Engineering and Science**

April Renee Gillens ..... Eutawville, SC  
B.S., North Carolina Agricultural and Technical State University; M.S., Clemson University  
Dissertation: Characterization of Tributyl Phosphate Degradation Using FTIR-ATR  
Spectroscopy and Carbon Stable Isotope Ratio Mass Spectrometry  
Advisor: Dr. B Powell  
April is the first African-American to earn a Ph.D. in Environmental Engineering and Science  
from Clemson University. She is also Clemson's first Nuclear Forensics Graduate Fellow.

Adam R Mangel..... Cambria, NY  
B.S., State University of New York; M.S., Clemson University  
Dissertation: Advances in Monitoring Dynamic Hydrologic Conditions in the Vadose Zone  
Through Automated High-Resolution Ground-Penetrating Radar Imaging and Analysis  
Advisor: Dr. S Moysey

Jolanta Barbara Niedźwiecka ..... Staszów, Poland  
B.S., Cracow University of Technology  
Dissertation: Combined Biological and Chemical Mechanisms for Degradation of Insensitive  
Munitions  
Advisor: Dr. K Finneran  
Jola won the Student Paper Competition for the Third International Symposium on  
Bioremediation and Sustainable Environmental Technologies in 2015.

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Muriel Margaret Steele.....Jones, OK  
B.S., Arizona State University; M.S., Clemson University  
Dissertation: Quantifying Sustainability in Wastewater Treatment: Examples in Algalculture  
Advisors: Dr. D Ladner and Dr. A Anctil

Yu Xie.....Shenzhen, China  
B.S., China University of Geosciences; M.S., Boston College  
Dissertation: Understanding the Thermodynamics of Actinide Speciation at Solid and Water  
Interfaces Through Self-Consistent Surface Complexation Modeling (SCM)  
Advisor: Dr. B Powell  
Yu earned the Environmental Scholars Award in the Department of Environmental  
Engineering and Earth Sciences in 2015.

### **Industrial Engineering**

Nadeepa Wickramage.....Kottawa, Sri Lanka  
B.Sc., Moratuwa University; M.S., Clemson University  
Dissertation: Time Based Modeling of Storage Facility Operations  
Advisor: Dr. W Ferrell, Jr  
Nadeepa was awarded the Material Handling Education Foundation, Inc. scholarship in 2014.

Nazanin Zinouri..... Tehran, Iran  
B.S., Khajeh Nasir Toosi University of Technology; M.S., Northern Illinois University  
Dissertation: Improving Healthcare Resource Management Through Demand Prediction  
and Staff Scheduling  
Advisor: Dr. K Taaffe

### **Materials Science and Engineering**

Xiaolin Liu.....Zibo, China  
B.S., Shandong University  
Dissertation: Synthesis of Hydrofluorocarbon Ethers and New Amorphous Fluoropolymers  
with Cyclic Fluorocarbon Ether Units  
Advisor: Dr. J Thrasher

Claire Kway Poh..... Charlotte, NC  
B.S., High Point University  
Dissertation: The Development of Polyurethane-based Solid to Solid Phase Change Materials  
Advisors: Dr. P Brown and Dr. V Blouin

Bradley Matthew Schultz.....Glen Ellyn, IL  
B.S., Purdue University  
Dissertation: The Influence of Architecture and Composition on the Evolution of Thin Films  
During Sliding Contact  
Advisor: Dr. M Kennedy  
Brad was awarded two South Carolina Space Grant Consortium Fellowships, an OSSI  
summer research position at NASA's Johnson Space Center, and worked in the CURF  
Tech Transfer Office.



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Ying Yang ..... Tangshan, China  
B.S., Nankai University  
Dissertation: Molecular Level Design of Self-Healing Polyurethanes  
Advisor: Dr. M Urban  
Ying has five publications and one patent, won Best Poster prize at the International Symposium on Stimuli-Responsive Materials, and in 2015 was awarded a David Jennings Fellowship.

### Mathematical Sciences

Nathan Joseph Adलगren ..... Jamestown, NY  
B.S., State University of New York; M.S., Indiana University of Pennsylvania  
Dissertation: Solution Techniques for Classes of Biobjective and Parametric Programs  
Advisors: Dr. M Wiecek and Dr. A Gupte  
Nathan has one peer-reviewed publication and was named an Outstanding Graduate Researcher by the Department of Mathematical Sciences in 2016.

Qijun He ..... Shenzhen, China  
B.S., Zhejiang University; M.S., Clemson University  
Dissertation: Algebraic Geometry Arising from Discrete Models of Gene Regulatory Networks  
Advisor: Dr. M Macauley

Jason Lee Joyner ..... Clover, SC  
B.S., M.S., Clemson University  
Dissertation: A New Look at Matrix Analytic Methods  
Advisor: Dr. B Fralix

Anastasia Bridner Wilson ..... Greenville, SC  
B.S., North Greenville University; M.S., North Carolina State University  
Dissertation: Modeling, Analysis, and Simulation of Adsorption in Functionalized Membranes  
Advisor: Dr. L Jenkins  
Anastasia interned at NASA Langley in 2015, was named the math department's Outstanding Graduate Researcher in 2016, and will be teaching at Augusta University in the fall.

Shuhan Xu ..... Hefei, China  
B.S., Donghua University; M.S., Clemson University  
Dissertation: Numerical Study for Non-Newtonian Fluid-Structure Interaction Problems  
Advisor: Dr. H Lee  
Shuhan has five publications, won a Michael Case Award for promise in graduate research in 2013, and a SIAM SEAS Student Travel Award in 2015.

### Mechanical Engineering

Ali Haitham Abdelfattah Alhadidi ..... Al Salt, Jordan  
B.S., M.S., University of Jordan  
Dissertation: Exploiting Stiffness Nonlinearities to Improve the Performance of Galloping Flow Energy Harvesters  
Advisor: Dr. M Daqaq  
Ali has seven peer-reviewed publications and has accepted a faculty position at the University of Jordan.

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Wei Li.....Xiantao, China  
B.S., M.S., Huazhong University of Science and Technology  
Dissertation: Effects of Mean Shear and Scalar Initial Length Scale on Three-Scalar Mixing  
in Turbulent Coaxial Jets  
Advisor: Dr. C Tong

Xinyu Lu ..... Kaifeng, China  
B.E., Huazhong University of Science and Technology  
Dissertation: Particle Transport Phenomena in Non-Newtonian Microfluidics  
Advisor: Dr. X Xuan  
Xinyu has 14 peer-reviewed papers, was named one of the Graduate School's 2016  
Outstanding Graduate Researchers, and received a Chinese government award  
for Outstanding Self-Financed Students Abroad.

Seyed Yasha Parvini Oskoui..... Tabriz, Iran  
B.Sc., University of Tabriz; M.Sc., Sharif University of Technology  
Dissertation: Modeling, Hybridization, and Optimal Charging of Electrical Energy  
Storage Systems  
Advisor: Dr. A Vahidi  
Yasha has seven peer-reviewed publications and one patent. He was a mechanical engineering  
teaching fellow in 2015, and has accepted a faculty position at the University of  
Detroit-Mercy.

Hamed Saeidi.....Booshehr, Iran  
B.S., Shahrood University of Technology; M.S., Amirkabir University of Technology  
Dissertation: Trust-Based Control of (Semi)Autonomous Mobile Robotic Systems  
Advisor: Dr. Y Wang

Nianfeng Wan.....Zhengzhou, China  
B.S., Tianjin University; M.S., Shanghai Jiao Tong University  
Dissertation: Estimation and Control of Traffic Relying on Vehicular Connectivity  
Advisor: Dr. A Vahidi

Ying Yu..... Wuhan, China  
B.S., Wuhan University of Technology  
Dissertation: Thermomechanical Modelling for Phonon Transport and Damping Analysis  
of Silicon Nano-Structure  
Advisor: Dr. G Li

### Photonic Science and Technology

Guancheng Gu ..... Changsha, China  
B.S., Harbin Institute of Technology  
Dissertation: Advanced Specialty Fiber Designs for High Power Fiber Lasers  
Advisor: Dr. L Dong  
Guancheng has nine peer-reviewed journal publications and 32 conference proceedings.

### Physics

Andrew Devon Kiene ..... Mobile, AL  
B.S., Auburn University  
Dissertation: Sounding Rocket Measurements of Vertically-Sheared F Region Neutral Winds  
at Sunset and Modeling of Their Effect on Spread F Development  
Advisor: Dr. M Larsen

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Amber L Porter .....Goldsboro, MD  
B.S., Lycoming College  
Dissertation: Spectropolarimetry of Thermonuclear Supernovae  
Advisor: Dr. M Leising  
Amber has one peer-reviewed publication and was named the physics department's  
Outstanding Teaching Assistant in 2016. She has accepted a lecturer position at Clemson  
University.

Girish Sharma.....Shimla, India  
B.S., M.S., Sri Sathya Sai Institute of Higher Learning  
Dissertation: Topological Phenomena in Metals and Superconductors  
Advisor: Dr. S Tewari  
Girish has six papers published in the peer-reviewed journal Physical Review B, and was  
named outstanding graduate researcher in both the physics department and the College  
of Engineering and Science.

Xiaoyu Zeng ..... Shanghai, China  
B.S., Wuhan University of Science and Technology  
Dissertation: The Defects Chemistry in La Filled CoSb<sub>3</sub> Skutterudites Explored by  
Thermoelectric Study and Density Functional Theory Calculations  
Advisor: Dr. T Tritt

## COLLEGE OF HEALTH, EDUCATION AND HUMAN DEVELOPMENT

### DOCTOR OF PHILOSOPHY

#### Health Care Genetics

Scott Emory Moore.....Greer, SC  
B.A., Presbyterian College; B.S.N., University of South Carolina; M.S., Clemson University  
Dissertation: Exploring the Interface of Genetics, Genomics, and Older Adults  
Advisors: Dr. R Pruitt and Dr. B Holaday  
Scott was awarded the Oliver Kent and Bettye C. Cecil Fellowship in Geriatrics and Genetics  
and a John A. Hartford Foundation NHCGNE Patricia G. Archbold Pre-doctoral  
Scholarship.

#### International Family and Community Studies

Timothy Paul Hagen ..... Tirana, Albania  
B.A., M.Ed., Valparaiso University  
Dissertation: Attitudes Toward Marriage Among Albanians: Establishing Baseline Attitudinal  
Clusters and Predictors from the 2008 European Values Study  
Advisor: Dr. M Small

Dana Lee Varkis ..... Potomac, MD  
B.A., M.S.W., University of California  
Dissertation: The Impact of Marital Satisfaction on the Utilization of Mental Health Services  
Among Soldiers  
Advisors: Dr. M Small and Dr. N Sianko  
Dana is a career federal government employee. She was recently promoted to the rank of  
Commander in the United States Public Health Service.

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**GRADUATE SCHOOL**

**DOCTOR OF PHILOSOPHY**

**Policy Studies**

George Patterson Apperson III..... Greenville, SC

B.S., University of the South; M.B.A., University of Edinburgh; M.S., Clemson University

Dissertation: Agricultural Commodity Futures Price Volatility: A Market Regulatory

Policy Study

Advisor: Dr. W Bridges

Pat received the J.S. Lyle Memorial Graduate Student Award in 2015 and 2016, and has

accepted an agribusiness lecture position in the Department of Agricultural and

Environmental Sciences.

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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.

## CEREMONIAL MUSIC

Haleigh Marcolini, Soloist  
Clemson University Brass Quintet

### Prelude

Various Marches and Processionals

### Processional

*Pomp and Circumstance* – Sir Edward Elgar

### National Anthem

Words by Francis Scott Key  
Music attributed to John Stafford Smith

### Closing

*Clemson University Alma Mater*  
Words by A C Corcoran, Class of '19  
Music by Hugh H McGarity and R Hawkins  
Arranged by J Butler

### Recessional

*Rondeau from "Sinfonies de Fanfares"* –  
Jean-Joseph Mouret

Candidates appearing in this program are not 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.

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UNIVERSITY