

CLEMSON UNIVERSITY

Doctoral Hooding Ceremony

DECEMBER 19, 2018



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DOCTORAL HOODING CEREMONY

WEDNESDAY, DECEMBER 19, 2018

3:00 P.M.

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 Benjamin R. Stephens

REFLECTION

Shauna Chung

Doctoral Student

Rhetorics, Communication, and Information Design

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

Selections and credits on page 16

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

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

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DEANS

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Dean of Undergraduate Studies

Jason W. Osborne
Associate Provost and
Dean of the Graduate School

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and Life Sciences

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Dean of the College of Behavioral, Social and
Health Sciences

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ADMINISTRATIVE OFFICERS

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Interim Vice President and Chief Financial Officer

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Almeda R. Jacks
Vice President for Student Affairs

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Chief Diversity Officer and
Special Assistant to the President for Inclusive Excellence

W.C. Hood, Jr.
General Counsel

Emily Watrous
Chief Human Resources Officer

Dan Radakovich, Jr.
Director of Athletics

THE GRADUATE SCHOOL

Jason W. Osborne
Associate Provost and Dean of the Graduate School

William G. Ferrell
Associate Dean

David S. Fleming
Associate Dean

Brian N. Dominy
Associate Dean

Tia N. Dumas
Assistant Dean for Professional Development and
Inclusive Excellence

GRADUATE STUDENT GOVERNMENT

Bryce Conti, President
Cody Woods, Vice President
Senthil Raj Ramesh, VP for Greenville Council

ASSOCIATE DEANS AND DEPARTMENT CHAIRS

COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES

Paula Agudelo, interim
Associate Dean for Research & Graduate Studies
Jean Bertrand
Associate Dean for Undergraduate Studies

Charles V. Privette, III Agricultural Sciences
Kristine L. Vernon Animal & Veterinary Sciences
E. Jeffery Rhodehamel Food, Nutrition, &
Packaging Sciences
Greg K. Yarrow Forestry & Environmental Conservation
Carlyle Brewster Plant & Environmental Sciences

COLLEGE OF ARCHITECTURE, ARTS & HUMANITIES

James H. Spencer
Associate Dean for Research & Graduate Studies
Lee J. Morrissey
Interim Associate Dean for Academic Affairs

Katherine L. Schwensen School of Architecture
Valerie A. Zimany Art
John A. Gaber City Planning & Real Estate
Development
N. Mike Jackson Construction Science & Management
Susanna M. Ashton English
James M. Burns History
Salvador A. Oropesa Languages
Becky K. Becker Performing Arts
Richard A. Amesbury Philosophy & Religion

COLLEGE OF BEHAVIORAL, SOCIAL & HEALTH SCIENCES

Eric R. Muth
Associate Dean for Research & Graduate Studies
Denise M. Anderson
Associate Dean for Undergraduate Studies & Faculty Affairs
Kathy N. Headley
Senior Associate Dean of the Division of Collaborative
Academic Services

Kathleen L. Valentine School of Nursing
Joseph P. Mazer Jr. Communication
Wayne A. Freimund Parks, Recreation & Tourism
Management
Jeffrey S. Peake Political Science
Patrick H. Raymark Psychology
Ronald W. Gimbel Public Health Sciences
Katherine E. Weisensee Sociology & Anthropology
Mark A. Small Youth, Family & Community Studies

COLLEGE OF BUSINESS

Gregory M. Pickett
Senior Associate Dean & Director of MBA Programs
Carl W. Hollingsworth, interim
Associate Dean for Academic Affairs

Sally K. Widener School of Accountancy
Scott L. Baier Economics
Angela G. Morgan Finance
Charles “Chip” Tonkin Graphic Communications

COLLEGE OF BUSINESS (continued)

“Sri” V. Sridharan Management
Jesse N. Moore Marketing

COLLEGE OF EDUCATION

Kathy N. Headley
Senior Associate Dean of the Division of Collaborative
Academic Services
Jeff C. Marshall, interim
Associate Dean for Research & Graduate Studies
Michelle P. Cook, interim
Associate Dean for Undergraduate Studies &
Faculty Engagement

Debi M. Switzer Education & Human Development
Roy Jones, interim Educational & Organizational
Leadership Development
Cynthia Deaton, interim Teaching & Learning

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

Douglas E. Hirt
Associate Dean for Research & Graduate Studies
Bradley J. Putman
Associate Dean for Undergraduate Studies

Zoran S. Filipi Automotive Engineering
Martine LaBerge Bioengineering
David A. Bruce Chemical & Biomolecular
Engineering
Ronald D. Andrus, interim Civil Engineering
Larry F. Hodges, interim School of Computing
Daniel L. Noneaker Electrical & Computer Engineering
Cindy M. Lee Engineering & Science Education
David L. Freedman Environmental Engineering &
Earth Sciences
R. Joe Watkins General Engineering
Scott J. Mason, acting chair Industrial Engineering
Rajendra “Raj” Bordia Materials Science & Engineering
Atul Kelkar Mechanical Engineering

COLLEGE OF SCIENCE

Julia Frugoli
Associate Dean for Inclusive Excellence & Graduate Education
Calvin Williams
Associate Dean for Undergraduate Excellence
& Community Engagement
Apparao Rao
Associate Dean for Discovery

Saara DeWalt, interim Biological Sciences
William T. Pennington Chemistry
William R. Marcotte, Jr. Genetics & Biochemistry
Christopher L. Cox Mathematical & Statistical Sciences
Chad Sosolik, interim Physics & Astronomy

Special Thanks to Graduate Program Directors & Staff

Although there are too many to list, the graduate program coordinators, administrative contacts, & 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.

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

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

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

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

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

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

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

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

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

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 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.

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

Sarah Adams WillbanksPendleton, SC
B.S., Clemson University; M.S., University of Georgia
Dissertation: Association of DRD2 Single Nucleotide Polymorphism and Fescue Toxicosis
in Ruminants
Advisor: Dr. Susan Duckett

Food Technology

Mollye Shannon MacNaughton Dallas, TX
B.S., Clemson University
Dissertation: The Effects of Various Retort Motions on the Rate of Heat Penetration of a
Food Simulant in Pouches
Advisor: Dr. William Whiteside

Forest Resources

Brian Anthony RitterHendersonville, NC
B.S., Oregon State University; M.S., Clemson University
Dissertation: Forestry and Arboriculture Applications Using High-Resolution Imagery from
Unmanned Aerial Vehicles (UAV)
Advisor: Dr. Christopher Post

Plant and Environmental Sciences

Makhdora AlmuzinyJeddah, Saudi Arabia
B.S., King Abdulaziz University; M.S., Clemson University
Dissertation: Enhancing the Biofumigation Efficiency and Phosphorus Mobilizing Capacity
of Cover Crops Through Potential Management Practices
Advisor: Dr. Nishanth Tharayil

Zachary William Brenton Roanoke, VA
B.A., University of South Carolina
Dissertation: The Creation of Genetic and Genomic Resources to Determine the Causal
Variants Affecting Biomass Composition in *Sorghum bicolor*
Advisor: Dr. Stephen Kresovich

Xinyuan Ma Yancheng, China
B.S., Nanjing Agricultural University; M.S., New York University
Dissertation: Phylogenetic, Genomic and Morphological Investigations of Three Lance
Nematode Species (*Hoplolaimus* spp.)
Advisor: Dr. Paula Agudelo
Max has three peer-reviewed publications and another four under review.

James Kevin ParrisSpartanburg, SC
B.S., M.S., Clemson University
Dissertation: Magnolia: Impact of Interspecific Hybridization on Genetic Variation and
Ongoing Breeding Initiatives
Advisor: Dr. Sarah White

Gabriel RennbergerNeusling, Germany
B.S., M.S., Technical University of Munich
Dissertation: Occurrence and Pathogenicity of Foliar Pathogens on Cucurbits in South
Carolina with Special Emphasis on Stagonosporopsis and Stachybotriaceae on
Watermelon
Advisor: Dr. Anthony Keinath

COLLEGE OF ARCHITECTURE, ARTS AND HUMANITIES
DOCTOR OF PHILOSOPHY

Planning, Design, and the Built Environment

William Brandt Lewis Covington, LA
B.S., M.A., Norwich University
Dissertation: Role of the Physical Environment on Team-Based Primary Care in the
Military Health System
Advisor: Dr. Dina Battisto
William is currently serving as a capital strategy manager for the United States Army
Health Facility Planning Agency in Falls Church, Virginia.

COLLEGE OF BEHAVIORAL, SOCIAL AND HEALTH SCIENCES
DOCTOR OF PHILOSOPHY

Healthcare Genetics

Rebecca L. Myers Seneca, SC
B.S., University of South Carolina
Dissertation: Research Exemplars from an Interdisciplinary Healthcare Genetics Program
Advisor: Dr. Margaret Wetsel

Matthew L. Tedder Timmons ville, SC
B.S., Francis Marion University
Dissertation: A Healthcare Genetics Approach to Genetic Testing for Hereditary Breast
Cancer
Advisors: Dr. Margaret Wetsel and Dr. Julia Eggert

Parks, Recreation, and Tourism Management

Peter Judca MKUMBO Iguguno, Singida, United Republic of Tanzania
B.Sc., Sokoine University of Agriculture; M.Sc., Victoria University of Wellington
Dissertation: Influence of Consumer Involvement in Tourist Information Search:
Application of Economics of Information Theory in a Destination
Advisors: Dr. Sheila Backman and Dr. Kenneth Backman
Pita has six peer-reviewed publications and five conference abstracts. He was awarded a
total of six PEG grants, three HEHD grants, and a doctoral dissertation completion grant.

COLLEGE OF EDUCATION

DOCTOR OF PHILOSOPHY

Curriculum and Instruction

Steven Clay Pruitt Taylors, SC

B.S., Anderson University; M.Ed., Converse College

Dissertation: Experiences of Upstate South Carolina Historical Preservationists: Wisdom for Cultivating Future Advocates

Advisor: Dr. Bea Bailey

Steven has three peer-reviewed publications and was named the Greenville County Conservation Teacher of the Year in 2012.

Educational Leadership

Elizabeth L. Carter Murrells Inlet, SC

B.A., James Madison University; M.Ed., University of Georgia

Dissertation: An Interpretative Phenomenological Study of College Women Who Participate in High-Risk Drinking, Their Perceptions of Drinking Norms, and the Influence of Those Norms on Their Drinking Behaviors

Advisor: Dr. Tony Cawthon

Timothy Allen DuPont Greenwood, SC

B.S., Lander University; M.B.A., Clemson University

Dissertation: Effects of LMX and External Environmental Factors on Creativity Among Faculty in Higher Education

Advisors: Dr. Tony Cawthon and Dr. Russ Marion

Tim has three peer-reviewed publications and has made five conference presentations. His work also won the best paper award at an international conference.

Jimmy Lee Howard, Jr. Aberdeen, MD

B.A., University of Maryland; M.Ed., Clemson University

Dissertation: Building a Model of Black Women's Confidence in Campus Sexual Assault Resources: A Critical Race Feminist Quantitative Study

Advisor: Dr. Tony Cawthon

Jimmy has three peer-reviewed publications and has recently accepted a position as Assistant Dean of Students for Prevention and Response at the University of Oregon.

Po Hu Leshan, China

MA-HRIR, University of Minnesota

Dissertation: Exploring Dynamics and Performance of International Education (IE) and Senior International Officer (SIO) Through a Lens of Complexity and Network Theories

Advisors: Dr. Russ Marion and Dr. Robert Knoeppel

Po is a senior international officer in the field of global education and is on the faculty at the University of Nebraska at Kearney's Higher Education & Student Affairs program.

Jeffrey Michael Kenney Omaha, NE

B.F.A., University of Nebraska; M.Ed., Clemson University

Dissertation: Cases of Contingent STEM Faculty Who Practice Critical Pedagogies with/in the Neoliberal University

Advisor: Dr. Tony Cawthon

Jeff was named a Graduate Alumni Fellow in 2015, and currently serves as Director of Institutional Education for Diversity, Equity, and Inclusion at Oregon State University.

Katryna Bower MaxwellGreer, SC
B.S., M.Ed., Clemson University
Dissertation: High-Achieving, Non-First-Generation, Female, Undergraduate Student
Views of Family Influence on Career Decisions
Advisor: Dr. Pamela Havice

Kerri Lyn McGuireRock Hill, SC
B.A., M.Ed., Winthrop University
Dissertation: The Impact of Goal Persistence and Willing to Compete on Community
College Student Success in Developmental Math Coursework
Advisor: Dr. Tony Cawthon

Brittany Denise NeelyGreenville, SC
B.A., M.Ed., Columbia College
Dissertation: Understanding the Impact of Racism and Sexism on the Transition
Experience of Black Women Principals from the Classroom to the Secondary School
Principalship
Advisor: Dr. Hans Klar

Literacy, Language, and Culture

Koti Lee HubbardFair Play, SC
B.A., M.Ed., Clemson University
Dissertation: Second Graders' Responses to and Application of Word-Picture Relationships
in Picturebooks: A Case Study
Advisor: Dr. Susan Fullerton
Koti has four peer-reviewed publications, co-authored a book chapter, and has accepted a
faculty position at Winthrop University.

COLLEGE OF ENGINEERING, COMPUTING AND APPLIED SCIENCES

DOCTOR OF PHILOSOPHY

Automotive Engineering

Rakan Alturk Amman, Jordan
B.S., University of Jordan
Dissertation: Characterization and Modeling of the High Strain Rate Response of
Advanced High Strength Steels
Advisor: Dr. Fadi Abu-Farha

Kousaalya Bakthavatchalam.....Chennai, India
B.Tech., Anna University; M.S., Indian Institute of Technology
Dissertation: Sustainable Manufacturing of Natural Fiber Reinforced Green Composite
Advisors: Dr. Srikanth Pilla and Dr. Beshah Ayalew
Kousaalya has 14 peer-reviewed publications, received the Southern Automotive Women's
Forum scholarship for five consecutive years, and plans a career in academia.

Saeed Farahani.....Tehran, Iran
B.S., M.S., Sharif University of Technology
Dissertation: Polymer Injection Forming: A New Age Technology for Manufacturing
Polymer-Metal Hybrids
Advisor: Dr. Srikanth Pilla
Saeed has submitted four journal papers, two conference papers and an invention
disclosure. He received two fellowships and finished his doctorate in three semesters.

Abram David Pleta..... Washington, PA
B.S., Pennsylvania State University
Dissertation: Alternative Milling Path Planning Strategies and Force Modeling for
Nickel-Based Superalloys
Advisor: Dr. Laine Mears

Thomas Robert PowellRaleigh, NC
B.S., North Carolina State University
Dissertation: Impacts of Thermal Barrier Coating Morphology and Catalytic Properties on
Low Temperature Combustion Engine In-Cylinder Processes
Advisors: Dr. Zoran Filipi and Dr. Mark Hoffman

Biosystems Engineering

Rui Xiao Shenzhen, China
M.S., Clemson University
Dissertation: Characterization and Cultivation of Marine Protist, *Thraustochytrium striatum*
for High-Value Bioproducts
Advisor: Dr. Yi Zheng
Xiao has five peer-reviewed publications and plans to teach at Clemson University.

Bioengineering

Ryan Andrew Borem.....Long Beach, CA
B.S., M.S., Clemson University
Dissertation: Development of a Biomimetic, Collagen-Based Scaffold for the Repair and
Regeneration of the Annulus Fibrosus
Advisor: Dr. Jeremy Mercuri
Ryan has five submitted publications, 20 conference proceedings, and a patent. He received
a NSF Graduate Research Fellowship, a Clemson Bioengineering Entrepreneurship award
and a Society for Bioengineering STAR award. He is a U.S. combat veteran.

Sarah Grace Dennis.....Athens, GA
B.S., Tulane University
Dissertation: Engineering Soft Tissue Replacements and the Development of Novel
Technologies to Heal These Wounds
Advisor: Dr. Michael Yost

Kyle Joseph Garcia Anderson, SC
B.S., Clemson University
Dissertation: Chemically Active Rheological Modifiers for the Improved Clinical Use
of Cyanoacrylates
Advisors: Dr. Joel Corbett and Dr. Karen Burg
Kyle is looking forward to starting his eleventh year of work at Poly-Med, Inc. as a
biomedical engineer.

Tyler George HarveyMoncks Corner, SC
B.S., M.S., Clemson University
Dissertation: Computational Approaches to Understanding Structure-Function Relation-
ships at the Intersection of Cellular Organization, Mechanics, and Electrophysiology
Advisor: Dr. Delphine Dean
Tyler has augmented his doctorate with a certificate in Engineering and Science Education,
and plans to remain in academia as a lecturer.

Laura Elizabeth McCallum.....Iva, SC
B.S., M.S., Clemson University
Dissertation: Tissue Engineering Platforms for Cardiac Pathology in Diabetes: *In Vitro* and
In Vivo Studies
Advisor: Dr. Agneta Simionescu
Laura received the bioengineering department's Outstanding Teaching Assistant Award
in 2016.

Chemical Engineering

Saptarshi Chakraborty..... Kolkata, India
B.S., Jadavpur University
Dissertation: Surface Functionalized Gold Nanoparticle Applications in Catalysis and
Lipid-Nanoparticle Assemblies
Advisor: Dr. Christopher Kitchens
Saptarshi has four peer-reviewed publications and received a doctoral dissertation
completion grant. He has accepted a postdoctoral position in biophysics at Virginia Tech.

Jing Jin..... Shanghai, China
B.S., East China University of Science and Technology
Dissertation: Carbon Fibers with Enhanced Mechanical Properties Derived from Lignin-
Based Precursors
Advisor: Dr. Amod Ogale

Civil Engineering

Zhengshou Lai Jiangxi, China
B.S., Sun Yat-sen University
Dissertation: Discrete Element Modeling of the Grading- and Shape-Dependent Behavior
of Granular Materials
Advisor: Dr. Qiushi Chen

Computer Engineering

Sufeng Niu Xuzhou, China
B.S., Jiangsu University of Science and Technology; M.S., Illinois Institute of Technology
Dissertation: Improving Deep Reinforcement Learning Using Graph Convolution and
Visual Domain Transfer
Advisor: Dr. Melissa Smith

Karan Sapra New Delhi, India
B.S., Clemson University
Dissertation: Framework for Lifecycle Enrichment of HPC Applications Towards Exascale
Heterogeneous Architectures
Advisor: Dr. Melissa Smith
Karan plans to work in the field of deep learning as a senior research scientist at nVIDIA.

Edwin Lee Weill, Jr. Florence, SC
B.S., M.S., Clemson University
Dissertation: Edge-Computing Deep Learning-Based Computer Vision Systems
Advisor: Dr. Melissa Smith
Eddie held a GAANN Fellowship and will be pursuing a career at nVIDIA as a solutions
architect focusing on high performance computing and deep learning.

Xingsi Zhong.....Beijing, China
B.S., Jilin University; M.S., University of Texas-Pan American
Dissertation: Cyber Physical System Security – DOS Attacks on Synchronphasor Networks
in Smart Grid
Advisors: Dr. G. Kumar Venayagamoorthy and Dr. Richard Brooks
Xingsi has 11 peer-reviewed publications and has accepted a staff engineer position at Palo
Alto Networks.

Computer Science

Hayato Ushijima-Mwesigwa..... Kampala, Uganda
B.S., Makerere University; M.S., Clemson University
Dissertation: Models for Networks with Consumable Resources: Applications to Smart
Cities Advisor: Dr. Ilya Safro
Hayato has seven peer-reviewed publications in areas including network science,
optimization, quantum computing, and combinatorics.

Fryad Khalid M. Rashid Sulaimani, Iraq
B.S., Salahaddin University; M.S., University of Sulaimani
Dissertation: Augmenting a Hazard Analysis Method with Error Propagation Information
for Safety-Critical Systems
Advisor: Dr. John McGregor
Fryad was the lead author on three papers presented at the 36th International System
Safety Conference in Phoenix, Arizona.

Yu-Shan Sun..... Quito, Ecuador
B.S., Denison University
Dissertation: Towards Automated Verification of Object-Based Software with Reference
Behavior
Advisor: Dr. Murali Sitaraman

Electrical Engineering

Zhe Chen Hefei, China
B.E., University of Science and Technology of China
Dissertation: Development of a New Electron Spin Resonance Spectroscopy
Advisor: Dr. Pingshan Wang

Yiru Shen Bengbu, China
B.Eng., Southwest University of Science and Technology
Dissertation: Using Contextual Information to Improve Hidden Markov Model
Recognition of Wrist Motions During Eating Activities
Advisor: Dr. Adam Hoover
Yiru has four peer-reviewed publications and has accepted a research scientist position at
Facebook Reality Lab.

Bin Sun Tianjin, China
B.S., Tianjin University
Dissertation: Study of Cables in the Distribution System: Parameters Calculation, Fault
Analysis, and Configuration Optimization
Advisors: Dr. Daniel Noneaker and Dr. Elham Makram
Bin has two peer-reviewed journal publications and his research is focused on power system
simulation and analysis.

Yawei Wei..... Taiyuan, China
B.S., Shanghai University of Electric Power; M.S., Michigan Technological University
Dissertation: Situational Intelligence for Improving Power System Operations Under
High Penetration of Photovoltaics
Advisor: Dr. G. Kumar Venayagamoorthy
Yawei has nine peer-reviewed publications and plans to work in the power system industry.

Mechanical Engineering

Rucha H. Natu..... Pune, India
B.Tech., Walchand College of Engineering, Sangli
Dissertation: Investigating the Use of Streaming and Robotic Dielectrophoresis to Enable
Continuous Cell Sorting and Automatic Cell Transfer in Sample Preparation
Advisors: Dr. Rodrigo Martinez-Duarte
Rucha was named her college's Outstanding Teaching Assistant in 2017–2018 and has
accepted a postdoctoral position at the Food and Drug Administration.

Pooya Niksiar.....Hamedan, Iran
B.S., Isfahan University of Technology; M.S., K. N. Toosi University of Technology
Dissertation: Fabrication and Mechanical Properties of Micro-Architected 3D Scaffolds
Advisor: Dr. G. Michael Li
Pooya received an Outstanding Graduate Teaching Assistant Award in 2017.

Behzad Sadrfaridpour.....Tehran, Iran
B.Sc., University of Tabriz; M.Sc., Tarbiat Modares University
Dissertation: Trust-Based Control of Robotic Manipulators in Collaborative Assembly
in Manufacturing
Advisor: Dr. Yue Wang
Behzad won the Best Student Conference Paper Award at the 12th IEEE Conference on
Automation Science and Engineering in 2016.

Materials Science and Engineering

Mary Kathryn Burdette.....Easley, SC
B.S., Clemson University
Dissertation: Surface Functionalized Organic/Inorganic Colloids: Imaging and
Spectroscopy with X-ray and Optical Excitation
Advisor: Dr. Stephen Foulger

Robert Grote..... Morrow, OH
B.S., Ohio State University
Dissertation: The Effect of Composition on the Structure Symmetry and Stability of
Tunnel-Structured Hollandite Ceramics for Nuclear Waste Immobilization
Advisor: Dr. Kyle Brinkman

Yuzhe Hong.....Xiamen, China
B.E., M.S., Harbin Institute of Technology
Dissertation: Additive Manufacturing of Ceramics with Multiscale Heterogeneous
Microstructure
Advisor: Dr. Fei Peng
Yuzhe has four peer-reviewed publications and four conference posters. He was the leading
speaker of an invited talk at PRE'16 and the co-speaker of an invited talk at MS&T 2018.

Han Jiang Hangzhou, China
B.S., Shenyang Ligong University; M.S., North Carolina State University
Dissertation: Building Thermally Stable Electrochemical Energy Storage Devices via
Application of Temperature Responsive Polymers
Advisor: Dr. Mark Roberts
Han has authored ten papers, with Google Scholar citation numbers over 370, and plans to
work in the materials science industry.

Tucker McFarlane Mobile, AL
B.S., Clemson University
Dissertation: n-Alkyl Methacrylate Polymeric Memristors for Synaptic Response Modeling:
Organic and Biologically Relevant Thin Films
Advisor: Dr. Stephen Foulger

Mykhailo Savchak Bunkovychi, Ukraine
B.S., M.S., Lviv State University
Dissertation: Transparent Conductive Films Based on Polymer-Encapsulated Graphene
Oxide Sheets
Advisor: Dr. Igor Luzinov

**COLLEGE OF SCIENCE
DOCTOR OF PHILOSOPHY**

Biological Sciences

Mary Morton Colorado Springs, CO
B.S., University of Colorado
Dissertation: Subventricular Zone Neural Stem Cells Release Extracellular Vesicles During
Early Postnatal Neurogenesis
Advisor: Dr. David Feliciano

Chemistry

Qingzhao An Chuzhou, China
B.S., China Agricultural University
Dissertation: Synthesis and Applications of 1,4-Naphthoquinone Derivatives
Advisor: Dr. Andrew Tennyson

Edward D. Hoegg Allentown, PA
B.S., Washington College
Dissertation: Interfacing the Liquid Sampling - Atmospheric Pressure Glow Discharge Ion
Source with Orbitrap Mass Spectrometers for High Accuracy High Precision Isotope
Ratio Measurements of Uranium
Advisor: Dr. Kenneth Marcus
Edward has six peer reviewed publications and was named the 2018 Federation of
Analytical Chemistry and Spectroscopy Societies Student Award Recipient.

Hamidou Keita Kerr Demba, The Gambia
B.S., University of the Gambia; M.S., Bilkent University
Dissertation: Supramolecular Immobilizable Ruthenium-(N-Heterocyclic Carbene)
Complexes for Biomedical and Olefin Metathesis Applications
Advisor: Dr. Andrew Tennyson

Chen LiuJiangsu, China
B.S., Guangxi Traditional Chinese Medical University
Dissertation: Part A: Development of Quantitative Analysis of Fluorine-Containing
Pharmaceuticals. Part B: Synthesis and Characterization of Fluorinated Ethers and
Related Polymers
Advisor: Dr. Joseph Thrasher

Krishnendu Maity Dantan, India
B.Sc., Vidyasagar University; M.Sc., Indian Institute of Technology
Dissertation: Understanding the Interactions of Anions with Lewis Acids and π -Acids to
Develop Efficient Ion-Pair Receptors
Advisor: Dr. Sourav Saha

Rylan James Terry Haleyville, AL
B.S., University of Alabama
Dissertation: Hydrothermal Crystal Growth of Tetrahedral Framework Oxides for Optical
Applications
Advisor: Dr. Joseph Kolis
Rylan's work was recently published in *Angewandte Chemie* and he is currently working as
postdoctoral researcher at Clemson University.

Environmental Toxicology

Dana Szymkowicz Shelby Township, MI
B.S., Oakland University
Dissertation: The Effects of Embryonic Arsenic Exposure on Muscle and Olfactory
Development in Killifish (*Fundulus heteroclitus*)
Advisor: Dr. Lisa Bain
Dana has two peer-reviewed publications, was nominated for the Outstanding Graduate
Teaching Assistant award in 2018, and has accepted a position at the Center for Toxicology
and Environmental Health.

Genetics

William L. Poehlman Great Falls, VA
B.A., University of Virginia
Dissertation: High-Throughput Polygenic Biomarker Discovery Using Condition-Specific
Gene Coexpression Networks
Advisor: Dr. Alex Feltus

Microbiology

Shen Jean Lim Johor Bahru, Malaysia
B.Sc., M.Sc., National University of Singapore
Dissertation: Taxonomic, Genetic and Functional Diversity of Symbionts Associated with
the Coastal Bivalve Family *Lucinidae*
Advisor: Dr. Barbara Campbell

Mathematical Sciences

Sergey Charnyi Minsk, Belarus
M.Sc., Central European University
Dissertation: The EMAC Scheme for Navier-Stokes Simulations, and Application to Flow
Past Bluff Bodies
Advisor: Dr. Leo Rebholz

Audrey Nicole DeVriesLancaster, PA
B.S., Grove City College; M.S., Clemson University
Dissertation: Tight Representations of Specially-Structured 0-1 Linear, Quadratic, and
Polynomial Programs
Advisor: Dr. Warren Adams
Audrey received an Excellence in Teaching award from the mathematical sciences
department in 2014 and has accepted a faculty position at the University of Delaware.

Elaine Marie Sotherden Enola, PA
B.S., Grove City College; M.S., Clemson University
Dissertation: Matching Potential in Randomized Complete Block Designs
Advisor: Dr. William Bridges, Jr.

Liu Zhu Changchun, China
B.S., University of Electronic Science and Technology of China; M.S., Clemson University
Dissertation: On Some Environmental Applications of Stochastic Processes
Advisor: Dr. Xin Liu

Liang ZhaoChongqing, China
B.S., M.S., University of Electronic Science and Technology
Dissertation: A Numerical Method for the Navier Stokes Equations in Velocity-Vorticity
Form
Advisor: Dr. Timo Heister

Physics

Michael Joseph Bojazi, Jr. Philadelphia, PA
B.S., Ursinus College; M.S., Clemson University
Dissertation: Galactic Chemical Evolution and Radioactivities in the Early Solar System
Advisor: Dr. Bradley Meyer

Christopher Paul Moore Fargo, ND
B.S., Minnesota State University; M.S., University of Rhode Island
Dissertation: Tunneling Transport Phenomena in Topological Systems
Advisor: Dr. Sumanta Tewari
Chris has five peer-reviewed publications.

Yunhui Peng Ankang, China
B.S., Xi'an Jiaotong University
Dissertation: Modelling the Effects of Disease-Associated Single Amino Acid Variants and
Rescuing the Effects by Small Molecules
Advisor: Dr. Emil Alexov
Yunhui has 17 peer-reviewed publications and was named the 2017-2018 Outstanding
Graduate Researcher by his department, his college, and the Graduate School.

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

Clemson University Brass Quintet

Prelude

Various marches and processions

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

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U N I V E R S I T Y