TEXAS A&M UNIVERSITY
Commencement

December 11, 2021, 10 a.m.
The audience is asked to stand for the procession. As a courtesy to the graduating class, guests are requested to refrain from leaving until after the recessional.
TEXAS A&M UNIVERSITY
COMMENCEMENT

Program

Doctoral Commencement and Hooding Ceremony

Saturday, December 11, 2021, 10 a.m.
Rudder Auditorium

Processional
The National Anthem
Invocation
Student Expression of Appreciation
Greetings and Authorization to Confer Degrees
Presentation of Degree Candidates and Conferring of Degrees
Roll Call of Graduates
Induction into The Association of Former Students
Recessional
Faculty Marshals

Mace Bearer
Dr. Patrick Louchouarn, Vice Provost for Faculty Affairs and Interdisciplinary Initiatives (interim) and Dean of Faculties (acting)

Stage Party
Dr. George B. Cunningham, Senior Associate Dean

Announcer
Mr. Mike Fitch, Transcript Analyst, Office of Admissions

The Texas A&M University System
Board of Regents

Mr. Tim Leach, Chairman .................................. Midland
Mr. Bill Mahomes, Jr., Vice Chairman ................... Dallas
Mr. Robert L. Albritton ................................. Fort Worth
Mr. James R. “Randy” Brooks .......................... San Angelo
Mr. Jay C. Graham ...................................... Houston
Mr. Michael A. “Mike” Hernandez III .............. Fort Worth
Ms. Elaine Mendoza .................................. San Antonio
Mr. Michael J. Plank ................................... Houston
Mr. Cliff Thomas ........................................ Victoria
Ms. Matilin “Mati” Rigsby (Student Regent) .... Gainesville

Chancellor

Mr. John Sharp ........................................ Placedo

Texas A&M University Administrative Officers

President ........................................... Dr. M. Katherine Banks
Provost and Executive Vice President (interim) .... Dr. Timothy P. Scott
Vice Provost for Faculty Affairs and Interdisciplinary Initiatives (interim) and Dean of Faculties (acting) . . Dr. Patrick Louchouarn
Dean, College of Agriculture and Life Sciences . . Dr. Patrick J. Stover
Dean, College of Architecture ....................... Dr. Jorge A. Vanegas
Dean, Mays Business School (interim) ............ Dr. R. Duane Ireland
Dean, College of Dentistry (acting) .............. Dr. José Luis Bermúdez
Dean, College of Education and Human Development (interim) . . Dr. Michael A. de Miranda
Dean, College of Engineering (interim) ........... Dr. John E. Hurtado
Dean, College of Geosciences ..................... Dr. Debbie Thomas
Dean, Bush School of Government and Public Service .......................... General Mark A. Welsh III (Ret.)
Dean, School of Law .......................... Mr. Robert B. Ahdieh
Dean, College of Liberal Arts (interim) ..... Dr. Steven M. Oberhelman
Dean, College of Medicine .......................... Dr. Amy L. Waer
Dean, College of Nursing .......................... Dr. Nancy L. Fahrenwald
Dean, Irma Lerma Rangel College of Pharmacy .......................... Dr. Indra K. Reddy
Dean, School of Public Health .......................... Dr. Shawn G. Gibbs
Dean, College of Science .......................... Dr. Valen E. Johnson
Dean, College of Veterinary Medicine and
Biomedical Sciences .......................... Dr. John R. August
Dean, Texas A&M University Libraries (interim) .......................... Dr. Julie A. Mosbo Ballestro
Dean and Chief Operating Officer,
Texas A&M University at Qatar .......................... Dr. César O. Malavé
Dean, Graduate and Professional School and
Associate Provost .......................... Dr. Karen L. Butler-Purry
Chief Operating Officer and
Senior Vice President .......................... Mr. Gregory W. Hartman
Chief Operating Officer and Senior Vice President,
Texas A&M Health .......................... Dr. Jon E. Mogford
Chief Operating Officer and Vice President,
Texas A&M University at Galveston .......................... Colonel Michael E. Fossum (Ret.)
Chief Financial Officer and
Vice President .......................... Mr. John W. Crawford
Chief Marketing and Communications Officer and
Vice President .......................... Ms. Marilyn M. Martell
Chief Information Officer and Vice President for
Information Technology (interim) .......................... Mr. Edwin L. Pierson
Chief Compliance Officer .......................... Mr. Kevin P. McGinnis
Vice President for Academic
and Strategic Collaborations .......................... Dr. Susan G. Ballabina
Vice President and
Associate Provost for Diversity (interim) .......................... Dr. Annie S. McGowan
Vice President for Brand Development .......................... Mr. Shane Hinckley
Vice President for Development .......................... Mr. Andy Acker
Vice President for Enrollment and
Academic Services .......................... Mr. Joseph P. Pettibon II
Vice President for Facilities, Safety,
and Security .......................... Mr. Stephen B. Franklin
Vice President for Government Relations .......................... Mr. Norman R. Garza, Jr.
Vice President for Human Resources and
Organizational Effectiveness (interim) .......................... Mr. Damon Slaydon
Vice President for Research (interim) .......................... Dr. Jack G. Baldauf
Vice President for
Student Affairs (interim) .......................... Brigadier General Joe E. Ramirez, Jr. (Ret.)
Associate Provost for Undergraduate Studies .......................... Dr. Ann L. Kenimer
Commandant of the
Corps of Cadets (interim) .......................... Colonel Byron F. Stebbins (Ret.)
Candidates for Doctoral Degrees

Presented by Dr. Karen L. Butler-Purry
Dean and Associate Provost

Graduate and Professional School

College of Agriculture and Life Sciences

Doctor of Philosophy

Jawad K. Al Juboori ........................................ Poultry Science
Chair: John Carey

John Samuel Bennett ........................................ Plant Pathology
Chair: Mikhailo Kolomiets
Co-Chair: Thomas Isakeit

Emily Nicole Boak ............................................ Horticulture
Dissertation: “Characterizing the Type VI Secretion Systems of Plant Beneficial Bacteria Pseudomonas chlororaphis 30-84 and Their Roles in Rhizosphere Dynamics and Ecology”
Chair: Elizabeth A. Pierson

Ciana Marie Bowhay ........................................... Animal Science
Dissertation: “Traditional and Non-Traditional Strategies to Increase Student Engagement and Motivation in Animal Science Education”
Chair: Kathrin A. Dunlap

Kequan Chen .................................................. Ecology and Conservation Biology
Dissertation: “Effect of Superposing Dietary Phytase On Growth, Mineral Utilization, and Amino Acid Digestibility of Channel Catfish (Ictalurus punctatus) And Red Drum (Sciaenops ocellatus)”
Chair: Delbert Gatlin III

Thomas Christopher Eck ................................. Recreation, Park and Tourism Sciences
Dissertation: “Effects of Mindfulness Instructions and Mindfulness Strategies on Mindfulness During Environmental Interpretation”
Chair: Gary D. Ellis

Charles B. Farber ............................................. Biochemistry
Dissertation: “Raman Spectroscopy for the Non-Invasive and Non-Destructive Analysis of Plants”
Chair: John Mullet
Alexandra Michelle Folcik .................................................. Toxicology
Chair: Suresh Pillai

Kimberly Nicole Gardner .......................................... Poultry Science
Chair: Christopher Bailey

Natalie Michelle Garza .................................................... Biochemistry
Dissertation: “Discovery and Characterization of Novel Regulators of Mitochondrial Copper Homeostasis”
Chair: Vishal Gohil

Sagnika Ghosh ............................................................... Biochemistry
Dissertation: “Phospholipid Requirement for Mitochondrial Calcium Channel and Its Implications in Barth Syndrome”
Chair: Thomas D. Meek

Amit Kumar Ghoshal ........................................................ Recreation, Park and Tourism Sciences
Dissertation: “Human-Wildlife Conflict: The Case of the Royal Bengal Tiger”
Chair: Michael Schuett

Anna Caitlin Gitter .......................................................... Water Management and Hydrological Science
Dissertation: “Evaluating Microbial Risks in Private Wells and Recreational Waters”
Chair: Terry Gentry

Philip Osei Hinson ......................................................... Agronomy
Chair: Curtis Adam
Co-Chair: Nithya Rajan

John Joseph Jacisin III .................................................... Ecology and Conservation Biology
Chair: Anna M. Lawing

Mark David McDonald .................................................... Soil Science
Dissertation: “Conservation Management and Nitrogen Fertilizer Timing Effects on Microbial Production of Nitrous Oxide and Nitric Oxide in a Semi-Arid Environment”
Chair: Katie R. Lewis
Co-Chair: Terry Gentry

Xiaohan Mei ................................................................. Water Management and Hydrological Science
Dissertation: “Evaluation of the Soil and Water Assessment Tool and Artificial Neural Network as Rainfall-Runoff Models in a Range of Conditions”
Chair: Patricia Smith
Kristin Louise Moncada .......................... Poultry Science  
Dissertation: “Feasibility of Use of an Endocannabinoid Producing Probiotic to Improve the Physiologic and Behavioral Welfare of Broiler Breeder Pullets”  
Chair: Rosemary Walzem

Jeewan Pandey .......................................................... Horticulture  
Dissertation: “Molecular Characterization, Genome-Wide Association Studies and Genomic Selection of Advanced Potato Clones from The Texas A&M Potato Breeding Program”  
Chair: Maria Isabel Vales

Kathryn M. Pflug ......................................................... Genetics  
Dissertation: “NF-κB-Inducing Kinase Regulation of Development, Metabolism, and Disease”  
Chair: Raquel Sitcheran

Alice Poggi Brandao ................................. Animal Science  
Dissertation: “Supplementation of 1,2-6 Fatty Acids in Cow-Calf Operations”  
Chair: Reinaldo F. Cooke

Aimee Guadalupe Reyes-Elrod .......................... Nutrition  
Dissertation: “The Effects of Weight Loss Intervention on Lipoprotein Profiles and Relationship to Risk Factors for Cardiovascular Disease”  
Chair: Richard Kreider

Simon Rousseau .......................................................... Biochemistry  
Dissertation: “From Tuberculosis Diagnostics to Therapy: Development of a Tail Fiber Protein-Derived Microfluidic Diagnostic Device and Utilization of Synergistic Properties of Antimycobacterial Drugs”  
Chair: Jean-Philippe Pellois

Anna Camille Salvador ............................. Nutrition  
Dissertation: “Precision Nutrition: Sex, Strain, and Diet Dependent Response to Carbohydrate Restriction in Mice”  
Chair: David W. Threadgill

Samantha J. Sawyer .......................................................... Entomology  
Dissertation: “Impact of Selective Preferences of Vertebrate Scavenging on Arthropod Communities Associated with Carrion of Varying Biomass Across Seasons”  
Chair: Jeffery Tomberlin

Kristin Mozelle Scoggin ................................. Genetics  
Dissertation: “Differential Responses to Salmonella Typhimurium Infection in the Collaborative Cross Mouse Population”  
Chair: David W. Threadgill  
Co-Chair: Helene L. Andrews-Polymenis

Zheng Shen ................................. Nutrition  
Dissertation: “The Role of Autophagy in Control of Glucose Homeostasis”  
Chair: Shaodong Guo

Rupesh Shrestha .......................................................... Biochemistry  
Chair: Robert Chapkin
Jeffrey Alan Siegfried. ........................................... Agronomy
Chair: Nithya Rajan

Thomas C. Snavely. ........................................... Biochemistry
Dissertation: “The Use of Intermediate Assays to Propel Lad Compounds into Clinical Trials”
Chair: Andrew Wand

Jieun Song. ........................................... Recreation, Park and Tourism Sciences
Dissertation: “Examining the Relationship between Social Media Users’ Motivation and Place Attachment to National Parks”
Chair: Michael Schuett

Qiong Su. ........................................... Water Management and Hydrological Science
Dissertation: “Investigating the Nexus of Climate, Energy, and Water at Decision-Relevant Scales”
Chair: Vijay Singh
Co-Chair: Srinivasulu Ale

Brody L. Teare. ........................................... Molecular and Environmental Plant Sciences
Dissertation: “Ground Penetrating Radar for the Estimation of Bulked Root Mass”
Chair: Dirk B. Hays

Elayna R. Tillman. ........................................... Food Science and Technology
Dissertation: “Investigation of Albumin-Phenolic Binding and Its Role in Bioaccessibility and Bioactivity of Absorbed Phenolic Compounds from Sumac (Rhus coriaria)”
Chair: Stephen T. Talcott

College of Architecture

Doctor of Philosophy

Mehdi Farahbakhsh. ........................................... Architecture
Dissertation: “Opportunities and Challenges of Robotically Assisted 3D Printing of Shell Structures”
Chair: Stephen Caffey

Patricia Njideka Kio. ........................................... Architecture
Dissertation: “Activating Circular Economy through Industrial Symbiosis: A Case Study of a Novel Modular Living Wall System”
Chair: Ahmed K. Ali

Jacqueline Ann Kuzio. ........................................... Urban and Regional Science
Dissertation: “Planning for an Equitable Future with Transportation Technologies”
Chair: Wei Li
Co-Chair: Tara Goddard

Jayton Lewis Rainey. ........................................... Urban and Regional Science
Dissertation: “Investing in the Future from Flooding: An Examination of Federal Hazard Mitigation Funding on Observed Flood Losses Along the Gulf of Mexico”
Chair: Samuel Brody
Somaye Seddighkhavidak ........................................ Architecture
Dissertation: “The Mythopoietics of Space”
Chair: Stephen Caffey
Co-Chair: Theodore George

College of Education and Human Development

Doctor of Education

Matthew M. Bess .............................................. Educational Administration
Record of Study: “Public Education Armed Employee Policy, a State by State Content Analysis”
Chair: Beverly Irby

Amy Gale Boatman ............................................ Curriculum and Instruction
Record of Study: “Setting Students Up for Success: The Need for 21st Century Skills”
Chair: Mary Capraro
Co-Chair: Bugrahan Yalvac

Travis Jonathan Brown ....................................... Curriculum and Instruction
Record of Study: “Supplemental Numeracy Instruction for Middle School Students with Special Needs”
Chair: Mary Capraro
Co-Chair: Robert Capraro

Catherine Anne Carr .......................................... Curriculum and Instruction
Record of Study: “Using HyperDocs to Promote Technology Integration in Social Studies Classrooms”
Chair: Lynn Burlbaw

Olga Perez-Garcia Gentry .................................... Educational Administration
Record of Study: “Hispanic First-Generation College Students’ Perceptions of the Factors Affecting College Success: A Phenomenological Study of Freshmen from a South Texas Border Town Enrolled at a Tier One Public University in Texas”
Chair: Mario Torres
Co-Chair: Beverly Irby

Allison Marie Gilmore ........................................ Curriculum and Instruction
Record of Study: “Gifted Education and Its Underrepresented Populations”
Chair: James D. Laub
Co-Chair: Michelle M. Kwok

Jennifer Kay Ingram ......................................... Educational Administration
Record of Study: “Principal Perceptions of Gifted Education Program Service Delivery in Rural High School Settings”
Chair: Beverly Irby

Bobby David Leshikar ...................................... Curriculum and Instruction
Record of Study: “High School Teachers’ Experiences with Employment Mobility”
Chair: Mary Capraro
Co-Chair: Bugrahan Yalvac
Kasey Leah Lowry ............................ Curriculum and Instruction
Record of Study: “A Case Study of the Leadership Styles of a Highly Effective Principal Employed To Cultivate Teacher Collective Efficacy”
Chair: James Laub
Co-Chair: Michelle Kwok

Durell Lamar Thompson ........................... Curriculum and Instruction
Record of Study: “Exploring the Perspectives and Practices of ELAR Secondary Teachers Who Use Culturally Relevant Text in an Urban Classroom Setting”
Chair: Radhika Viruru
Co-Chair: Sharon D. Matthews

Amin Alizadeh ................................. Educational Human Resource Development
Dissertation: “Measuring Mediating the Effect of Trust on Relationship Between Perceived Corporate Social Responsibility and Work Engagement”
Chair: Khalil M. Dirani

Martie Camille Belle ................................. Counseling Psychology
Chair: Dan F. Brossart
Co-Chair: Leann V. Smith

Jessica Marie Cardin ............................ Kinesiology
Dissertation: “All the Sarcoplasm Is a Stage; and All the Anabolic and Catabolic Complexes Merely Players; They Have Their Exits and Entrances: An Analysis of How Proteolytic Pathways Impact Protein Synthesis Capacity in C2C12 Myotubes”
Chair: James Fluckey

Kalyn Rochelle Cavazos ........................... Educational Administration
Dissertation: “Understanding Career Readiness Among Student Affairs Professionals at a Public Texas Institution”
Chair: Chayla Haynes Davison

Melina Renee Cavazos ........................... School Psychology
Chair: Dalun Zhang
Co-Chair: Krystal T. Simmons

Jennifer Leigh Farmer ........................... Health Education
Dissertation: “Youth-Informed Sexual Health Education: A Systematic Review and Study to Explore the School-Based Needs and Interests of Youth”
Chair: Kelly L. Wilson
Taylor Allison Gilley ................................. Curriculum and Instruction
Dissertation: “The Promise of Spring: Cultivating Resilience in Growing Educators”
Chair: Marlon C. James
Co-Chair: Cheryl J. Craig

Alexander James Giovanetti .......................... Counseling Psychology
Dissertation: “Assessing the Mental Health Status and Needs of Veterans in a Predominantly Rural Region”
Chair: Dan F. Brossart

Alida Kosmach Hudson .................. Curriculum and Instruction
Dissertation: “Elementary Teachers’ Knowledge of Reading Comprehension, Classroom Practice, and Students’ Performance in Reading Comprehension”
Chair: R. Malatesha Joshi

Emily Carroll Ivey .......................... Educational Administration
Dissertation: “First-Generation College Students and their Acquisition of Cultural Capital”
Chair: Glenda D. Musoba

Emel Kalem ................................ Curriculum and Instruction
Dissertation: “Relations Among Students’ Career Choices and Teachers’ and Parents’ Engineering Knowledge, Attitude, and Behavior”
Chair: Bugrahan Yalvac
Co-Chair: Michael Johnson

Juan Lopez, Jr. .......................... Educational Administration
Dissertation: “Exploring the Academic Experiences of Latino/X Males in Higher Education through Mentoring”
Chair: Vicente Lechuga

Andrew Jacobs Loring .......................... Educational Human Resource Development
Dissertation: “Employee Engagement: A Qualitative Study of Inside Sales Representatives”
Chair: Jia Wang
Co-chair: Christine Stanley

Michael Sze-Hon Rugh ............................ Curriculum and Instruction
Dissertation: “Making Meaningful Connections with Automatically Generated, Dynamic, and Interactive Concept Maps”
Chair: Robert Capraro

Michelle Reneé Blanton Strong .............................. Health Education
Dissertation: “Depression, Social Networks, and Social Support During the Perinatal and Postpartum Period Among Military-Affiliated Women”
Chair: Ledric Sherman

Yuliya S. Summers .......................... Educational Psychology
Dissertation: “Examining Professional Development Offerings for In-Service Teachers of English Language Learners: A Content Analysis”
Chair: Yolanda Padrón
Daniel Villanueva, Jr. ............................. Educational Administration
Dissertation: “Academic Capitalism at Land Grant Institutions in the Southwest United States”
Chair: Yvonna Lincoln

Mary Louise Whirley ................................. Educational Psychology
Dissertation: “‘Maybe I Should’ve Said This, Maybe I Could’ve Contributed More’: Exploring Employment Training and Experiences for Adults with Intellectual and Developmental Disabilities”
Chair: Carly B. Gilson
Co-Chair: Julie Thompson

Susannah Leigh Williamson .......................... Kinesiology
Dissertation: “The Effect of Exercise, Weight Loss Programs, and Body Composition on Psychological Outcomes”
Chair: Richard Kreider

College of Engineering

Doctor of Philosophy

Nilesh Ade ........................................ Chemical Engineering
Dissertation: “Towards an Inherently Safer Hydrogen Economy”
Chair: Benjamin A. Wilhite

Ali Akbari ............................................. Biomedical Engineering
Dissertation: “Wearable Sensors for Precision Medicine through Personalized, Holistic and Context-Aware Analytics”
Chair: Roozbeh Jafari

Amir Mahdi Akbarzadeh ............................ Mechanical Engineering
Dissertation: “Flow Control Using Traveling Waves”
Chair: Iman Borazjani

Muskhtarq Farhan Hamid Al-Saidi ........................ Civil Engineering
Dissertation: “Effects of Traffic Variability on the Number and Start Time of Signal Timing Plans”
Chair: Gene Hawkins

Ashraf Ali Majed Alfandi ............................ Nuclear Engineering
Dissertation: “Experimental and Analytical Study of Steam Turbine Two-Phase Operation in Nuclear Reactor Cooling Systems”
Chair: Karen Kirkland

Tariq AbdulSattar A Almubarak ........................ Petroleum Engineering
Dissertation: “Development of a Dual Polymer Hydraulic Fracturing Fluid”
Chair: Nobuo Morita

Daniela Alves De Oliveira ........................... Biological and Agricultural Engineering
Dissertation: “Electrochemical Sensors Based on Graphene and Nano-brush Structures for Point of Use Detection of Foodborne Pathogens”
Chair: Carmen L. Gomes
Co-Chair: Zivko Nikolov
Ameema Zainab ........................................... Electrical Engineering
Load Forecasting with Computing Approaches”
Chair: Ali Ghrayeb
Co-Chair: Haitham Abu-Rub

Namita Anil Kumar ........................................... Mechanical Engineering
Assistive Devices: Data Driven Control Strategies and a
Self-Aligning Knee Mechanism”
Chair: Pilwon Hur
Co-Chair: Prabhakar Pagilla

Nuraslinda Binti Anuar ........................................... Nuclear Engineering
Dissertation: “Passive Gamma Source Imaging Using Compressed
Sensing Principles”
Chair: Craig Marianno

Fahad M A R Asiri ........................................... Civil Engineering
Dissertation: “Sustainable Production of Biodegradable Biopolymers
and their Applications in Support of Organic
Aquaculture”
Chair: Kung-Hui Chu

Stefanos G. Baratsas ........................................... Chemical Engineering
Dissertation: “A Novel Forecasting Framework for Energy and a Systems
Engineering Methodology towards Circular Economy”
Chair: Efstratios Pistikopoulos
Co-Chair: Patrick J. Shamberger

Felipe Orlando Beltran ........................................... Materials Science and Engineering
Dissertation: “Bioactive, Self-Fitting Scaffolds Prepared from Siloxane-
Based Shape Memory Polymers”
Chair: Melissa Grunlan
Co-Chair: Patrick J. Shamberger

Abhinav Bhardwaj ........................................... Industrial Engineering
Dissertation: “3D Printing-Based Manufacturing Method for Biomass-
Fungi Composites”
Chair: Zhijian Pei
Co-Chair: Na Zou

Devesh Bhasin ........................................... Mechanical Engineering
Biological Function-Sharing and Robustness in
Engineering Design”
Chair: Daniel McAdams

Yue Cao ........................................... Electrical Engineering
Dissertation: “Optimization, Learning and Generation for Proteins:
Docking Structures and Mapping Sequence-Function
Relationships”
Chair: Yang Shen

Fabian Alfredo Carrascal Delgado ................................ Petroleum Engineering
Dissertation: “Implementation of the Use of Drill Cuttings in
Hydraulic Fracturing Related Operations”
Chair: Sara Abedi Mashhadi Migha
Co-Chair: Alfred Hill
Erick Mauricio Carvajal Barboza .................. Computer Engineering
Dissertation: “Machine Learning Techniques for Performance Prediction and Diagnosis of VLSI Designs”
Chair: Jiang Hu
Co-Chair: Paul Gratz

Mauricio Carvajal Diaz ......................... Chemical Engineering
Dissertation: “Catalytic Reactivity and Surface Interactions During Early Stages of Single-Walled Carbon Nanotube Formation”
Chair: Perla Balbuena

Jack Matthew Cavaluzzi .................... Nuclear Engineering
Dissertation: “Development and Implementation of Systems-Level RCIC Models in RELAP-7”
Chair: Karen Kirkland

Pawan Satish Chaugule ...................... Aerospace Engineering
Dissertation: “Coupling between Phase Transformation and Viscoplasticity in High-Temperature Shape Memory Alloys”
Chair: Jean-Briac B. le Graverend

Shengwei Chen .................................. Mechanical Engineering
Dissertation: “Energy Dissipation Mechanism of Lattice Bimaterial Structure under Low-Velocity Impact”
Chair: Jyhwen Wang
Co-Chair: Li-Jung Tai

Zhangjie Chen .................................. Mechanical Engineering
Chair: Ya Wang

Zheyuan Chen .................................. Electrical Engineering
Dissertation: “Microelectromechanical System Based Platforms for Microfluidic and Sensing Applications”
Chair: Jun Kameoka

Richards Chizhuthanickel Sunny .......... Ocean Engineering
Dissertation: “VOF with Center of Mass and Lagrangian Particles (VCLP) - A Surface Tracking and Advection Method for Fluids”
Chair: Juan Horrillo

Hyun Kyu Choi ................................. Chemical Engineering
Dissertation: “Multiscale Modeling and Model-Based Control of Pulp Digester”
Chair: Joseph S. Kwon

David Allen Coleman ........................ Aerospace Engineering
Chair: Moble Benedict

Jilong Cui ...................................... Civil Engineering
Chair: Stefan Hurlebaus
Co-Chair: Anna Birely
Xuan Thi Dang ................................................................. Electrical Engineering
Dissertation: “Variable Selection for Longitudinal and Survival Data”
Chair: Xiaoning Qian

Ahmad Naif Abdelaziz Darwish .................................................. Electrical Engineering
Chair: Haitham Abu-Rub
Co-Chair: Hamid Toliyat

Rishita Das ................................................................. Aerospace Engineering
Chair: Sharath Girimaji

Ping Dong ................................................................. Biomedical Engineering
Dissertation: “Self-Cleaning Hydrogel Membranes for Fully Implantable Glucose Biosensors”
Chair: Melissa Grunlan

Mengnan Du ................................................................. Computer Science
Chair: Xia Hu

Wenchao Du ................................................................. Industrial Engineering
Chair: Chao Ma
Co-Chair: Zhijian Pei

Adam K. Fidel ................................................................. Computer Science
Dissertation: “Bounded Asynchrony and Nested Parallelism for Scalable Graph Processing”
Chair: Nancy Amato
Co-Chair: Lawrence Rauchwerger

Grace Kiely Fletcher ................................................................. Biomedical Engineering
Dissertation: “Modifications of Polyurethane Shape Memory Polymers for Medical Devices”
Chair: Duncan Maitland

Adam Gabriel ................................................................. Nuclear Engineering
Dissertation: “Radiation Response and Mechanical Property Changes of Chromium as Accident-Tolerant Fuel Cladding Coating”
Chair: Lin Shao

Nithyashankari Gummidipoondi Jayasankaran ........................................ Computer Engineering
Chair: Jiang Hu
Co-Chair: Jeyavijayan Rajendran

Daojing Guo ................................................................. Computer Engineering
Chair: I-Hong Hou
Co-Chair: Panganamala R. Kumar
Arman Hasanzadehmoghimi ................................ Electrical Engineering
Dissertation: “Bayesian Machine Learning on Graphs”
Chair: Krishna Narayanan
Co-Chair: Nicholas G. Duffield

Aria Hasanzade Hasanzadezonu .................................... Electrical Engineering
Dissertation: “Learning and Control with Delay and Safety Constraints in Networked Systems”
Chair: Srinivas Shakkottai

Ashkan Hassani ................................................... Industrial Engineering
Dissertation: “Post-Acute Care Facilities: Capacity Planning and Selection Procedure”
Chair: Mark A. Lawley

William Milija Headley ........................................... Nuclear Engineering
Chair: Yassin Hassan

Can Huang ......................................................... Electrical Engineering
Dissertation: “Microfluidic Systems for Interrogating Host-Pathogen Interactions”
Chair: Arum Han

Bassem Ahmed Zaki Ibrahim ................................... Computer Engineering
Chair: Roozbeh Jafari

Issa Mahmoud Issa ............................................... Civil Engineering
Dissertation: “Material Characterization of Roller-Compacted Concrete Pavements”
Chair: Dan Zollinger

Minsoo Jang ....................................................... Petroleum Engineering
Chair: Abu Rashid Hasan
Co-Chair: Nobuo Morita

Swarn Jha .......................................................... Mechanical Engineering
Dissertation: “Structural and Morphological Investigation of Carbon Based Materials for Electrochemical Applications”
Chair: Hong Liang

Chenxi Ji ......................................................... Chemical Engineering
Dissertation: “Sustainability and Safety Study of Tank to Propeller Process”
Chair: Mahmoud El-Halwagi
Co-Chair: Qingsheng Wang

Junning Jiang ................................................... Electrical Engineering
Dissertation: “Design of a Highly Linear RF Front-End, a Low-Spur Fractional-N Frequency Synthesizer and a High-Speed, Low-Power Data Converter”
Chair: Jose E. Silva-Martinez
Co-Chair: Aydin Karsilayan
Lai Jiang ............................... Materials Science and Engineering
Dissertation: “Surface Structure Evolution and H Uptake of Nickel under Cathodic Charging”
Chair: Michael Demkowicz

Zhiyuan Jiang ............................ Materials Science and Engineering
Dissertation: “Processing-Structure-Property Relationship of Poly(Ether-Ether-Ketone)-Based Systems”
Chair: Hung-Jue Su

Omer Kaldırim ............................. Interdisciplinary Engineering
Dissertation: “A Study on Riser Gas and Riser Gas Unloading in Offshore Wells”
Chair: Jerome J. Schubert
Co-Chair: Mahmoud El-Halwagi

Saber Kazeminasab Hashemabad ................................. Computer Engineering
Dissertation: “A Robot to Measure Water Parameters in Water Distribution Systems”
Chair: Roozbeh Jafari

Md Ashrafuzzaman Khan ............................... Civil Engineering
Chair: Anand J. Puppala

Changkyu Kim ............................... Materials Science and Engineering
Dissertation: “Corrosion Inhibition Effect of Modified Surface via Nanocapsule Embedded Coating and Al-Si-Mg Coating”
Chair: Homero Castaneda-Lopez

Kyungho Kim ............................... Civil Engineering
Dissertation: “Virus Mitigation Using Conventional Chemical Coagulation and Electrocoagulation: Chemistry and Viral Component Alterations”
Chair: Shankararaman Chellam

Minjeong Kim ............................... Electrical Engineering
Dissertation: “Commutation Methods for SCR-Based Square-Wave Link Inverter”
Chair: Robert Balog

Harish T. Kumar ............................... Petroleum Engineering
Dissertation: “Carbonate Acidizing in Three-Phase Environments: Quantification and Analysis of Evolved CO₂ in the Presence of Oil and Water”
Chair: Hadi Nasrabadi

Komal Kumari ............................... Aerospace Engineering
Dissertation: “Towards Asynchronous Simulations of Turbulent Flows: Accuracy, Performance, and Optimization”
Chair: Diego A. Donzis

Yongchang Li ............................... Materials Science and Engineering
Dissertation: “Understanding Neutron Atypical Features in Ion Irradiation Testing of Nuclear Materials”
Chair: Lin Shao
Yuening Li .............................................. Computer Science  
Dissertation: “Anomaly Detection With Complex Data Structures”  
Chair: Xia Hu

Rongjian Liang ................................. Computer Engineering  
Chair: Jiang Hu

Christopher Bryant Liberatore .......................... Computer Science  
Dissertation: “Developing Sparse Representations for Anchor-Based Voice Conversion”  
Chair: Ricardo Gutierrez-Osuna

Ching-Hsien Liu .................................... Petroleum Engineering  
Chair: Michael King

Michael Alexander Liu .......................... Materials Science and Engineering  
Dissertation: “Analyses of Compositionally-Graded Co-Cr-ΔMo Processed by Directed Energy Deposition”  
Chair: Mathew A. Kuttolamadom

Carolyn Long ...................................... Mechanical Engineering  
Dissertation: “Corrosion and Thermal Protection of Metals with Thin Films”  
Chair: Jaime Grunlan

Thomas Jai Lopez ............................... Interdisciplinary Engineering  
Dissertation: “Motion Planning with Discrete Geodesics Characteristics and Algorithms”  
Chair: Eduardo Gildin

Abhilash Molkeri ..................................... Materials Science and Engineering  
Dissertation: “Microstructural Materials Design Using Data and Graphs”  
Chair: Ankit Srivastava

Sajjaat Muhemmed Reyath ........................ Interdisciplinary Engineering  
Dissertation: “A Three-Phase Study on Pre-Flush Stage in Sandstone Acidizing: Experimental and Modeling Analysis of Evolved CO₂ in a Hydrocarbon and Aqueous Environment”  
Chair: Hadi Nasrabadi

Charles Daniel Mullen .............................. Aerospace Engineering  
Dissertation: “Advanced Basic State and Stability Analysis of Complex Hypersonic Geometries”  
Chair: Helen Reed

Robert Santiago Muyshondt ........................ Mechanical Engineering  
Dissertation: “Experimental Investigation of Fluid Flow and Heat Transfer in Randomly Packed Beds and Related Geometries”  
Chair: Nagamangala Anand  
Co-Chair: Yassin Hassan
Manoj Myneni .............................. Mechanical Engineering
Dissertation: “Determination of the Mechanical Properties of the Porcine Thoracic Aorta and an Analysis of the Stress Concentration in Fiber Reinforced Nonlinear Solids”
Chair: Kumbakonam Rajagopal
Co-Chair: Chandler C. Benjamin

Jun Hong Clarence Ng ....................... Petroleum Engineering
Dissertation: “New, Environmentally Friendly, Non-Toxic Corrosion Inhibitors”
Chair: Nobuo Morita

Tsubasa Onishi ............................... Petroleum Engineering
Dissertation: “Effective Reservoir Management for Unconventional Reservoirs Using the Fast Marching Method and Machine Learning”
Chair: Akhil Dattagupta
Co-Chair: Michael King

Shawanee O. Patrick ......................... Mechanical Engineering
Dissertation: “Improving the Design Metrics of Walking Assistive Devices”
Chair: Pilwon Hur
Co-Chair: Douglas L. Allaire

Babak Rahrovi ............................... Electrical Engineering
Chair: Mehrdad Ehsani

Navaneeth Krishna Rajeeva Pandian ......... Biomedical Engineering
Dissertation: “Modeling Human Veins, Venous Thrombosis & Therapeutics with Organ-On-Chips”
Chair: Abhishek Jain

Mahnoosh Sadeghi .......................... Industrial Engineering
Dissertation: “Enabling Post Traumatic Stress Disorder (PTSD) Hyper-arousal Monitoring through Investigation of Heart Rate Patterns and Machine Learning”
Chair: Farzan Sasangohar
Co-Chair: Tony D. McDonald

Joseph Seo ................................. Nuclear Engineering
Dissertation: “Experimental Investigation of Convective Flow Boiling in Concentric and Eccentric Annulus”
Chair: Yassin Hassan

Ahmad Shahedi Shakil ...................... Mechanical Engineering
Dissertation: “Nanomechanics, Nanotribology and Surface Interactions of Ultra Thin Films”
Chair: Andreas A. Polycarpou

Shadi Shariatnia ............................ Mechanical Engineering
Dissertation: “Controlling Nanoparticle Morphologies in Particle-Laden Droplets through Atomization”
Chair: Dorrin Jarrahbashi
Co-Chair: Amir Asadi
Yuling Shen ........................................ Aerospace Engineering
Dissertation: “A Novel Framework for System Identification, Simulation and Control”
Chair: Robert E. Skelton
Co-Chair: Manoranjan Majji

Anna Shidlovskaya ................................. Civil Engineering
Chair: Jean-Louis Briaud

Soheil Sohrabi ........................................... Civil Engineering
Chair: Dominique Lord

Sualeh Khurshid ........................................ Aerospace Engineering
Dissertation: “Signatures of Fully Developed Turbulence and Their Emergence in Direct Numerical Simulations”
Chair: Diego A. Donzis

Ineen Sultana ........................................... Industrial Engineering
Dissertation: “Preferred Post-Acute Provider Network: An Approach to Build Care Coordination Between Acute Care and Post-Acute Care Facilities”
Chair: Mark A. Lawley

Dabeeruddin Syed ................................. Electrical Engineering
Dissertation: “Real-Time Big Data Analytics with Computational Intelligence Approaches for Energy Load Forecasting”
Chair: Haitham Abu-Rub
Co-Chair: Ali Ghrayeb

Mahmood Tabesh ........................................ Civil Engineering
Dissertation: “Improving Designing Models and Developing New M&R Decision Process for Flexible Pavements”
Chair: Maryam S. Sakhaei Far

Naveen Thomas ........................................ Mechanical Engineering
Dissertation: “Rheological Study of Magnetorheological Polishing Fluids”
Chair: Arun R. Srinivasa
Co-Chair: Satish T. Bukkapatnam

Dongzuo Tian ................................. Mechanical Engineering
Dissertation: “Barrier Avoidance Control for High-Order System with Complex State Constraints and Its Application to Down-Hole Drilling”
Chair: Xingyong Song

Anna Timchenko ........................................ Civil Engineering
Dissertation: “Open Pit Mining Slopes: Special Stability Considerations”
Chair: Jean-Louis Briaud
Sezer Can Tokgoz
Electrical Engineering
Dissertation: “Physical Layer Security of Hybrid Millimeter-Wave and Free-Space Optical Systems for 5G and Beyond Networks”
Chair: Khalid A. Qaraqe
Co-Chair: Scott L. Miller

Chia-Ying Tsai
Materials Science and Engineering
Dissertation: “Rheological Behavior of High Melt Strength Polypropylene-Based Materials”
Chair: Hung-Jue Su

Dandan Tu
Biomedical Engineering
Dissertation: “Multiplexed Sensing System for Biomolecules using Surface Enhanced Raman Spectroscopy”
Chair: Gerard Cote

Izhar Ullah
Mechanical Engineering
Dissertation: “Full Coverage Vane, Blade Tip, and Blade Trailing Edge Film Cooling for Gas Turbine Applications Using the Pressure Sensitive Paint Measurement Technique”
Chair: Lesley M. Wright
Co-Chair: Je Han

Vamsi Krishna Vegamoor
Mechanical Engineering
Dissertation: “Control and Perception for Autonomous Driving”
Chair: Dvahg Swaroop
Co-Chair: Sivakumar Rathinam

Haoqi Wang
Biological and Agricultural Engineering
Dissertation: “A Molecular-Dynamics-Simulation-Based Drug Discovery Platform for Pathogenic Bacteria”
Chair: Sandun Fernando

Hongfei Xu
Chemical Engineering
Dissertation: “Flow Assurance and Safety of Pipelines in Cold Conditions”
Chair: Qingsheng Wang
Co-Chair: Faisal I. Khan

Lei Xue
Materials Science and Engineering
Chair: Ibrahim Karaman

Jingyun Yang
Chemical Engineering
Chair: Arul Jayaraman

Jie Zhang
Civil Engineering
Dissertation: “Modeling Study of Precursor-Specific Secondary Organic Aerosol and Organic Tracers”
Chair: Qi Ying

Yupeng Zhang
Materials Science and Engineering
Dissertation: “Bayesian Inference of Plastic Properties from Indentation”
Chair: Alan Needleman
Dexin Zhao .................................. Materials Science and Engineering
Dissertation: “Activation and Suppression of Non-Basal Slip and Extension Twinning in Magnesium and Magnesium Alloys”
Chair: Kelvin Xie

Xiaofei Zhao .................................. Chemical Engineering
Chair: Micah Green

Yibo Zhu .................................... Industrial Engineering
Dissertation: “Neuroergonomic Assessment of Human Exoskeleton Interaction”
Chair: Ranjana Mehta

College of Geosciences

Doctor of Philosophy

Adewale Moroof Amosu ................................ Geology
Chair: Yuefeng Sun

Hedanqiu Bai ................................ Atmospheric Sciences
Dissertation: “The Tropical Diurnal Cycle of Wind and Convection and its Interactions with Larger Scale Circulations”
Chair: Courtney Schumacher

Matthew Brown ................................ Atmospheric Sciences
Dissertation: “Multiscale Evolution of Southeast US Storms and Their Environments”
Chair: Christopher J. Nowotarski

Lidia Huaman Chuquihuaccha ................ Atmospheric Sciences
Dissertation: “Large-Scale Circulations in the East Pacific and West Africa Regions and Their Interaction with Convective Structures”
Chair: Courtney Schumacher

Robert L. Iles IV ................................ Oceanography
Chair: Steven Dimarco
Co-Chair: Gerardo Gold Bouchot

Mohamed N. Imsalem .......................... Geology
Dissertation: “Palynostratigraphic Constraints on the Upper Tanezzuft and Akakus Formations in the Ghadamis Basin of Libya”
Chair: Anne Raymond

Min Li ........................................ Geophysics
Dissertation: “Rock Physics Based Estimation of Pore Pressure in Gas Bearing Shale”
Chair: Yuefeng Sun
Andong Ma ................................................... Geography
Dissertation: “Geospatial Artificial Intelligence for Land-Cover Characterization based on Remote-Sensing Data Analysis”
Chair: Anthony Filippi

Nicholas Tanner Mills ............................................. Geology
Dissertation: “Interactions between Microorganisms and Clay-Rich Sediments during Early Burial and Diagenesis”
Chair: Julia S. Reece

Jinwoo Park ................................................... Geography
Dissertation: “Advancing Spatial Accessibility Measurements to Urban Infrastructure: Uncovering Temporal Dynamics and Uncertainty”
Chair: Daniel W. Goldberg

Cuiting Qi ................................................... Geophysics
Dissertation: “Analysis of Vadose Zone Well Injection Performance”
Chair: Hong-Bin Zhan

Benjamin Henry Richards ......................................... Geology
Dissertation: “Stratigraphic Investigations of the Wolfcamp Group in Core, Outcrop, and Well Logs in the Permian Basin of West Texas”
Chair: Mike Pope
Co-Chair: Art Donovan

Zhengcong Yin ................................................ Geography
Dissertation: “Systematic Approaches to Improving Geocoding and Reverse Geocoding Systems”
Chair: Daniel W. Goldberg

Brennan William Young ........................................... Geography
Dissertation: “Geomorphometric Characterization of Topographic Morphological Structure for Mapping and Understanding Mountain Environments”
Chair: Michael P. Bishop

Xiao Yu ...................................................... Oceanography
Dissertation: “Amazon Plume Barrier Layer Structure Analysis and its Impact on Hurricane Intensification”
Chair: Ramalingam Saravanan
Co-Chair: Xiaopei Lin

Panshu Zhao ........................................ Water Management and Hydrological Science
Dissertation: “Developing Innovative Geospatial Techniques for Assessing the Surface in Alpine Settings: San Juan Mountains, CO and Patagonia Ice Field, Argentina”
Chair: John Giardino

School of Law

Juris Doctor

Emily R. Malden ..................................................... Law
John Minahan ..................................................... Law
College of Liberal Arts

Doctor of Philosophy

Ryan N. Abt. ...................................................... History
Dissertation: “Defining Nazism and the Holocaust in American Public Schools, 1933-1964”
Chair: Adam Seipp

Morgan Elizabeth Adams .................. Political Science
Dissertation: “The Dynamics of Public Opinion on Free Trade”
Chair: Paul Kellstedt

Zsolt Beda ............................................................ Psychology
Dissertation: “The Forgetting Fixation Account of Creative Incubation”
Chair: Steven Smith

Steven Michael Dezort. ...................... Philosophy
Dissertation: “Sex and the Principle of Double Effect”
Chair: Martin B. Peterson

Leanee Diaz Sardinas .................. Hispanic Studies
Dissertation: “La Iglesia contra los Derechos del Colectivo LGBTIQ+ Valoración de las Relaciones Estado-Iglesia en Cuba, 1510-2020”
Chair: Richard K. Curry
Co-Chair: Evan P. Haefeli

Kelly Kristen Lee Dray .................. Industrial/Organizational Psychology
Dissertation: “A Target-Centered Approach to Confronting Workplace Sexism”
Chair: Isaac E. Sabat

Gizelle Nicole Kayleen Fauss .................. Neuroscience
Chair: James Grau

Krystal Amanda Fogle Felton .................. Communication
Chair: Tasha Dubriwny

Christopher Kyle Hemler .................. History
Dissertation: “Learning Triphibious War: American Fire Control and Coordination in the Pacific War”
Chair: Brian Linn

Richard Hanson Hendren .................. Anthropology
Dissertation: “The History of H-Class Submarines and Archaeology of The Submarine USS H-1 (Ex Seawolf) (1913-1920)”
Chair: Kevin Crisman

Benjamin Murray Ioset .................. Anthropology
Chair: Christopher M. Dostal
Jennifer Nicole McDonald ........................................... Industrial/Organizational Psychology
Chair: Winfred Arthur

Ngoma Evelyn Moghalu ................................................. Sociology
Dissertation: “The Transnational Racial Discourse About West African Muslim Immigrants in an Era of Global Terrorism”
Chair: Joseph Jewell

Sueli Rocha Rojas ........................................................ Hispanic Studies
Chair: Teresa M. Vilaros

Omar Khalid Sial .............................................................. Neuroscience
Dissertation: “Early-Life Stress Combined with A Western-Style Diet Leads to Behavioral, Physiological, and Neurobiological Dysregulation”
Chair: Carlos A. Bolanos

Asha Simone Winfield ....................................................... Communication
Dissertation: “I Don't See Myself: Exploring Reception to Hollywood’s Construction of Memory through Black Women’s Biopics”
Chair: Srividya Ramasubramanian

David Yague Gonzalez ....................................................... Hispanic Studies
Dissertation: “Misidentification. The Trouble with Assimilation Politics in Latinx Literature”
Chair: Alberto Moreiras

College of Medicine

Doctor of Medicine

Fabi Vesper ................................................................. Medicine

Doctor of Philosophy

Shaochai Fang ................................................................. Medical Sciences
Dissertation: “Roles of Tet-Eleven Translocation(TET) Methylcytosine Dioxygenases in Mammalian Heart Development”
Chair: Yun Huang

April Lynn Obrien ........................................................... Medical Sciences
Dissertation: “Modulation of FGF1 Signaling Reduces Profibrotic, Proliferative, and Inflammatory Phenotypes in the Mdr2-/− Mouse Model of Cholestasis”
Chair: Shannon S. Glaser
School of Public Health

Doctor of Public Health

Daunte’ Armond Cauley ........................................ Public Health Sciences
Dissertation: “Addressing Rural Health Needs: The Impact, Challenges, and Barriers To Community Health Resource Centers”
Chair: James Burdine
Co-Chair: Heather R. Clark

Sara Paholek Mendez ........................................ Public Health Sciences
Dissertation: “Exploring Workforce Development Experiences of Public Health Department Staff”
Chair: James Burdine

College of Science

Doctor of Philosophy

Sultan Zuwaimel F Almutairi .................................. Physics
Dissertation: “Four-Wave Mixing in Weyl Semimetals”
Chair: Alexey Belyanin

Joseph Isaiah Atchison ....................................... Physics
Dissertation: “The Electric Conductivity of Hot Pion Matter”
Chair: Ralf Rapp

Zachary Daniel Buen .......................................... Chemistry
Dissertation: “Implementation of No LIF Diagnostics to Characterize the Role of Thermal Non-Equilibrium within a Hypersonic Turbulent Boundary Layer”
Chair: Simon North

Yihan Cao ......................................................... Chemistry
Dissertation: “Boryl Participation in the Bond Activation Reactions by PBP Type Iridium and Rhodium Complexes and Application in Selective C-H Alkylation of Pyridines”
Chair: Oleg Ozerov

Ngoc Anh Dao .................................................. Statistics
Dissertation: “Inference and Visualization for Spatial Point Processes”
Chair: Huiyan Sang
Co-Chair: Marc Genton

Ananya Dasgupta ................................................. Biology
Dissertation: “Changes in Cryptococcus Gene Expression in Response to the Antifungal Activity of the Antidepressant Sertraline”
Chair: Matthew Sachs

Christopher Ryan DeLaney .................................. Chemistry
Chair: Marcetta Darensbourg
Lars Erik Andreas Ehnbom .......................... Chemistry
Dissertation: “Theoretical Aspects of Werner Complexes and Molecular Devices”
Chair: John Gladysz
Co-Chair: Michael Hall

Lindy Chase Elrod ................................. Chemistry
Chair: Marcetta Darensbourg
Co-Chair: Michael Hall

Mateo Daniel Garcia Olazabal ................. Ecology and Evolutionary Biology
Dissertation: “Natural Hybridization and Melanoma in Swordtail Fish: Genetic Basis and Selective Mechanisms”
Chair: Gil Rosenthal

Mary Ashley Meagan Hudson .................. Microbiology
Dissertation: “Novel Antimicrobial Compounds Disrupt Bacterial Membrane Potential Modulation”
Chair: Steve W. Lockless

Ming-Uei Hung ................................. Chemistry
Chair: Oleg Ozerov

Jennifer Allison Jung ........................... Genetics
Dissertation: “Network Regulation of Rhythmic Transcription in Neurospora crassa”
Chair: Deborah Bell-Pederson

Kaci Caitlin Kratch .............................. Chemistry
Dissertation: “Chemical Biology Approaches to Drug Discovery: Activated Cysteine-Like Protein Ligation, SARS-CoV-2 Drug Repurposing and Hypoxia Activated Prodrug Triggers”
Chair: Wenshe Liu

Nandini Kundu ................................. Chemistry
Chair: Jonathan T. Szczepanski

Xiaohan Liu .................................. Physics
Dissertation: “Spectroscopy of Quantum Emitters and Their Applications”
Chair: Alexey Akimov

Christopher S. Mallis .......................... Chemistry
Dissertation: “Application of Native Mass Spectrometry and Ion Mobility-Mass Spectrometry Towards the Study of Small Molecule Complexes, Protein Complexes, and Antibodies”
Chair: David H. Russell
Ratnamala Mandal. .............................................. Chemistry
Dissertation: “Characterization of Intermolecular Interactions Using Hyperpolarized NMR”
Chair: Christian Hilty

Jacob Watson McCabe. .............................................. Chemistry
Dissertation: “Development of Modular High-Resolution Ion Mobility Orbitrap Platforms for Native Mass Spectrometry”
Chair: David H. Russell

Tyler Daniel Morrison. .............................................. Physics
Dissertation: “Transport Characterization of Cerium Dioxide Pressed Powders at Low Temperatures”
Chair: Donald Naugle

Bailey K. Phillips. .............................................. Chemistry
Dissertation: “Cyclodextrin-Derived Polymer Networks for Applications in Selective Molecular Adsorption”
Chair: Lei Fang

Lunda Shen. .............................................. Biology
Dissertation: “Structure of the Translating Neurospora Ribosome Arrested by Cycloheximide”
Chair: Matthew Sachs

Eric Joseph Tovar. .............................................. Mathematics
Chair: Jean-Luc Guermond

Jingyan Zhang. .............................................. Mathematics
Dissertation: “Model Reduction and Deep Learning Approaches in Reservoir Simulation”
Chair: Yalchin Efendiev
Co-Chair: Yuhe Wang

Xingchen Zhao. .............................................. Physics
Dissertation: “Imaging through Scattering Media via Time-Domain Information Encoding and Decoding”
Chair: Marlan Scully

College of Veterinary Medicine and Biomedical Sciences

Doctor of Philosophy

Noor Alaa Aly. .............................................. Toxicology
Dissertation: “Rapid Exposure Assessment of Complex Environmental Samples in Disaster Research Using Traditional and Novel Methods”
Chair: Ivan I. Rusyn

Yudhishtar Singh Bedi. .............................................. Biomedical Sciences
Dissertation: “Paternal Preconceptional Alcohol Exposure Alters the Sperm Epigenetic Landscape and Adversely Affects Offspring Development”
Chair: Michael C. Golding
Sarah Delena Burnett ........................................... Toxicology
Dissertation: “In Vitro Models for High-Throughput Hazard, Dose-
Response, and Toxicodynamic Variability Assessments”
Chair: Ivan I. Rusyn

Selma Gonzalez ........................................... Biomedical Sciences
through Phenotypic and Genotypic Characterization of
Salmonella enterica I 4,[5],12:i:- Isolated from Swine in the
United States”
Chair: Keri N. Norman

Avery Christine Kramer ................................ Biomedical Sciences
Dissertation: “Glucose and Fructose Metabolism and Transport During
Pig Pregnancy”
Chair: Gregory Johnson

Bryan Anthony McLendon ................................ Biomedical Sciences
Dissertation: “Paracrine Effects of Interferon Gamma on the Porcine
Uterine Endometrium”
Chair: Gregory Johnson
Co-Chair: Fuller Bazer

Marcus Robert Orzabal ................................... Biomedical Sciences
Dissertation: “Developmental Outcomes of Prenatal E-Cig Aerosol
Vaping”
Chair: Jayanth Ramadoss

Drew Dabney Pendleton ................................. Toxicology
Dissertation: “Effects of Ultrafine Particulate Matter on Offspring
Growth and Development”
Chair: Natalie Malek Johnson

Johanna Lynn Smith ....................................... Biomedical Sciences
Dissertation: “Large Breed-Specific Genome-Wide Association Analyses
and Genotype-by-Environment Interactions for Growth,
Carcass, and Scrotal Circumference Traits in U.S. Gelbvieh
and Red Angus Cattle”
Chair: Christopher M. Seabury

Miranda Loraine Wilson ......................... Biomedical Sciences
Dissertation: “Population Genomics with Validation of High-Density
SNP Arrays and Generation of Highly Contiguous
Genomes for the Northern Bobwhite (Colinus virginianus)
and the Scaled Quail (Callipepla squamata)”
Chair: Christopher M. Seabury

Punyamanee Yamkate ......................... Biomedical Sciences
Dissertation: “Assessment of Copper in Liver Specimens from Cats”
Chair: Joerg M. Steiner
Co-Chair: Jonathan A. Lidbury

Fei Yu ........................................... Biomedical Sciences
Dissertation: “The Role of Microrna-150 in Type 2 Diabetic Retinopathy”
Chair: Gladys Ko
Doctor of Veterinary Medicine

Grace Elizabeth Davis ................................ Veterinary Medicine
Adil B. Kassam ........................................ Veterinary Medicine
Academic Regalia

Academic institutions throughout the world have created a wide variety of customs including distinctive dress, color and ceremony to indicate the accomplishments of scholars. English traditions originating at Oxford and Cambridge led to the development of American academic regalia. By the twentieth century, institutions of higher learning in the United States had adopted a well-defined code of academic costume, which now includes the identification of the different academic degrees by distinctive gowns, hoods and colors. For instance, the baccalaureate gown is worn closed and is identified by long, pleated front panels and long, pointed sleeves. The master’s gown has very long sleeves, closed at the bottom, and the arms of the wearer are placed through an opening in the front of the sleeves. Doctoral gowns are distinguished by velvet panels around the neck and down the front of the gown. Three horizontal black velvet bars also mark the doctorate. In America, the hood is the most colorful feature of academic regalia. The bachelor’s hood, when worn, is comparatively short; the master’s, a bit longer; and the doctor’s, at four feet, reaches far down the wearer’s back. The outside of the hood is black and is bordered with a two-, three- or five-inch band of velvet in the color representing the degree received, and the hood is lined with the colors of the granting institution. For instance, the Master of Arts hood from Texas A&M has a white border, for the discipline color of Arts, Letters and Humanities, with a maroon and white lining; the Master of Science hood has a golden yellow border, for Science, with a maroon and white lining; and the Doctor of Philosophy hood has a border in the blue of Philosophy with a maroon and white lining. Among the other discipline colors are Agriculture—maize, Architecture—violet, Business—olive green, Education—light blue, Engineering—orange and Veterinary Medicine—gray. These colors represent the degree earned, not the academic major. The Ph.D. in Engineering, for example, would normally wear the dark blue of Philosophy on the hood and gown instead of the orange of Engineering. Official guests of the University and members of the Board of Regents wear the doctor’s gown with the blue of Philosophy on the front and hood.

Ceremonial Mace

The University mace, a gift of the Class of 1990, leads the academic procession at commencement and on other special ceremonial occasions. Historically, the use of a mace dates back to the Middle Ages and was carried before or placed near a magistrate or other dignitary as an ensign of authority. This mace is made of sterling silver, walnut and oak and depicts various University symbols. It was designed by Rodney Hill, Texas A&M architecture professor who also carved the staff. Silversmith Lane Coulter ‘78, of Santa Fe, prepared the silver head of the mace and Lars Stanley ‘74, of Austin, designed and manufactured the stand.
Gonfalons

The gonfalon, a flag that hangs from a crosspiece or frame, originated in the medieval republics of Italy as an ensign of state or office. Gonfalons have been adopted in many universities around the world as college or institutional insignias. The gonfalons displayed represent the colleges of Texas A&M University. The colors of the University, maroon and white, are joined together in a pattern common to all of the flags. The top portion is the designated color for each unit. The white field serves as a background for the symbol of each.

College of Agriculture and Life Sciences. On a ground of white appears an emerging sun of yellow and russet rays. Yellow, the discipline color of science, russet, the discipline color of natural resources, and the center orange, color of engineering, combine to illustrate the intellectual interest in human and biological systems and structures. The interweaving ring encompasses the dawn making a full circle of life.

College of Architecture. The hexagonal symbol is composed of three colors that represent the solid foundation of the college. Our Aggie core values (maroon) connect limitless possibilities and opportunities in learning, scholarship, and engagement for the college (blue) with the energy of creativity, innovation, and design to address them (yellow). The striped ribbon represents the drivers of the college’s vision of quality of life, place, and human endeavors which is intertwined with a solid ribbon that represents where this vision is applied: the natural, built, and virtual environments. The six segments defined by the alternating striped and solid ribbon represent the six disciplinary domains of the college: urban planning, architecture, landscape architecture, land and property development, construction science, and visualization.

Mays Business School. The golden knot symbolizes unity and coordination of the disciplines of business administration. Surrounding the golden knot, a field of purple represents the rank of authority. The foundation of lozenges under the triangle illustrates the flow of order.

College of Dentistry. The color lilac has been associated with dentistry since the 1800s, symbolizing compassion and inspiration. Upon it, rests the Greek Omicron, O, representing the first letter in “odont,” meaning tooth, along with an interlaced Delta representing the letter D for Dentistry. The inner-most component of the emblem depicts healing, as signified with a serpent intertwined around the ancient cauterizing rod of the Greek god of healing, Asclepius. Included in the emblem, are 32 leaves and 20 berries representing both the primary and secondary teeth.
College of Education and Human Development. The flourishing flame blazoned with gold, light blue and royal purple signifies the burning zeal of the three missions of education—teaching, research and service. The hands hold the spiritual, social and intellectual flame of education.

College of Engineering. As the triangles collaborate alongside each other, projecting a diamond shape, they depict the strong relationship between the diverse engineering disciplines. The use of mathematics, science and technology provide the foundation of solving today’s challenging ideas between and within each engineering department. The center illustrates a circuit board to express the continuing growth in technology and engineering today, resulting in new industries and opportunities. The cohesive elements of this design work together as a whole symbolizing communication, interaction, teamwork, and balance in Engineering as the green, blue and navy color palette represents energy, loyalty, wisdom, professionalism and ambition.

College of Geosciences. The white field reveals a yellow sun representing our surrounding atmosphere. The mountain peaks and the horizontal band of golden land represent the lithosphere. The banded waves of white signify the hydrosphere. The atmosphere, lithosphere and hydrosphere form the total environment for life in our world.

Bush School of Government and Public Service. The star symbolizes pride and heritage in our great state of Texas. The two lines on either side of the star represent our connection with the past, and with the future, in an effort to build on experiences from history, while contributing and presenting new opportunities to future generations.

School of Law. A widely accepted symbol of peace, the olive leaves highlight one of the most critical contributions of law and legal order to human development. Curving inwards, they also bring to mind the Aggie Ring – and the circle of fellowship and community it represents. Lady Justice symbolizes the values our graduates bring to bear in their careers: a spirit of objectivity (blindfold), an unwavering commitment to fairness (scales), and the strength necessary to pursue it (sword). The six stars, finally, represent Texas A&M’s Core Values – Leadership, Respect, Loyalty, Excellence, Selfless Service, and Integrity – essential requirements of not only members of the legal profession, but all those who study the law and seek to advance justice, fairness, and the Rule of Law.

College of Liberal Arts. The golden torch symbolizes the various disciplines lighting the path to our goal, “Knowledge for Life.” The circle of blue, the traditional color of knowledge, represents the college’s unending, unbroken commitment to scholarship, learning, and responsible citizenship.
College of Medicine. The white field provides a background for the Aesculapian staff and serpent, long used as the symbol of the healing arts. The green color is the same displayed on the hoods and robes worn for the degree of Doctor of Medicine.

College of Nursing. The stars on the College of Nursing gonfalon represent caring, innovation and empowerment, while the cross symbolizes the origins of nursing. The candle honors the founder of nursing, Florence Nightingale. Apricot is the color of nursing.

Irma Lerma Rangel College of Pharmacy. The mortar and pestle on the College of Pharmacy gonfalon symbolize the tools of traditional pharmacy. The Rx is from the Latin, “Take thou.”

School of Public Health. The anchor and caduceus are adapted from the national Public Health Service, which evolved from the Marine Hospital Service to the Public Health and Marine Hospital Service, and finally became the U.S. Public Health Service. The star represents the linkage of the School of Public Health with the Texas A&M Health Science Center and the State of Texas. The salmon color is the color of the public health hoods.

College of Science. This symbol’s segments represent the five departments of the College of Science--Biology, Chemistry, Mathematics, Physics and Astronomy, and Statistics. The interweaving of each depicts their close relationship to each other. The inner quilting represents the intellectual search in science and its continuing growth.

College of Veterinary Medicine and Biomedical Sciences. Resting upon a ground of purity, a white snake stands for the science and the art of prevention, cure or alleviation of disease and injury to animals. It is found entwined around a herald’s green staff--the symbol of service. The golden radiant triangle atop the Aesculapius illustrates the breadth of veterinary medical science.
“The Spirit of Aggieland”

By Mimms-Dunn

Some may boast of prowess’ bold,
Of the school they think so grand,
But there’s a spirit can ne’er be told,
It’s the spirit of Aggieland.

Chorus

We are the Aggies—the Aggies are we,
True to each other as Aggies can be.
We’ve got to fight, boys,
We’ve got to fight!
We’ve got to fight for Maroon and White.
After they’ve boosted all the rest,
They will come and join the best,
For we are the Aggies—the Aggies so true,
We’re from Texas A M U.
Congratulations New Graduates!
Welcome to The Association of Former Students!

Today, as a proud graduate of Texas A&M University, you will turn your Aggie Ring so that the Class year faces away from the body symbolizing a readiness to face the world.

Being an Aggie is a lifelong experience that is supported by the Aggie Network. By staying involved with Texas A&M through The Association of Former Students, together, we will continue the work of passing back the core values, traditions and experiences that make Texas A&M unique.

As you begin your new journey, we ask that when you’re ready, you consider helping to pass it back to future generations. Join the Century Club at a 50% discount and proudly showcase your very own Century Club member decal.

The Association of Former Students is HERE for Aggies during their days as students and former students, THERE for Aggies as they make their way around the world and EVERYWHERE that the Aggie Network needs us to be.
This program is accurate with respect to the degree awarded and honors conferred based on available information at the time of print production. Neither a name listed herein nor participation in the ceremony guarantees the awarding of a degree or honors. The Office of the Registrar retains each student’s permanent academic record, which indicates these official designations.

This program will be available for download on the graduation website the week after ceremonies have been held at https://graduation.tamu.edu/Home/Ceremonial-Symbols-History/Program-Archives.