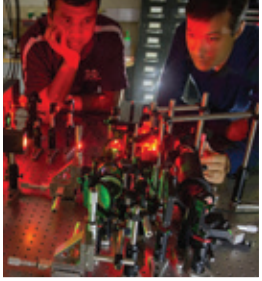
ANNUAL RESEARCH AWARDS BANQUET

TUESDAY, MARCH 24, 2020
HUNTER HENRY CENTER

Hosted by the Vice President for Research and Economic Development and the Vice President for Agriculture, Forestry and Veterinary Medicine



RESEARCH AWARDS BANQUET 2020

Thank you for joining us for this year's Annual Research Awards Banquet at Mississippi State University. As our state's leading university, Mississippi State-led research is an unrivaled success story, making a tremendous impact across the state, the U.S., and internationally.

We look forward to celebrating the talented and hardworking people who have contributed to our research enterprise, and honoring many of you for your special achievements. As we mark another record-breaking and successful year of research, we want to thank you for your hard work and congratulate you for a job well done.

Julie Jordan
Interim Vice President for Research and Economic Development

Reuben Moore
Interim Vice President for Agriculture, Forestry and Veterinary Medicine

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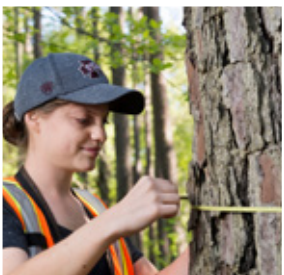
PROGRAM

LUNCH
WELCOME
KEYNOTE ~ PRESIDENT MARK E. KEENUM
OPENING REMARKS
PRESENTATION OF AWARDS



COLLEGE OF AGRICULTURE AND LIFE SCIENCES AND MAFES

DR. GEORGE HOPPER

Faculty: Mark Shankle

Research Support: Brad Burgess

Graduate Student: Michael Nattrass

Undergraduate Student: Andrew Tyler Nuss

COLLEGE OF FOREST RESOURCES AND FOREST AND WILDLIFE RESEARCH CENTER

DR. GEORGE HOPPER

Faculty: Courtney Siegert

Research Support: Crissy Hathcock

Graduate Student: Will Kruckeberg

Undergraduate Student: Rachel Nation

COLLEGE OF VETERINARY MEDICINE

DR. KENT HOBLET

Faculty: Trey Howell

Research Support: Edward Meek

Graduate Student: Brittany Szafran

Undergraduate Student: Hannah Scheaffer

COLLEGE OF ARCHITECTURE, ART AND DESIGN

DR. ANGI ELSEA BOURGEOIS

Faculty: Alireza Shojaei Kol Kachi

Research Support: Sheri Johnson

Undergraduate Student: Sydney Cozart

COLLEGE OF ARTS & SCIENCES

DR. RICK TRAVIS

Faculty: Dipangkar Dutta

Research Support: Silas Knox

Graduate Student: Chaminda Lakmal Hetti Handi

Undergraduate Student: Emily Tingle

COLLEGE OF BUSINESS

DR. SHARON OSWALD

Faculty: Alvaro Toboada

Graduate Student: Robin Tang

Undergraduate Student: Choteau Kammel

COLLEGE OF EDUCATION

DR. TERESA JAYROE

Faculty: Yan Sun

Research Support: Starsha Jamerson

Graduate Student: Alana Turner

Undergraduate Student: Hannah Freeman

BAGLEY COLLEGE OF ENGINEERING

DR. JASON KEITH

Faculty: Masoud Karimi Ghartemani

Research Support: Natalie Beatty

Graduate Student: Jack Francis

MERIDIAN CAMPUS

DR. TERRY DALE CRUSE

Faculty: Jeffery Leffler

UNIVERSITY CENTERS AND INSTITUTES

DR. TERESA GAMMILL

Faculty: Anna Linhoss

Research Support: Vince Sanders

OFFICE OF RESEARCH AND ECONOMIC DEVELOPMENT

DR. TERESA GAMMILL

Research Support: Kim Rayborn

Graduate Student: Sloan Davis

RALPH E. POWE RESEARCH EXCELLENCE AWARD

DR. JULIE JORDAN AND DR. REUBEN MOORE

David May

MSU INTELLECTUAL PROPERTY INVENTORS, FY 2019

MR. JEREMY CLAY

PATENT INFORMATION

COLLEGE OF AGRICULTURE AND LIFE SCIENCES-MAFES

Stephen Pruett, jointly with Frank Austin and Shien Lu

"Occidiofungin Formulation and Uses Thereof"

(Patent No. 10,265,374 – Issued April 23, 2019)

This invention relates to therapeutic formulations comprising occidiofungin useful for treating cancer, and is licensed by Sano Chemicals, Inc.

COLLEGE OF AGRICULTURE AND LIFE SCIENCES-MAFES

Frank Austin jointly with Shien Lu

"Occidiofungin, a Unique Antifungal Glycopeptide Produced by a Strain of Burkholderia Contaminans"

(Patent No. 10,092,622 – Issued October 9, 2019)

This invention is directed to novel antifungal glycopeptide compounds and salts thereof produced by a strain of Burkholderia contaminans useful for preventing or treating fungal infection or disease in animals and plants and the bacterial strain that produces the compounds.

2019-2020 JAMES D. MCCOMAS FACULTY LEADERSHIP PROGRAM

Linda Coats, *Educational Leadership*
Stacy Haynes, *Sociology*
Haitham El Kadiri, *Mechanical Engineering*
David Lang, *Plant and Soil Sciences*
Matt Lavine, *History*
Laura Marler, *Management*
Dan Reynolds, *Plant and Soil Sciences*
Wes Schilling, *Food Science, Nutrition and Health Promotion*
Brad Trinkle, *Accountacy*
Jervette Ward, *English*

CLOSING REMARKS

DR. JULIE JORDAN

THANKS AND RECOGNITION

CONFLICT OF INTEREST REVIEW COMMITTEE

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Jenny Davis
Kathy Dooley
Darrell Easley
Kevin Enroth
Mike Highfield
Mark Lawrence
Joan Lucas
Bart Moffatt
Lesley Strawderman
Kacey Strickland
David Van Landingham
Ken Willeford

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Alejandro Banda
Loren "Wes" Burger
Mark Guyton
Elizabeth Ann Henderson
Cary "Bill" Herndon
Joseph Iupe
Caroline Betbeze Ivy
Aaron Kiess
Robert Meyer
Chuck Mischke
Trent Peacock
Lora Petri-Hanson
Brain J. Rude
Trent Smith
Kacey Strickland
Elizabeth Swanson
Justin Thornton
Bridget Willeford

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John P. Brooks
Carla Huston
Curtis Jernigan
Attila Karsi
Wes Andrews
Alicia Olivier
Michael Parsons
Trent Peacock
G. Todd Pharr
John Stokes
Clifton Story
Kacey Strickland
Heather Jordon

INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS IN RESEARCH

Kevin Armstrong
Kari Babski-Reeves
Reuben Burch
Nicole Cobb
Ashley Coleman
Anastasia Elder
Patricia Faver
Steven Grice
Morgan Harrison
Stacey Haynes
Megan Holmes
Adam Knight
Tom Ritter
Cliff Story
Kacey Strickland
Amanda Tullos
Benjamin Wax

RADIOLOGICAL, CHEMICAL AND LAB SAFETY COMMITTEE

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Erin Brinkman
Todd W. French
Jamie E. Larson
Giselle Thibaudeau
Peter L. Ryan
Keun Seok Seo
Paul Te-Ming Tseng
Charles A. Waggoner
Scott T. Willard

MISSISSIPPI SCHOOL FOR MATHEMATICS AND SCIENCE RESEARCH PROGRAM MENTORS - FALL 2019/SPRING 2020

Gombojav Ariunbold
Ashli Brown
Matthew Brown
Brian Counterman
Eric Hill
Keith Hollis
Ed Luke

Milena Melo
Todd Mlsna
Vicky Montiel-Palma
Bindu Nanduri
Arazais Oliveros
David Wallace
Yeqing Wang
Shantia Yarahmadian

FACULTY LEADERSHIP CLASS PRESENTERS - FALL 2019/SPRING 2020

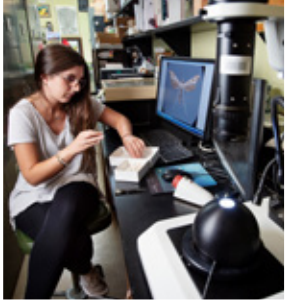
Mike Breazeale
Angi Bourgeois
Ashli Brown
Loren "Wes" Burger
Austin Check
Art Cosby
Darrell Easley
Dan Gadke
Regina Young Hyatt
Julie Jordan
President Mark Keenum
Roy Ruby
Rubin Shmulsky
Scott Willard

SEMINAR SERIES PRESENTERS - FALL 2019/SPRING 2020

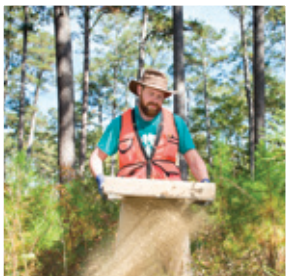
Brandy Akers
Tracey Baham
Trey Breckenridge
Devon Brenner
Loren "Wes" Burger
Jan Chambers
Nicole Cobb
Stephen Cunetto
Katie Echols
Teresa Gammill
Drew Hamilton
Eric Hill
Stephanie Hyche
Julie Jordan
Corinne Kennedy
Deborah Lee
Carley Morrison
Kari Reeves
Tom Ritter
Jonathan Rudd
Ben Sharpe
Colleen Sinclair
Kacey Strickland
Matt Thomas
ORED Center Directors and Unit Heads

RALPH E. POWE RESEARCH EXCELLENCE AWARD WINNERS

2020 — David C. May
2019 — Steve Demarais
2018 — Wes Schilling
2017 — Henry Wan
2016 — Loren "Wes" Burger
2015 — Brent Funderburk
2014 — Nicholas Herrmann
2013 — Daniel G. Peterson
2012 — Kambham "Raja" Reddy
2011 — James C. Newman Jr.
2010 — Stanislaw Grzybowski
2009 — Shane Burgess
2008 — Mark Horstemeyer
2007 — Louis D'Abramo
2006 — Jung P. Shim
2005 — H. Michael Barnes
2005 — Janice Chambers
2004 — Domenico Parisi
2003 — Thomas E. Nebeker
2002 — Douglas L. Marshall
2001 — Roger L. King
2000 — David R. Shaw
1999 — Robert W. Rogers
1998 — Charles U. Pittman Jr.
1997 — Lewis R. Brown



HONOREE PROFILES



MARK W. SHANKLE | FACULTY

Dr. Mark W. Shankle is a research professor at the Pontotoc Ridge-Flatwoods Branch Experiment Station of MAFES. His diverse research/educational program recognizes opportunities to link public and private sector resources to balance the needs/expectations of industry stakeholders. While he works with several agronomic crops, his most notable impact is on U.S. sweet potato production, which is worth $1 billion annually. Dr. Shankle's research has led to the registration of herbicides used in over 60% of U.S. sweet potato acreage. He leads the Mississippi Sweetpotato Certified Seed program at the Pontotoc Branch, which was established as a National Clean Plant Center in 2015. This seed program increased returns for Mississippi sweet potato producers by an estimated $7.17 million in 2018 alone.

Dr. Shankle is very active in directly teaching growers and training students. He holds grower meetings to deliver research information and hosts demonstration tours to highlight new technology and innovative production practices. Dr. Shankle also participates in K-12 education at the local level with service to the Advisory Board of the Pontotoc Ridge Career & Technology Center.

In the last five years, Dr. Shankle has been actively involved with eight professional societies, authored over 75 publications, advised or directed 14 graduate students, and received numerous awards for his research. A highlight was the "Honorary Tater Boy Award," which is recognized by the Mississippi Sweet Potato Council for service and dedication to the industry.

BRAD BURGESS | RESEARCH SUPPORT

Brad Burgess is the director of variety testing and foundation seed for the Mississippi Agricultural and Forestry Experiment Station. He has spent over 20 years at MSU in the Department of Plant and Soil Sciences and MAFES. In 2019, he received an outstanding service award from the Mississippi Peanut Grower's Association. Brad is responsible for conducting official variety trials for MAFES on crops grown in Mississippi, such as corn, soybean, wheat, oat, peanut, and grain sorghum, with results published annually in a MAFES information bulletin. He is also responsible for maintaining Foundation Seed Stocks of rice, sweet sorghum, and occasionally soybean.

Brad enjoys traveling the state and representing MSU as he observes different farming practices and the newest technologies associated with agriculture as his team conducts trials. He takes satisfaction in his agriculture work at MSU, knowing that it helps to improve ways to feed and clothe a growing world. While not working, Brad enjoys spending time outdoors and with his family.

MICHAEL NATTRASS | GRADUATE STUDENT

Michael Nattrass is a doctoral candidate in the Department of Plant and Soil Sciences. In 2016, he received his master's in agronomy from MSU while researching nutrient management in row crop production. His doctoral research on constructed wetland phytoremediation of selenium-impacted runoff has produced two peer-reviewed manuscripts with one pending. His future research interests involve advancing UAV technologies and applications to close yield gaps that threaten food security while improving agricultural and environmental sustainability.

In 2017, Michael received the Future Leaders in Science Award and traveled to Washington, D.C., to discuss agricultural funding appropriations. An award-winning presenter with over 15 abstracts, he was named 2018 MSU 3-Minute Thesis Grand Champion. He is also a 2019 Graduate Research Assistant of the Year finalist and two-time Zacharias Graduate Teaching Assistant of the Year finalist. Michael is a member of the Gamma Sigma Delta, serves as Graduate Student Association vice president, and president of the MSU Eagle Aces, a student organization promoting UAV technology awareness and flight skill development.

ANDREW NUSS | UNDERGRADUATE STUDENT

Andrew Nuss is a senior agronomy major in the College of Agriculture and Life Sciences' Department of Plant and Soil Sciences. Focusing on integrated crop management, he has worked with MSU faculty members in research areas such as nutrient levels of forage and pasture grass, and cotton yield increase. Currently, Andrew is working with Dr. Paul Tseng to screen sweet potato varieties for weed suppressive (allelopathic) properties. Andrew has interned with Monsanto at the Scott Learning Center, where he gained experience with corn, cotton, and soybeans. Last summer, he worked at the Limestone Farmer's Cooperative in the fertilizer and chemical departments. He recently presented his sweet potato weed management research at the Southern Weed Science Society convention in Biloxi. After he completes his undergraduate degree, Andrew plans to pursue a master's degree in weed science at MSU.

COLLEGE OF FOREST RESOURCES AND FOREST & WILDLIFE RESEARCH CENTER

COURTNEY SIEGERT | FACULTY

Dr. Courtney Siegert is an associate professor of forest hydrology in the Department of Forestry in the College of Forest Resources. She is originally from Baltimore, Maryland, and has been at MSU for seven years. She has a B.S. in Mathematics from Fairfield University and an M.S. and a Ph.D. in Geography from the University of Delaware. Her research program broadly focuses on understanding how water and nutrients move through forest ecosystems and how these fluxes are impacted by disturbances such as natural and prescribed fire, insect infestations, forest management, and climate change. She has raised over $1.5 million in the past three years from federal funding sources, including the National Science Foundation and the USDA Agriculture and Food Research Initiative Program. She was awarded the CFR Teaching Award in 2016, the DAFVM Superior Faculty Teaching Award in 2018, and the CFR Research Award in 2019. She has served as a faculty mentor to 19 undergraduate students (including 5 Undergraduate Research Scholars), five master's students, and two doctoral students in the Forest Hydrology and Soils Lab. Dr. Siegert is very humbled by this award and would like to acknowledge all of her amazing colleagues, collaborators, and students who help make her research program successful.

CRISSY HATHCOCK | RESEARCH SUPPORT

Crissy Hathcock is currently the assistant director, financial services for the College of Forest Resources (CFR), and the Forest and Wildlife Research Center (FWRC). She has held this position for over six years. Before her CFR/FWRC position, she served as an accountant in the Mississippi Agricultural and Forestry Experiment and an auditor for the Mississippi Office of the State Auditor. Crissy received her bachelor's degree in accountancy from Mississippi State University, as well as a master's in taxation. In 2012, she became a Certified Public Account. She received the CFR/FWRC Doris Lee Memorial Professional Staff award in 2019. In her positions as the assistant director, financial services for CFR/FWRC, she is engaged daily in a myriad of activities focused on supporting the operations of CFR/FWRC, executing the priorities of the Dean/Director, and ensuring fiscal sustainability of these academic and research units.

WILL KRUCKEBERG | GRADUATE STUDENT

Will Kruckeberg is a master's student in the Department of Forestry in the College of Forest Resources at Mississippi State University. He works in the Forest Hydrology and Soils laboratory under Dr. Courtney Siegert, where he assists with research on changes in water and nutrient cycles resulting from prescribed fire, logging, pest outbreaks, and other forest disturbances. He has also been a mentor for the three undergraduate students in the lab.

Will's current research focus is examining how the reintroduction of fire in the upland hardwood ecosystems of northern Mississippi affects soil erosion. Since joining the program at Mississippi State, he has presented his research in poster sessions at three regional and national conferences as well as the MSU Graduate Research Symposium. In addition to his thesis work, Will is preparing a manuscript in collaboration with the United States Forest Service, examining the effects of forest disturbance on soil erosion. Will received his B.S. in forestry from Stephen F Austin State University in Texas, where he graduated Summa Cum Laude.

RACHEL NATION | UNDERGRADUATE STUDENT

Rachel Nation is a senior forestry major with a wildlife management concentration. Her research in the MSU Forest and Fire Ecology Lab focuses on testing effects of prescribed fire on acorn germination and early seedling growth and exploring the decomposition rates of leaf litter from different tree species. At the 2019 Society of American Foresters National Convention, she placed 2nd in the Forest Science and Technology Board Poster Competition. Rachel and her co-authors have a manuscript in review at the peer-reviewed journal Fire Ecology on the impacts of increasing fuel loads on acorn germination and early oak seedling establishment. Rachel was nominated for the 2019 CFR Outstanding Undergraduate Student Award and has earned the President's Scholar distinction for six consecutive semesters. Rachel currently serves as president of the MSU Society of American Foresters Student Chapter and the Alpha Theta Chapter of Xi Sigma Pi. She previously served as the Vice President of the CFR Dean's Council. She enjoys giving back to the community through volunteering and outreach and is very thankful for the numerous opportunities she has had at MSU.

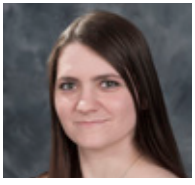
TREY HOWELL | FACULTY

Dr. Trey Howell is an associate professor at MSU's College of Veterinary Medicine. A 2000 MSU microbiology graduate, Dr. Howell returned to his alma mater in 2009 as a research assistant professor with the Center for Environmental Health Sciences (CEHS) in the Department of Basic Sciences at CVM. The primary focus of the Howell Lab's research is examining the link between environmental exposure to pesticides and the pathogenesis of obesity and type 2 diabetes with a focus on systemic metabolism and diabetic sequelae such as impaired wound healing. Research in the Howell Lab is extramurally funded by grants from the National Institute for Environmental Health Sciences of the National Institutes of Health. Additionally, Dr. Howell is an active member of the Society of Toxicology, where he holds the elected position of Councilor in the South-Central Chapter.

In addition to his undergraduate degree from MSU, Dr. Howell completed his Ph.D. in pharmacology and toxicology at the University of Mississippi Medical Center. After earning his Ph.D., he completed a postdoctoral fellowship in the Department of Pharmacology at the University of Tennessee Health Sciences Center.

EDWARD MEEK | RESEARCH SUPPORT

Dr. Edward Meek is a research scientist in the Center for Environmental Health Sciences located in the Department of Basic Sciences of the MSU College of Veterinary Medicine. He received a B.S. in biological sciences and an M.S. in veterinary medical sciences with an emphasis in environmental toxicology from Mississippi State. While working full time as a laboratory manager for the Center for Environmental Health Sciences, he completed a doctoral degree in environmental toxicology in 2018. Dr. Meek's research has primarily been focused in the field of neurotoxicology with a specific interest in the effects of organophosphates, including both insecticides and chemical warfare nerve agents. Most recently, his research, in collaboration with his mentor Dr. Janice Chambers, has focused on developing novel oxime therapies to prevent neurological damage from organophosphates. He is a co-investigator on two National Institutes of Health grants focusing on novel oxime therapies for organophosphate exposure. Edward is a co-recipient of an oxime patent and a co-author of over twenty journal articles and book chapters. Dr. Meek received the MSU College of Veterinary Medicine Research Support Staff Award in 2007 and completed MSU's Leadership Excellence for Accomplished Professionals (LEAP) leadership training program in 2012.

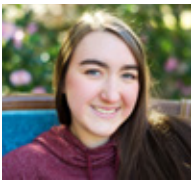


BRITTANY SZAFRAN | GRADUATE STUDENT

Dr. Brittany Szafran is a doctoral candidate in the MSU College of Veterinary Medicine, where she is studying environmental toxicology. A combined degree student at MSU, she completed her DVM in May of 2017. She obtained her bachelor's degree from West Virginia University, where she studied animal & nutritional sciences and biochemistry, with a minor in Japanese studies. Her research studies the effects of an organophosphate pesticide called

chlorpyrifos on endocannabinoid metabolism, levels of lipid mediators, and immune function in murine lungs. Outside of her main research, she has collaborated with LSU to study the immune effects of e-cigarette delivery vehicles, and she has a publication in collaboration with the University of Rochester, identifying endocannabinoid metabolizing enzymes in the blood of human patients with Huntington's disease. She has served as the student representative for the Comparative & Veterinary Specialty section within the Society of Toxicology for three years, earning the Roger McClellan Student Endowment Award and an Outstanding Graduate Student Leadership Award. After graduating, she plans to pursue a governmental toxicology post-doctoral position. Outside of the lab, she teaches and competes with the MSU Ballroom Dance Club.

HANNAH SCHEAFFER | UNDERGRADUATE STUDENT

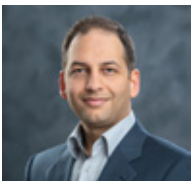


Hannah Scheaffer is a junior biochemistry major from Ruston, Louisiana. For two years, she has researched under the direction of Dr. Matthew Ross in the College of Veterinary Medicine. Her work focuses on inflammation, prostaglandins, and the polarization of macrophages by inflammatory stimuli, which Hannah hopes to continue and expand into cancer research. She has won awards for her research presentations at the past two meetings of the South Central Conference of the Society of Toxicology.

Hannah is a Provost Scholar in MSU's Judy and Bobby Shackouls Honors College. Last year, she was part of the inaugural group inducted into the MSU chapter of Phi Beta Kappa Honor Society. This summer, Hannah will spend ten weeks researching at the University of Oxford before returning to MSU this fall and applying for various graduate school programs. In addition to her research and academic accomplishments, Hannah is a member of the Famous Maroon Band and Mississippi State Wind Ensemble and an intern at the Wesley Foundation.

COLLEGE OF ARCHITECTURE, ART & DESIGN

ALIREZA SHOJAEI KOL KACHI | FACULTY



Alireza Shojaei kol kachi joined the Building Construction Science Department at Mississippi State University in 2018 as an assistant professor. He received his Bachelor of Science in civil engineering from Amir Kabir University and his master's degree in construction management with distinction from the University of Reading in the United Kingdom. He then went on to receive his Ph.D. from the University of Florida in design, construction, and planning with a concentration in construction management. While at the University of Florida, he also received his Master of Science degree in management.

Dr. Shojaei's research program focuses on the application of empirical modeling using computer-based modeling and simulation. The majority of his current work focuses on digital innovation and the application of emerging technologies in the built environment and project management and economics in the construction industry. He is invested in the challenge of revolutionizing architecture, engineering, and construction industries toward a more resilient built environment, specifically through digital innovations. He has been successful in disseminating his research findings in a multitude of venues, including prestigious journals, as well as highly competitive, rigorously reviewed conferences. The majority of his work constitutes multidisciplinary research

through collaboration with faculty members and students from a variety of disciplines, including civil engineering, construction management, industrial systems, kinesiology, architecture, and computer science.

SHERI W. JOHNSON | RESEARCH SUPPORT

Sheri W. Johnson is the business coordinator at the Carl Small Town Center and Gulf Coast Community Design Studio in the College of Architecture, Art and Design, where she has worked since 2018. She received her B.S. in paralegal studies from Mississippi University for Women in 1996 and began her career at MSU in the College of Education that same year. In 1997, she joined the Office of Sponsored Programs Administration. Sheri became the Department of Aerospace Engineering's business manager in 2005. From 2002 to 2010, she served in MSU's Facility Security Office, in addition to the responsibilities of her fulltime position. Sheri is a member of the National Council of Research Administrators and became a Certified Research Administrator in 2008.

SYDNEY COZART | UNDERGRADUATE STUDENT

Sydney Cozart is a 5th-year undergraduate student pursuing a Bachelor's in Fine Arts, concentration in Drawing. Her long-held interest in 2D, hand-drawn animation has developed into a passion and is currently the focus of her senior thesis project research. Her 2D drawings have been in exhibitions on campus, including the MSU Student Juried Exhibition in 2019. Sydney is a member of Phi Kappa Phi honor society and is vice president of the MSU Figure Drawing club, where she runs bi-weekly sessions and poses the models. In February, she traveled to the College Art Association conference in Chicago, where she presented her research poster, *Exploring Rotoscoping and 2D Animation*.

COLLEGE OF ARTS & SCIENCES

DIPANGKAR DUTTA | FACULTY

Dr. Dipangkar Dutta is a professor of physics and astronomy and leads the Medium Energy Nuclear Physics group at MSU. He researches experimental nuclear and particle physics, with a focus on high precision measurements that probe the fundamental nature of quarks inside atomic nuclei. Most of his experiments utilize the world's most intense electron beam at the Thomas Jefferson National Accelerator Facility (Jefferson Lab) in Newport News, Virginia.

Over the last two decades, Dr. Dutta and his collaborators have conducted several key experiments at Jefferson Lab that have radically altered our understanding of the strong force that holds the quarks inside atomic nuclei. Several of these results have been spotlighted as exceptional research by Physical Review Letters and Nature. Some of the recent highlights include the most precise determination of the weak charge of the proton and precise measurement of the size of the proton. These high precision measurements were made possible by novel particle detectors built by Dr. Dutta and his group, such as the first diamond micro-strip charged particle detector to be used in nuclear experiments.

Dr. Dutta received his B.Tech. from the Indian Institute of Technology, Bombay, and his Ph.D. from Northwestern University. He was a post-doctoral associate at the Massachusetts Institute of Technology and an assistant research professor at Duke University before coming to MSU in 2006.

SILAS KNOX | RESEARCH SUPPORT

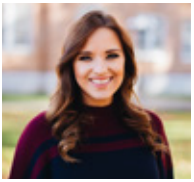
Silas Knox graduated from MSU with his bachelor's degree in psychology in 2015 and a master's degree in public policy and administration in 2017. He has held his current position as a contract and grant specialist in the College of Arts & Sciences for nearly three years. In this role, he prepares budgets, reviews documents, and assembles proposal packages, among other duties. Silas is always willing to help and always willing to learn. He is often in attendance at the Office of Research and Economic Development seminars, research topic talks, and program officer visits on campus. He has completed the DAWG class and attended off-campus training events. Silas is always interested in new facts and perspectives and is willing to work hard and communicate effectively when his knowledge is relevant to the task at hand.

CHAMINDA LAKMAL HETTI HANDI | GRADUATE STUDENT

Chaminda Lakmal Hetti Handi is a Ph.D. candidate in the Department of Chemistry at MSU, where he works under the supervision of Assistant Professor Xin Cui. He has dedicated his research efforts to develop a new methodology to transform simple and readily available materials into value-added organic molecules, as well as developing new catalysts to address the challenges in catalytic carbon-hydrogen bond activation. Lakmal earned his bachelor's degree from the University of Colombo, Sri Lanka in 2010, and the joint Science and Technology Cell unit of the University of Colombo as a research assistant. In 2015, he completed his master's degree at Jeju National University in South Korea before joining the chemistry program at Mississippi State in 2016.

During his graduate studies, he has made significant contributions in developing pharmaceutically important heterocyclic molecules by tandem chemical reactions and synthesizing high energy small molecular rings that serve as valuable synthetic building blocks. He has authored 11 research papers and four book chapters. He has won several awards, including the 2016-2017 Presidential Graduate Initiative Fellowship from the MSU Graduate School, the 2018 outstanding organic chemistry teaching assistant award, as well as the 2018 and 2019 most outstanding graduate researcher award of the Chemistry Department.

EMILY TINGLE | UNDERGRADUATE STUDENT



Emily Tingle is from Vicksburg, Mississippi, and will be graduating from Mississippi State University in May with a Bachelor of Arts in political science and sociology, with minors in pre-law, history, gender studies, and African American studies. She is a John C. Stennis Scholar, Haley Barbour Scholar, and Tip Allen Scholar for the Department of Political Science and Public Administration. She also received the Edward C. and Johnnie W. Lehman Award from the Department of Gender Studies and a Shackouls Summer Honors Research Fellowship in 2019.

Emily's research interests include gender, mothering, education, critical race theory, and community activism. Specifically, community activism surrounding public education. Emily has presented her research at the Alabama-Mississippi Sociological Association Conference, Shackouls Honors Symposium, Mississippi Honors Conference, and the South Eastern Undergraduate Sociology Symposium. After graduation, Emily plans on pursuing a Ph.D. in Sociology.

COLLEGE OF BUSINESS

ALVARO TABOADA | FACULTY

Alvaro G. Taboada is the BancorpSouth Associate Professor of Finance at MSU's College of Business. He joined Mississippi State University in 2016 from the University of Tennessee. Alvaro received his Ph.D. in finance from The Ohio State University in 2008, an MBA from the University of Notre Dame, and a BBA from Florida International University. He worked for six years as an international bank examiner for the Federal Reserve Bank of Atlanta and is a CFA charter holder. His research focuses on banking and international bank regulation and corporate governance. Dr. Taboada's research has been published in leading academic journals, including The Journal of Finance, Journal of Financial Economics, The Review of Financial Studies, Journal of Accounting Research, Journal of Corporate Finance, and Journal of Banking and Finance. His research has been presented at major academic conferences, including those of the American Finance Association, the European Finance Association, and the Northern Finance Association, among others. His research has been featured in Harvard Law School Forum on Corporate Governance and Financial Regulation, the London School of Economics (LSE) Business Review, Forbes, All About Alpha, and Strategy Business. He recently received the Southern Finance Association's Outstanding Paper Award in International Finance.

ROBIN TANG | GRADUATE STUDENT

Zhenya "Robin" Tang is an Information Systems doctoral student in the College of Business at MSU. He holds a master's degree in management science from Shanghai University and another master's in business analytics from the University of Memphis. His research mainly focuses on the usage of social media services and its impact in various domains, such as marketing, public administration, cybersecurity, and sustainability. His papers have appeared in *Information & Management, Government Information Quarterly, International Journal of Information Management, Computers in Human Behavior, Behavior & Information Technology, Information Technology & People,* and *Resources Conservation and Recycling.* He has presented his research at major conferences such as the annual Americas Conference on Information Systems (AMCIS).

CHOTEAU KAMMEL | UNDERGRADUATE STUDENT

Choteau Kammel is a junior majoring in economics and minoring in political science. From Nebraska, he is a member of the Presidential Scholars and Beta Gamma Sigma Honor Society, as well as the former president of Griffis Residence Hall. Choteau's personal and professional interests in public service and policy have led him to seek past work experiences for the

Federal Reserve, Senator Deb Fischer, and Congressman Don Bacon. As an intern for a renewable energy firm, Choteau researched biofuels and EPA emission standards for emerging nonpetroleum-based fuel markets. He has also assisted as an undergraduate researcher at the Mississippi State Social Science Research Center on USAID-funded gender equity and sustainability projects in Sub-Saharan Africa. Additionally, Choteau has a keen interest in internationalism and spent a semester studying comparative welfare state policy at the University of Helsinki in Finland. This upcoming summer, Choteau will be working as an intern for the U.S. Senate Commerce, Science & Transportation Committee in Washington DC.

COLLEGE OF EDUCATION

YAN SUN | FACULTY

Dr. Yan Sun is an assistant professor at the Department of Instructional Systems and Workforce Development at MSU's College of Education. She received her Ph.D. degree in learning, design, & technology from Purdue University and completed her post-doctoral research work at Texas A&M University. Dr. Sun's research revolves around the area where STEM education intersects with technology. She has expertise in quantitative and mixed-methods research and has been applying quantitative and mixed-methods methodologies in her research on innovative technology-integrated STEM education projects and interventions. Dr. Sun is active in seeking federal funds for STEM education research. She has served as PI, Co-PI, or external evaluator on projects of over $6.2 million in grants funded by NSF and the U.S. Department of Education.

STARSHA JAMERSON | RESEARCH SUPPORT

Starsha Jamerson is the Educational Services Coordinator for the Mississippi Migrant Education Service Center, housed in MSU's College of Education. The center is part of the U.S. Department of Education's Migrant Education Program (MEP), which provides academic and advocacy intervention to migratory youth nationwide. Her role involves leading the education division of the Mississippi MEP through developing evidence-based projects aimed to decrease the achievement gap among migrant preschool through high school students, supervising and supporting teachers throughout the state, and providing technical assistance and professional development to schools and districts regarding federal and state policies in addition to best practices for English Learners, migrant, and immigrant students.

Starsha has over a decade of teaching experience in the U.S. and abroad, ranging from preschool to university level, and has worked for the U.S. Department of State's Bureau of Educational and Cultural Affairs' initiative in South America. Her undergraduate background includes Foreign Language, International Studies, and Teaching English to Speakers of Other Languages (TESOL). She holds a Master of Public Policy and Administration from Mississippi State University. Starsha's research interests include examining issues at the intersection of education and immigration policy.

ALANA TURNER | GRADUATE STUDENT

Alana J. Turner is a first-year Ph.D. student in the Department of Kinesiology majoring in exercise science while minoring in educational psychology. Alana received her bachelor's degree in clinical exercise physiology at Mississippi State, where she won the College of Education Undergraduate Researcher Award. After earning a master's in disability studies from MSU, she was awarded the Department of Kinesiology Graduate Student of the Year. She is currently a graduate research assistant for the Kinesiology Department, working under a National Science Foundation grant at the Center for Advanced Vehicular Systems in the Human Performance Laboratory with wearable stretch sensor technology. She is also a member of the Neuromechanics Laboratory in the Kinesiology Department and Athlete Engineering, assisting with projects throughout the year. During the summers, Alana works for a non-profit organization, iCan Shine. She travels the country and Canada, teaching children with disabilities how to independently ride conventional, two-wheel bicycles through adapted equipment and interventions. Her research interests include postural control mechanisms, adapted physical activity, and intervention methods for children with disabilities to become more physically active while improving quality of life.

HANNAH FREEMAN | UNDERGRADUATE STUDENT

Hannah Freeman is a senior majoring in Kinesiology with a concentration in neuromechanics. During her three years at MSU, she has been on the President's List five consecutive semesters and was awarded the Tri Delta New Member Academic award, which is presented to new members with the highest-grade point average. She is a member of the Phi Kappa Phi Honor Society, Alpha Lambda Delta Honor Society, Exercise Science Honor Society, National Society of Collegiate Scholars and Golden Key International Honor Society. Hannah has assisted with various research studies in sport biomechanics, special populations, and footwear biomechanics. Her research interests also include the biomechanics of people with CHARGE and Down Syndrome. Hannah plans to become a master's student in the disability studies program at MSU and partner with the T.K. Martin Center for Technology and Disability and CHARGE research lab to conduct studies with their students.

BAGLEY COLLEGE OF ENGINEERING

MASOUD KARIMI | FACULTY

Dr. Masoud Karimi joined the Department of Electrical and Computer Engineering at Mississippi State University in January 2012 as an associate professor, where he has been actively engaged in teaching courses and supervising research. In addition to managing doctoral students, Dr. Karimi developed a new graduate course, ECE8633: Control of Distributed Energy Resource Systems.

Dr. Karimi's research is focused on the integration of distributed and renewable energy resources such as solar photovoltaics and energy storage technologies. He is interested in developing advanced control algorithms that enable flexible and full integration of such resources. His research has been funded by two NSF grants and one industry grant from Entergy, Inc. He has over 150 publications,

including over 50 IEEE Transactions, one monograph, and five patents. Dr. Karimi's research results have been adopted by industries across the nation and worldwide.

Dr. Karimi received his doctoral degree in Electrical and Computer Engineering from the University of Toronto, Canada, in 2004. He then joined the Sharif University of Technology, the first rank engineering school in Iran, as an assistant professor. Subsequently, he joined the ePOWER laboratory at Queen's University, Canada, as a research associate, where he designed and developed a commercial microinverter for solar panels.

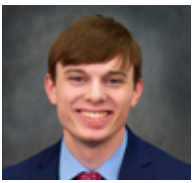
NATALIE BEATTY | RESEARCH SUPPORT

Natalie Beatty is the contract and grant specialist for the Dean of Engineering. In this role, she assists the faculty and staff in eight departments and four centers with proposal submissions and other research-related requests. Before working in the Bagley College of Engineering, she worked as an administrative assistant in the Office of Sponsored Projects for six years.

Natalie received her Bachelor of Business Administration in 2017 from Mississippi State University and is a member of the Society of Research Administrators International and the National Council of University Research Administrators. She attends seminars and conferences frequently so that she can continue honing her skills in research administration.

Natalie is a 2018 Departmental Administrators Working Group (DAWG) graduate and a 2019 Leadership Excellence for Accomplished Professionals (LEAP) graduate.

JACK FRANCIS | GRADUATE STUDENT



Jack Francis is a doctoral candidate in Mississippi State's Department of Industrial and Systems Engineering in the Bagley College of Engineering. He previously received his B.S. and M.S. from the same department in 2017 and 2019, respectively. Jack's research interests include additive manufacturing, Bayesian statistics, machine learning, and deep learning. His dissertation research uses Bayesian transfer learning to assist additive manufacturing practitioners in producing high-quality products after changes to processing conditions, which may include new machines or new materials being used for production. Jack's work has been published in multiple journals, including *Manufacturing Letters, IISE Transactions,* and *Journal of Manufacturing Science and Engineering*. He has also presented his work at numerous conferences, including *IISE Annual, Theoretical Foundations of Deep Learning*, and *DoD HPC User Group Meeting*.

Jack was selected as the Outstanding Master's Student and received the Best Graduate Student Research Paper award in 2019 from the Department of Industrial and Systems Engineering. Jack has also completed multiple internships for Fortune 100 companies, including PepsiCo, Amazon, and Nike.

MERIDIAN CAMPUS

JEFF LEFFLER | FACULTY

Dr. Jeff Leffler is an assistant professor and graduate coordinator in the Meridian Division of Education at Mississippi State University. He is a past president of the Mississippi Early Childhood Association (MsECA) and has served in a variety of roles throughout his career, including as a preschool and elementary teacher, principal, coordinator of statewide professional development initiatives, and executive director of early childhood organizations. His research agenda focuses on early childhood issues such as kindergarten readiness and innovative approaches to instruction in higher education. He was awarded the MsECA award for his significant contributions to the education and welfare of young children in Mississippi. He is also a Hardin Scholar with the University of Mississippi's Graduate Center for the Study of Early Learning and was an education policy fellow with the John C. Stennis Institute of Government's Education Policy Fellowship Program. Dr. Leffler holds a B.S. in Child and Family Studies and an M.S. in Early Intervention from the University of Southern Mississippi and an Ed.S. in Elementary Education and a Ph.D. in Curriculum and Instruction from Mississippi State University. He and his partner, Kevin, reside in Hattiesburg with their three children — Luci, Charlie, and Julia.

UNIVERSITY CENTERS AND INSTITUTES

ANNA LINHOSS | FACULTY

Dr. Anna Linhoss serves as associate director of both the Northern Gulf Institute and the Geosystems Research Institute at MSU. She is also an associate professor in the Department of Agricultural and Biological Engineering. Dr. Linhoss completed a Ph.D. from the Department of Agricultural and Biological Engineering at the University of Florida and a Master of Science from the Department of Biological and Agricultural Engineering at the University of Georgia. Her Bachelor's degree is in anthropology, from the University of Colorado, Boulder.

Since starting at Mississippi State University in 2013, Dr. Linhoss has authored more than 20 peer-reviewed manuscripts and received $4 million in research funding through 18 competitive grants. She has received funding from national, state, and local agencies, including the National Academies of Science and Engineering, National Fish and Wildlife Federation, and National Oceanic and Atmospheric Administration.

Dr. Linhoss's research focuses on how hydrology affects ecological systems, how to model those interactions, and how to assess and make sense of the model results. Accordingly, Dr. Linhoss has three research thrust areas 1) hydrologic and water quality modeling, 2) landscape and habitat modeling, and 3) model sensitivity and uncertainty analysis.

VINCENT SANDERS | RESEARCH SUPPORT

Vincent Sanders is the Computing Systems Manager at the Mississippi State University High Performance Computing Collaboratory (HPC2). Mr. Sanders is a Mississippi State graduate where he obtained a Bachelor's in Electrical Engineering (1990) and a Masters in Electrical Engineering (1992). After graduation, Vincent joined the MSU Microsystems Prototyping Laboratory (MPL), where he began his career and continued his research in hardware modeling and simulation of components and systems. He then joined the HPC2's Computing Office working on various projects focusing on high performance computing management. He has over 25 years of professional experience in high performance computing and computer management. Currently, he is responsible for the oversight of computing, storage, networking, and high-performance computing operations at the HPC2.

OFFICE OF RESEARCH AND ECONOMIC DEVELOPMENT

KIM RAYBORN | RESEARCH SUPPORT

Kim Rayborn has served as a Grants and Contracts Administrator in the Office of Sponsored Projects since November 2018. In her current role, she assists faculty and department administrators in preparing proposals for funding and in reviewing and processing awards to the university. She also serves as the budget specialist for the OSP Development office.

Kim is a native of Laurel, Mississippi. She graduated from Mississippi State University with a Bachelor of Science in psychology with an emphasis in sociology in 2011. Kim then received a Master of Arts in criminal justice from the University of Southern Mississippi. From 2016-2018, Kim worked in the College of Arts & Sciences, where she assisted with research development for faculty and students.

Kim is an active member of the Society of Research Administrators International, the National Council of University Research Administrators, and the National Organization of Research Development Professionals. She has also earned her Certified Research Administrator (CRA) designation from the Research Administrators Certification Council.

SLOAN DAVIS | GRADUATE STUDENT

Sloan Davis is currently pursuing a Master of Accountancy in the MSU College of Business' Richard C. Adkerson School of Accountancy. She is a graduate assistant in the Office of Sponsored Projects, where she assists the subawards manager with data entry and subaward processing. She received her undergraduate degree in accountancy from MSU in 2019. As an undergraduate, Sloan was a member of multiple honor societies, including Beta Gamma Sigma, Phi Kappa Phi, and Beta Alpha Psi. She also participated in various community service opportunities. During her senior year, Sloan interned with Dixon Hughes Goodman in Nashville, which led to a full-time job offer. She plans to begin working with the firm after completing graduate school.

RALPH E. POWE RESEARCH EXCELLENCE AWARD

DAVID MAY

David C. May is a professor in the Department of Sociology at Mississippi State University. David received his Ph.D. from the Department of Sociology at Mississippi State in 1997. After working at Indiana Purdue University Fort Wayne and Eastern Kentucky University, David returned to Mississippi State University in the Fall of 2012. David has authored or co-authored six books and over 100 scholarly articles and book chapters around his research interests of fear of crime, school safety, cybercrime, policing, corrections, military sociology, and human-robot interaction. In addition to those works, Dr. May is currently a co-PI on research projects funded by the National Science Foundation, the United States Army Engineer Research and Development Center, the Henry Family Foundation, and the Department of Defense. He is active in research and service in community crime prevention and school safety work, work dealing with reentry and other correctional issues for both officers and inmates, and cybercrime research. He is currently co-authoring books on school safety, bullying, and the school to prison pipeline and writing a variety of articles about corrections, school resource officers, and cybercrime issues.

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