ANNUAL RESEARCH AWARDS BANQUET
THURSDAY, APRIL 30, 2015
HUNTER HENRY CENTER

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

MISSISSIPPI STATE UNIVERSITY
Thank you for joining us for this year’s Annual Research Awards Banquet at Mississippi State University. As our state’s flagship research university, Mississippi State-led research is an unrivaled success story, and each of you plays a role in that success.

We look forward to celebrating the talented and hard working people who have contributed to our research enterprise, and honoring many of you for your special achievements. Today, we say thank you and congratulations for a job well done.

David Shaw  
Vice President for Research and Economic Development

Greg Bohach  
Vice President for Agriculture, Forestry and Veterinary Medicine

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**PROGRAM**

**WELCOME ~ DR. GREG BOHACH**

**OPENING REMARKS ~ DR. MARK E. KEENUM**

**PRAYER ~ DR. DAVID SHAW**

**LUNCH**

**PRESENTATION OF AWARDS**
College of Agriculture and Life Sciences and MAFES
Dr. George Hopper
Faculty: Jason Bond
Research Support: Joshua White
Graduate Student: Caitlin Hart
Undergraduate Student: Amber Kay

College of Forest Resources and Forest and Wildlife Research Center
Dr. George Hopper
Faculty: Donald L. Grebner
Research Support: Ray Iglay
Graduate Student: Zach Loman
Undergraduate Student: Lisa Garrigues

College of Veterinary Medicine
Dr. Kent Hoblet
Faculty: Lesya Pinchuk
Research Support: Hossam Abdelhamed
Graduate Student: Graham Rosser
Undergraduate Student: Ethan Woodyard

College of Architecture, Art, and Design
Dr. Jim West
Faculty: Alexis Gregory
Research Support: Leah Kemp
Undergraduate Student: J. Brooke Dorman

College of Arts & Sciences
Dr. Greg Dunaway
Faculty: John Bickle
Research Support: Rita Christopher
Graduate Student: Sara Shields-Menard
Undergraduate Student: Sally White

College of Business
Dr. Sharon Oswald
Faculty: James Vardaman
Graduate Student: Nathan Hammond

College of Education
Dr. Richard Blackbourn
Faculty: April Heiselt
Research Support: Anne Steverson
Graduate Student: Sonum Sanjanwala
Undergraduate Student: Scott Pope
BAGLEY COLLEGE OF ENGINEERING
DR. JASON KEITH
Faculty: Yong Fu
Research Support: Teresa Stewart
Graduate Student: Trenton Ricks
Undergraduate Student: Dexter Duckworth

MERIDIAN CAMPUS
DR. JULIA HODGES AND DR. ALLISON PEARSON
Faculty: Matthew Boggan
Graduate Student: Adrian Cross

UNIVERSITY CENTERS AND INSTITUTES
DR. DREW HAMILTON
Faculty: Patrick Fitzpatrick
Research Support: Rooban Thirumalai
Graduate Student: Kala Marapereddy
Undergraduate Student: Evan McBroom

OFFICE OF RESEARCH AND ECONOMIC DEVELOPMENT
DR. DREW HAMILTON
Research Support: Ronald Gatewood

FACULTY LEADERSHIP GRADUATES, 2014-2015
DR. TERESA GAMMILL
Craig Aarhus
Ashli Brown
Angus Catchot
Renee Clary
Diana Eubanks
Donald L. Grebner
William Anthony Hay
Brien Henry
Rocky Lemus
Robert McMillen
Stephen Middleton
Jane Parish

RALPH E. Powe RESEARCH EXCELLENCE AWARD
DR. DAVID SHAW AND DR. GREG BOBACH
Brent Funderburk

CLOSING REMARKS
DR. DAVID SHAW
THANKS AND RECOGNITION

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE
Brian Rude, Chair
Chris Brooks
Jeffrey Eells
Jack Forbus
Mark Guyton
Cary Herndon
Ray Iglay
Aaron Kiess
Patty Lathan
Robert Meyer
Chuck Mischke
Trent Smith
Joe Tkach
Patricia Cox
Lucy Senter
Kacey Strickland
Andrea Varela-Stokes

INSTITUTIONAL BIODSAFETY COMMITTEE
Clarissa Balbalian, Chair
John Brooks
Janet Donaldson
Carey Edwards
Carla Huston
Curtis Jernigan
Timothy Morgan
Ramakrishna Nannapaneni
Todd Pharr
Cliff Story
John Stokes
Patricia Cox
Michael Parsons
Kacey Strickland

RADIOLOGICAL, CHEMICAL AND LABORATORY SAFETY COMMITTEE
Matthew Ross, Chair
Peter Allen
Erin Brinkman
Todd French
Donna Gordon
Jamie Larson
Giselle Munn
Dan Reynolds
Peter Ryan
Charles Waggoner
Scott Willard
Donna Rogers
Michael Parsons

CONFLICT OF INTEREST REVIEW COMMITTEE
Ken Willeford, Chair
Barry Barnett
Tim Barnett
Kathy Dooley
Jennifer Easley
Mark Lawrence
Joan Lucas
Mark Measells
Bart Moffat
Jordan Ramsey
Judy Spencer
Kacey Strickland
David VanLandingham

INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS
Kari Babski-Reeves, Chair
Joe Bumgardner
Daniel Carruth
Deborah Eakin
Kevin Ennis
Patricia Faver
Dana Franz
Steven Grice
Lauren Jones
John Long
David May
Nicole Morse
Danielle Nadorff
Debra Prince
Tom Ritter
Jodi Roberts
Angela Robertson
Emmitt Sparkman
Jamie Stewart
Cliff Story
Kacey Strickland
Ed Swan
Kathleen Thomas
Ben Wax

ORDERED SEMINAR SERIES PRESENTERS, FALL 2014/SPRING 2015
Angie Templeton
Brad Brazzeal
Brian Baldwin
Carly Cummings
Dan Peterson
Daniel Wong
Dave Dampier
Deborah Lee
Denise Peeples
Dodie Maynard
Erin Kiess
Frances Coleman
Heather Andrews
Jennifer Easley
Kacey Strickland
LaDonna Bullman
Marc McGee
Matt Capella
Michael Parsons
Michele Anderson
Nathan Moore
Neil Lewis
Nicole Cobb
Patricia Cox
Penny French
Robert Moorhead
Sandy Williamson
Sheeji Kathuria
Stephen Cunetto
Steve Pruett
Tina Hood
Tom Ritter
Tommy Morris
Trey Breckenridge

FACULTY PARTNERS, MSMS STUDENT-RESEARCHER PROGRAM, FALL 2014/SPRING 2015
Hui Wan
Erdogan Memili
Donna Gordon
Scott Thompson
Dan Peterson
Teena Garrison
Keisha Walters
Dongmao Zhang
Linkan Bian
Robert Grala
Eric Hill
Brian Counterman
Nicholas Herrmann
Raj Prabhu
Steven Elder
Dipangkar Dutta
Todd French
Florenicia Meyer
Santanu Kundu
Zulaikha Ayub
HONOREE PROFILES

COLLEGE OF AGRICULTURE AND LIFE SCIENCES AND MAFES

JASON BOND | FACULTY

Jason Bond earned a bachelor of science degree in agronomy and a master of science in weed science from Louisiana State University. He earned his doctor of philosophy degree in agronomy/weed science from the University of Arkansas in 2004.

From 2004 to 2006, he served as assistant professor in charge of the rice and rotational crops agronomy project with the LSU AgCenter at the Rice Research Station in Crowley, Louisiana. He relocated to Mississippi State University’s Delta Research and Extension Center in Stoneville in 2006.

As an associate research/Extension professor with Mississippi State, Bond serves as the project leader for an applied weed science research/extension program focused in rice, soybean, corn and cotton. He is also involved in technology transfer to growers through technical presentations and training sessions at local and regional grower meetings and field days.

JOSHUA WHITE | RESEARCH SUPPORT

Joshua White grew up in central Texas where he received an undergraduate degree in animal science and a master’s degree in agronomy and plant science at Tarleton State University. After completing his undergraduate degree, he spent two years in southern China doing agriculture work for a Christian organization, and where he learned the language and lived in many isolated villages to help teach more sustainable agriculture methods.

Afterwards, White also spent time in Outer Mongolia and east Africa helping orphanages start dairies to provide for themselves. He now lives in Ackerman with his wife, Ashley, and three children — Lyla, Josiah and Jacob.

White is currently the forage variety testing manager at Mississippi State and the research associate in charge of the Center for Forage Management and Environmental Stewardship. He is also pursuing a Ph.D. in agronomy where he is working with the management strategies of alfalfa interseeded into bermudagrass systems and tracking the fate of applied nitrogen in those systems.

White works under the supervision and guidance of Rocky Lemus, associate Extension/research professor in the Department of Plant and Soil Sciences, both as staff and a graduate student. He runs one of the few complete forage variety testing programs in the nation and has published 12 MAFES bulletins in three years and brought in approximately $200,000 to fund the program.

In research, he has authored two journal publications with two more in review and has co-authored four more. He has also presented and helped organize several forage related extension
talks and conferences with more than 20 abstracts submitted. He is also a member of the American Forage and Grassland Council, American Society of Agronomy and the Mississippi Forage and Grassland Council and has been inducted as a member of the Honor Society of Agriculture, Gamma Sigma Delta.

CAITLIN HART | GRADUATE STUDENT

Caitlin Hart has always had a passion for learning and an interest in animal science. She realized at a young age that she was not only interested in animal science, but wanted it to be a part of her lifelong career.

Hart grew up in Hattiesburg, and graduated as the salutatorian of Purvis High School in 2008. She was awarded a presidential scholarship to Jones County Junior College, where she earned an associate of arts degree and gained a special interest in livestock species. She furthered her education by pursuing a bachelor of science degree at Mississippi State University in animal and dairy sciences, which she received in 2012.

In 2013, she began working under the guidance of Caleb Lemley, assistant professor of animal and dairy science, to earn her master of science degree in agriculture with the primary focus of her research being reproductive physiology. While earning her master’s degree, she has been involved in several research projects within the university and also collaborated with other research institutions such as North Dakota State University and Oklahoma State University. Her work has been published in Domestic Animal Endocrinology, Physiology and Behavior, Journal of Dairy Science and Journal of Reproductive Biology and Endocrinology.

After completing her master’s degree in 2014, she accepted a research associate position here at Mississippi State, where she is currently continuing her passion for research in animal science.

AMBER KAY | UNDERGRADUATE STUDENT

Amber Kay is a senior biochemistry major from Calhoun, Georgia. Her research experiences range from organic synthesis to virology. Recently, she participated in the Amgen Scholars Program through the University of California, San Francisco, where she looked at small molecule inhibitors of a protein connected to cancer.

She is currently working under LaShan Simpson, an assistant professor in the Department of Agricultural and Biomedical Engineering, through the College of Agriculture and Life Sciences Undergraduate Research Scholars Program. The research is focused on the phenotypic switching of vascular smooth muscle cells in vascular calcification.

Along with research, Kay is actively involved in the Biochemistry Club and the National Society of Collegiate Scholars. After graduation, she plans to attend graduate school to obtain a Ph.D. in biomedical sciences.
Donald L. Grebner, a professor in Mississippi State’s College of Forest Resources, has worked at the university for 16 years. In 2013, he was named a Fellow by the Society of American Foresters for his contributions to the society and the forestry profession. His areas of research include bio-energy, carbon sequestration, forest protection and international forestry.

He is the lead author of “Introduction to Forestry and Natural Resources,” a textbook providing a general overview of the forestry and natural resources profession, as well as the history of forestry, landowner objectives, forest disturbances, ecosystem services and urban forestry. The book has more than 300 original illustrations, as well as pictures and descriptions of plant and animal life. A unique feature of the text is that it features descriptions of resources and wildlife in the forests of each continent. He is also a co-author of textbooks entitled “Forest Management and Planning” and “Forest Plans of North America.”

Grebner obtained his bachelor’s in forestry from the University of Maine, a master’s in forestry from Yale University, a master’s in economics from Virginia Tech, and a doctorate in forest economics from Virginia Tech. Grebner is also a member of the Mississippi Forestry Association, International Society of Forest Resource Economics and Phi Kappa Phi.

Raymond Iglay came to Mississippi State in 2003 to pursue a master’s degree in wildlife science after receiving a bachelor’s degree in wildlife conservation and entomology from the University of Delaware. Since then, he has received his M.S. and Ph.D., presented research results at over 25 state, regional, and international meetings, authored or coauthored 16 publications and started his life as a family man with Starkville native Katherine George Iglay.

He has served wildlife professionals as past president of the state chapter of The Wildlife Society (TWS), past chair of the international Wildlife and Habitat Working Group of TWS, reviewer for 15 journals, and current associate editor of Wildlife for Forest Science.

Iglay considers himself an applied wildlife research scientist having worked with diverse faunal groups from beetles to songbirds and field studies to agent-based modelling. His research interests are broad but tend to focus on wildlife community responses to disturbances and providing landowners and user groups with tangible information for on-the-ground management of our natural resources. He currently manages a U.S.D.A. project demonstrating switchgrass as an alternative land cover for airports and serves as a co-principal investigator for projects investigating the provision of open pine habitat within pine plantations of the Southeast.

When not working on research, Iglay enjoys teaching the next generation of wildlife professionals, co-advising the student chapter of TWS, and representing his department on MSU’s Institutional
Animal Care and Use Committee. Off campus, he serves as deacon for First Presbyterian Church and webmaster for the Friends of Noxubee Refuge, but primarily focuses on spending time with his wife and two children, hunting, fishing, and managing multiple properties as a certified wildlife biologist.

**ZACH LOMAN | GRADUATE STUDENT**

Zachary Loman recently finished his Ph.D. in the Department of Wildlife, Fisheries and Aquaculture at Mississippi State working under the late Sam Riffell, an associate professor in the department, and studying effects of biofuel production on bird communities.

Prior to working at MSU, he worked with the Texas Department of Transportation, assessing impacts of highway construction on the federally endangered golden-cheeked warbler. He received his master’s degree in biology from Humboldt State University in 2010, and a bachelor’s degree in engineering from the University of Delaware in 2006.

Currently, he is working with Scott Rush, an assistant professor of wildlife ecology and management, studying songbird migration and how it is being altered by recent climate change.

**LISA GARRIGUES | UNDERGRADUATE STUDENT**

Lisa Garrigues is a junior studying forestry with a concentration in wildlife management and a minor in geographic information sciences. She was born in Yakima, Washington, and grew up on an apple orchard. She chose to study forestry because natural resources have always been a major part of her life.

Growing up only a short distance from Wenatchee National Forest and the Cascade Mountains, Garrigues spent many hours camping and hiking and learning to appreciate our forestlands. She is also a proud third generation forester, with her grandfather and father both devoting their careers to the field.

During her time at Mississippi State, she has had the opportunity to conduct multiple undergraduate research projects. In 2014, she studied the interactions between prescribed fire and invasive Chinese tallow-tree establishment on the Mississippi Gulf Coast. Her findings were presented at the Society of American Foresters National Convention in October 2014. Currently, she is working under Courtney Siegert, an assistant professor of forestry, studying forest hydrology and the effects of canopy structure and resulting hydrologic fluxes on soil properties and the understory microclimate.

In addition to this research, Garrigues also assists a graduate student studying oak seedling growth and survival on restoration sites in southern Mississippi. She is also an active member of the Xi Sigma Pi Forestry Honor Society and served as a College of Forest Resources Ambassador during the 2014-15 academic year. She is also highly active in the MSU Forestry Club, serving as an undergraduate representative during the 2013-14 academic year and currently serving as club secretary.
COLLEGE OF VETERINARY MEDICINE

LE SYA PINCHUK | FACULTY

Originally from Ukraine, Lesya Pinchuk received her medical degree in pediatrics from Kyiv Medical University and Ph.D. in genetics/medical sciences from the Institute of Medical Genetics in Moscow, Russia.

Pinchuk joined the faculty at the College of Veterinary Medicine at MSU in 2000 after completing extensive postdoctoral research training in human and non-human primate immunology in the Department of Immunology and Regional Primate Research Center at the University of Washington and human molecular genetics at Benaroya Research Center in Seattle.

Dendritic cells, their development from monocytes, maturation, pathogen antigen presentation, interactions with T and B cells in humans, non-human primates, cows, dogs and lately in channel catfish are the predominant research targets in most of her postdoctoral and faculty publications.

She enjoys teaching graduate, undergraduate and professional students. She teaches immunology (professional and split level undergraduate/graduate curricula) and advanced immunology (graduate curriculum).

HOSSAM ABDELHAMED | RESEARCH SUPPORT

Hossam Abdelhamed earned his D.V.M. from Alexandria University in Egypt and a master’s degree in fish diseases and management in 2008 from Benha University, also in Egypt. After that, he received a scholarship from the Egyptian government to pursue his Ph.D. research project in the Department of Basic Sciences at Mississippi State University’s College of Veterinary Medicine. He has been a postdoctoral associate in the Department of Basic Sciences since July 2013.

Abdelhamed is currently focused on research related to infectious diseases of farm-raised channel catfish, and one project is related to the development of live attenuated Edwardsiella ictaluri vaccines for the prevention of enteric septicemia of catfish.

The outcome of his research on this project is to develop a live attenuated Edwardsiella ictaluri vaccine. He also works on Aeromonas hydrophila, an important reemerging bacterial pathogen affecting the catfish industry.

In addition to researching channel catfish pathogens, he has conducted research on Listeria monocytogenes, an important foodborne pathogen impacting human health with his work centered on the development of a new method for mutagenesis in Listeria monocytogenes.
Graham Rosser, earned his bachelor’s degree from Mississippi State University’s Department of Biological Sciences in 2011. As an undergraduate, he worked in Linda Pote’s parasitology lab in the Department of Basic Sciences at the College of Veterinary Medicine.

In the summer of 2011, Graham began working on his Ph.D. degree under the direction of Pote, a professor in the CVM Basic Science Department, and Associate Research Professor Matt Griffin. His Ph.D. work focuses on a particular group of economically important parasites that affect primarily fish, the Myxozoa. The myxozoan parasite Henneguya ictaluri causes proliferative gill disease in farm raised channel and hybrid catfish in the southeastern United States. The primary focus of his work is investigating the susceptibility of channel catfish, blue catfish, and their hybrid cross to infection with this parasite.

Rosser has three published manuscripts describing new species of myxozoans found in the commercial catfish industry and has presented more than 15 abstracts at national and international meetings. More recently Graham received the Snieszko Student Travel Award offered by the American Fisheries Society Fish Health Section and the Mississippi State University Travel Assistance Grants for Graduate Students (TAGGS) to travel to the 7th International Symposium on Aquatic Animal Health in Portland, Oregon where he presented two oral presentations and two posters. He received the Best Poster Award for his poster entitled “A molecular and morphological survey of myxozoan actinospores isolated from Dero digitata in commercial channel catfish ponds in the Mississippi Delta.”

Ethan Woodyard, is an undergraduate student in the Department of Wildlife, Fisheries and Aquaculture at Mississippi State University.

For the past two years, he has worked in Linda Pote’s parasitology lab in the Department of Basic Sciences at Mississippi State University’s College of Veterinary Medicine. Here he has been instrumental in helping her graduate students in their work with parasites that affect the commercial catfish industry. His assistance has contributed to the descriptions of novel myxozoan parasites that infect channel catfish, elucidation of unknown myxozoan and trematode life cycles, and also the identification of another snail species involved in the life cycles of several trematode species that infect catfish.

In addition to helping with research projects, he plays a key role in caring for laboratory cultures of snails and oligochaetes used in parasite life cycle studies. He has also worked for the Mississippi Department of Health for the past two summers monitoring for West Nile virus by capturing mosquitoes in several counties in Mississippi. In his spare time, he enjoys learning about other languages and caring for his pet porcupine puffer fish.
ALEXIS GREGORY | FACULTY

Alexis Gregory is a registered architect and assistant professor in the School of Architecture at Mississippi State. She has earned a master of science degree in architecture with a concentration in women's studies and history from Clemson University, as well as a bachelor of architecture degree from Virginia Tech.

Her professional experience includes professional licensure in the Commonwealth of Virginia and 10 years working in various architecture firms in Washington, D.C. During this time, she worked on a variety of architectural project types such as residential, corporate interiors, shopping centers, grocery stores, speculative office buildings, environmental/sustainable design, and non-profit architecture.

Gregory's teaching and research interests include construction technology and making, design/build, low-cost/low-income housing and architecture, community design, service-learning in architecture, and diversity in architecture.

LEAH KEMP | RESEARCH SUPPORT

Leah Kemp is a licensed architect and serves the Carl Small Town Center as assistant director, managing projects and teaching a design seminar class each spring for the center. She also teaches an online course within the College of Architecture, Art and Design at Mississippi State, where she has taught both design and lecture courses.

Kemp graduated cum laude from Virginia Tech, where she earned a bachelor of science degree in interior design. She earned a master of architecture from Tulane University, where she received a commendation for her master's thesis.

She has practiced in Washington, D.C., Nashville and New Orleans, and enjoys working with communities across the state of Mississippi and being back in her hometown of Starkville, where she and her husband, Edward, are raising their two children.

J. BROOKE DORMAN | UNDERGRADUATE STUDENT

Brooke Dorman is currently living in Jackson and working on her thesis project at Mississippi State’s School of Architecture.

Her project aims to question the design of long-term care facilities by opening a dialogue about how designers might adapt architectural solutions to the complex cultural, physiological and formal concerns present in the long-term care industry. The project recognizes that a change in the way designers respond to elderly care is crucial in allowing seniors to live comfortably and with dignity.

Dorman’s studies outline typical and non-traditional models of senior care to find stabilizing architectural solutions better suited for the growing and diverse demand for elderly housing
across the United States. Her project harnesses the liveliness of the urban environment to promote permeability between residents and the surrounding community, where the building itself acts as a vertical village, promoting an atmosphere of independence and community

**COLLEGE OF ARTS & SCIENCES**

**JOHN BICKLE | FACULTY**

John Bickle is professor of philosophy and head of the Department of Philosophy and Religion at Mississippi State University. He is also adjunct professor of psychology and a fellow at MSU’s Institute for Imaging and Analytical Technologies (I2AT). He is the author or co-author of four books (Engineering the Next Revolution in Neuroscience, Oxford University Press, 2013; Understanding Scientific Reasoning, Fifth Ed., Thompson/Cengage, 2006; Philosophy and Neuroscience: A Ruthlessly Reductive Account, Kluwer, now Springer, 2003; and Psychoneural Reduction: The New Wave, MIT Press, 1998). He edited The Oxford Handbook of Philosophy and Neuroscience (Oxford University Press, 2009, paperback 2012) and is the author or co-author of eighty research articles, book chapters, and book reviews in philosophy, neuroscience, and cognitive science journals and volumes. He’s given invited lectures in 21 countries.

Bickle’s research is in philosophy of neuroscience, and on cellular and molecular mechanisms of cognition and consciousness. Previously his research has been supported by grants from the NSF and NIH. He is best known for advocating “ruthless reductionism” about mind in philosophy of science and neuroscience. His most recent book, Engineering the Next Revolution in Neuroscience: The New Science of Experiment Planning, co-authored with UCLA neurobiology (and AAAS Fellow) Alcino J. Silva and neuroinformaticist Anthony Landreth, is a metascientific investigation of landmark publications in the neuroscience field of “molecular and cellular cognition.” This research employs experimental techniques drawn from molecular biology and molecular genetics (genetic engineering) to link activities in neuron intracellular signaling pathways to cognitive behaviors (especially learning and memory). In the book Silva, Landreth, and Bickle develop a general framework for causal-mechanistic explanation in science generally, and show how this framework can be employed toward developing a genuine science of rational experiment planning, both for short- and long-term research programs.

Recently, Bickle was appointed affiliate faculty in the Department of Neurobiology and Anatomical Sciences at the University of Mississippi Medical Center in Jackson. Working with Lique Coolen and Ian Webb, Bickle is starting a research project investigating the molecular mechanisms of a form of mammalian social memory using optogenetics and DREADDs (Designer Receptors Exclusively Activated by Designer Drugs) — two experimental techniques that give researchers unprecedented control over selective neuron activation and inhibition in living, behaving mammals.
**RITA CHRISTOPHER | RESEARCH SUPPORT**

Since November 2007, Rita Christopher has held the position of Business Manager I in the Department of Biological Sciences. Throughout her years of service to Mississippi State, she has worked as department secretary, administrative assistant, staff assistant, and now business manager. Working at MSU has provided her with plenty of challenges, vast experience and great working relationships. She is married to Al Christopher, and they reside in West Point.

**SARA SHIELDS-MENARD | GRADUATE STUDENT**

Sara Shields-Menard earned a bachelor of science degree in biological sciences in 2006 and a master’s degree in environmental and marine biology in 2010 from Nicholls State University in Thibodaux, Louisiana. She then assisted an NSU research project in response to the BP oil spill before starting a Ph.D. program at Mississippi State University in 2011.

Her research interests include environmental microbiology and biotechnology, bioremediation, and renewable fuels. Currently, her research involves using different contaminants to promote lipid accumulation in an oleaginous bacterium.

**SALLY WHITE | UNDERGRADUATE STUDENT**

Sally White is a junior microbiology major from Thomasville, Alabama. A Hal and Linda Parker Presidential Scholar, her interests in the field of public health have led to her participating in undergraduate research with the Department of Biological Sciences at MSU.

Her previous work has included examining the stress response of the food-borne pathogen Listeria monocytogenes, and her current honors thesis focuses on the development and characterization of a novel probiotic that may benefit the immuno-compromised. She has presented her research in a poster format at conferences at the local, regional, and national level.

Most recently, White was one of 60 students selected to present her research to legislators at the upcoming Posters on the Hill program in Washington, D.C. Her post-graduate goals include obtaining both a Ph.D. in microbiology and a master of public health degree, and conducting research in microbe-host interactions within a university setting.
James Vardaman has been an assistant professor of management in the College of Business at Mississippi State since 2009. His research focuses on the role of social networks in fostering employee retention and specific responses to organizational change. His research has appeared in journals such as Organization Science, Journal of Organizational Behavior, Academy of Management Perspectives, Human Relations, Human Resource Management Review and Entrepreneurship Theory and Practice.


Nathan Hammond is finishing his second year as a management Ph.D. student at Mississippi State University. His research interests are primarily in the field of organizational behavior. Specifically, he has written about the relationships between the types of passion (i.e., harmonious and obsessive) that an individual has for work and their commitment to the organization. His recent research projects have focused within a family firm context on the shared preferences amongst family members to leave a specific type of legacy (i.e., biological, material, values).

Hammond received a master’s degree in business administration from the University of Arkansas before coming to Mississippi State. Prior to moving to Starkville, he acquired several years of work experience within the field of business including being an international sales analyst for a major supplier of Walmart.

However, it was his work experience as a non-family manager within a family-owned business that fueled his desire to pursue a Ph.D. at MSU, where the management department is world renowned for its research in the field of family business, and the faculty has provided him a tremendous amount of support in his own research. He is proud to represent the management department and Mississippi State University wherever he goes.
APRIL HEISELT | FACULTY

April Heiselt holds a joint appointment as an associate professor in the Department of Counseling and Educational Psychology in the College of Education, and as the director of the Center for the Advancement of Service-Learning Excellence (CASLE) at Mississippi State.

Service-learning, community engagement, and student affairs work are the focus areas of Heiselt’s research. She earned her master’s degree in public administration and her Ph.D. in educational leadership and policy with an emphasis in higher education administration from the University of Utah.

She has spoken at numerous international and national conferences including the National Association of Student Personnel Administrators (NASPA), the International Association for Research on Service Learning and Community Engagement (IARSLCE), the Association for the Study of Higher Education (ASHE), the National Conference on the First-Year Experience (FYE), and the American Library Association (ALA). She has published her research in a variety of journal articles and book chapters.

ANNE STEVERSON | RESEARCH SUPPORT

Anne Steverson is a research coordinator at the National Research and Training Center on Blindness and Low Vision (NRTC) at Mississippi State University. She earned a master of science degree in counselor education with an emphasis in student affairs from MSU in 2013 and has been employed at the NRTC since October 2013.

She has assisted with a variety of research projects involving participants with blindness/low vision, including the National Institute on Disability and Rehabilitation Research-funded RRTC Employment Mentoring Project with Jamie O’Mally.

Steverson is also assisting on a three-year grant with the Helen Keller National Center, which involves the administration of three national surveys related to deaf-blindness.

SONUM SANJANWALA GRADUATE STUDENT

Sonum Sanjanwala is from Madison, and obtained her bachelor of science degree from Millsaps College in Jackson in 2014. While there, she held two research assistant positions in both the education and psychology departments and also worked toward her teacher licensure.

She is currently in the school counseling master’s degree program at Mississippi State and holds a graduate assistant position within the Department of Counseling and Educational Psychology. In the future, she would like to continue her career in education at the high school level.
Scott Pope was born in Jackson, and attended Hillcrest Christian School from kindergarten through his graduation from high school. He began his college career at Mississippi State University in fall of 2012 and selected animal and dairy science as his undergraduate major. Upon beginning some of the major core classes, he chose to pursue a different degree. He elected to major in kinesiology with a concentration in clinical exercise physiology. Now, finishing his junior year, he plans to continue his education after completing his undergraduate degree so that he can pursue a master’s degree in exercise physiology.

Pope’s research experience started during the summer of 2014 where he worked with JohnEric Smith, an assistant professor in the Department of Kinesiology, to look at the effects of inertial load on peak power for a Wingate cycle ergometer test. After data was collected and statistical analyses were ran, he went on to present research findings at the 2014 Summer Undergraduate Research Symposium at Shackoul’s Honnors College. In February 2015, Pope presented the same research findings at the Southeastern Chapter of the American College of Sports Medicine in Jacksonville, Florida.

More recently, Pope has been conducting research under the direction Smith during this spring semester to follow up on the study performed last summer. He has been in charge of data collection, study design, recruitment of human participants, and scheduling of all participants in a four-part study that is looking at correlational data in power outputs between a vertical jump, traditional back squat, and the Wingate Test.

Yong Fu is an associate professor in the Department of Electrical and Computer Engineering at Mississippi State. He has been awarded the Tennessee Valley Authority Endowed Professorship in Power Systems Engineering. He received his Ph.D. degree in electrical engineering from Illinois Institute of Technology in 2006. From 2006-2009, he was a senior research associate at the Robert W. Galvin Center for Electricity Innovation at Illinois Institute of Technology.

Fu's principal research area is the power system and smart grid technologies. He has 34 papers published in top-tier journals in the power field, like IEEE Transactions on Power Systems, Smart Grid, Power Delivery, Sustainable Energy, and Industrial Electronics. He also has 33 refereed conference papers published in power system research area. He has been part of funded projects totaling $13.6 million since working at MSU, both as principal investigator and co-PI on projects ranging from a single investigator to a large research team. He was a recipient of the NSF Faculty Early Career Development (CAREER) Award in 2012.

He serves as an associate editor for the IEEE Transactions on Power Systems, the IEEE Power Engineering Letters, the IEEE Access, and the Journal of Electric Power Components and
Systems. He was also a guest editor of the special issue of the IEEE Transactions on Smart Grid. He has served as technical committee member, and session chairs/co-chairs at national/international conferences. He is an IEEE senior member.

TERESA STEWART | RESEARCH SUPPORT

Teresa Stewart, the business manager for the Department of Electrical and Computer Engineering, has been employed by Mississippi State for 20 years. While she has enjoyed the different positions and departments that she has worked in, ECE is now home.

She spent the first 10 years of her career at MSU in the Division of Continuing Education. With Continuing Education, she had the opportunity to work with several of the ECE faculty and other engineering faculty in organizing national and international conferences. Following completion of her MBA from MSU in 2002, she became the manager for the Mississippi Center for Advanced Semiconductor Prototyping (MCASP) Service Center, within ECE. Later the service center moved to the Center for Advanced Vehicular Systems, where she took on the responsibility of two additional service centers and assisted with managing research funding for the Advanced Vehicular Systems group.

In 2010, Stewart returned to Electrical and Computer Engineering, where she enjoys working with the faculty to submit proposals, manage awards, and manage the financial resources for the department. She is a member of the National Council of University Research Administrators and a 2014 graduate of the SPA Departmental Administrator Working Group.

Stewart grew up in Starkville, where her father, Jerry Rogers, was a professor in the Electrical and Computer Engineering department at MSU. She has been married to Dean Stewart for 36 years and together they have lived in Arkansas, Texas and Tennessee. In 1994, they moved back to Starkville when he joined the MSU Wildlife and Fisheries Department and the MSU Extension Service. In 2004, Dean left the university to start his own consulting business, Farview Forest and Wildlife Services. When the two of them are not busy working, they enjoy musical events, gardening, camping, traveling and flea markets.

TRENTON RICKS | GRADUATE STUDENT

Trenton M. Ricks is a NASA Graduate Student Researchers Program (GSRP) fellow and a Ph.D. candidate in the Department of Aerospace Engineering (ASE) at Mississippi State University. He will also obtain a minor in statistics with his Ph.D. He also received his bachelor’s and master’s degrees in aerospace engineering from MSU.

Ricks currently performs research in damage tolerance of multifunctional composites, multiscale damage modeling of composites, order reduction, analytical/computational micromechanics, mechanical testing of composite materials, and statistical design and analysis of experiments. He has 12 publications resulting from his research and has collaborated with researchers across multiple universities and government
agencies. He mentors and advises undergraduate and graduate students as part of an active, multidisciplinary research group on campus.

Ricks serves as a reviewer for several journals and has contributed to and led numerous proposal writing efforts in collaboration with his research advisor, Thomas E. Lacy, professor and interim head of the Department of Aerospace Engineering. He was named the 2015 Bagley College of Engineering Outstanding Graduate Researcher. In 2014, he received the Graduate Student of the Year award in ASE. He currently serves as an Ambassador with the Office of the Graduate School, and is a member of the American Society for Composites and the American Institute of Aeronautics and Astronautics. He is also a member of the Sigma Gamma Tau and Tau Beta Pi honor societies.

Ricks actively participates in international student outreach activities both on campus and in the community and is the former vice president of the MSU Softball Cricket Club. He is a member of First Baptist Church in Starkville, and is engaged to be married this summer to Ruth Davis of Jackson, Alabama.

**DEXTER DUCKWORTH | UNDERGRADUATE STUDENT**

Dexter Duckworth is a senior from Memphis, and is majoring in computer engineering. He has been a member of the STaRS robotics lab since he was a freshman, under the mentorship of Cindy Bethel, an assistant professor of computer science and engineering.

As a member of the lab, he has been a team leader on several projects and has co-authored four publications. His most recent work has been on the Therabot project, where he is helping design and program a robotic dog to be used in therapy for patients suffering from post-traumatic stress disorder.

After graduating, he plans to either become a Ph.D. student in the Oregon State University robotics program, or a software engineer at Google.

**MERIDIAN CAMPUS**

**MATTHEW BOGGAN | FACULTY**

Matthew Boggan is originally from Kilmichael, just west of Starkville. His parents and family members were educators, and he lived on the campus of the local school, so education was embedded into his life from the very beginning. After moving to Starkville in 1993 he began teaching for the Starkville School District, driving a school bus, and working several other part-time jobs while working on his master’s degree. After educational experiences in Mississippi and Texas, he followed in his fathers’ footsteps as a principal, worked as an adjunct professor at MSU, earned his doctorate degree, and did post-doc work at Harvard University.

An associate professor of educational leadership, Boggan joined the MSU faculty in 2007. In 2009, he successfully led a group of faculty in funding a $3-million U.S. Department of
Education Alternate Route Teaching grant application called Learning and Educating through Alternative Programs (LEAP). The LEAP Scholarships have placed 151 quality teachers in high-need school districts in Mississippi over the last six years. He recently led a second team of faculty and staff with another USDE application to address specific teacher shortages and preparation in underserved Mississippi districts. He was selected as a reviewer by the Council for the Association of Educator Preparation (CAEP), which is the accreditation body for Colleges of Education to evaluate principal preparation programs based on standards set by the Educational Leadership Constituent Council (ELCC).

Boggan is a practice-based researcher who draws from his teaching and administrative experiences in K-12 as well as the university classrooms over the last 24 years. He is a certified educator in the state of Mississippi in the areas of mild/moderate special education, severe/profound special education, biology, general science, social studies, and school administration. He has authored and co-authored numerous published manuscripts tied to alternative route education, teacher mentoring, leadership standards, and integrating subjects across the curriculum.

Boggan values service and has served on various search committees, NCATE committees, faculty senate, and locally serves as a liaison for Employers Support for the Guard and Reserve (ESGR). The Mississippi Department of Education has called on Boggan to serve as a state representative for the School Leaders Licensure Assessment (SLLA) national redesign. He annually serves as a member of the College of Education's Teacher Council where K-12 educators and university faculty work together to improve curriculum. His involvement in promoting improvement and collegiality with K-12 leaders at annual advisory council meetings for the Educational Leadership Program and the LEAP Program is ongoing. He helped redesign the Educational Leadership programs in 2013 and has served on 24 dissertation committees since 2008. Boggan is actively involved in international, national, and state associations. He has been recognized twice as an outstanding faculty member through state pride awards, once for his faculty leadership, and once for his service to the Meridian Campus. Boggan’s past service efforts includes offering leadership courses at off-campus sites, and initiating and coordinating a Special Education program at the Meridian Campus.

ADRIAN CROSS | GRADUATE STUDENT

Adrian Cross is a graduate student at the Mississippi State University-Meridian Campus where she is majoring in community college leadership with an emphasis in educational psychology.

She is a native of Meridian where she is the non-traditional student recruiter for Meridian Community College. She is the daughter of Fred and Sandra Cross, both of whom are also natives of Meridian.

Cross is a member of the Sunflower Baptist Church in Scooba. She is a member of Zeta Phi Beta Sorority Incorporated, Kappa Delta Pi honor society, treasurer of the MSU student association, member of the board of directors for the United Way of East Mississippi and West Alabama, and member of various committees at MCC. When she grows up she hopes to be just like her mother — a former educator who has touched the lives of many.
PATRICK FITZPATRICK | FACULTY

Pat Fitzpatrick is an associate research professor in the Geosystems Research Institute at Stennis Space Center. He has conducted research on hurricanes, numerical modeling, optimum use of data in weather models, weather model validation, storm surge, sea breeze climatology, wetland studies, the Deepwater Horizon oil spill, and unmanned surface vehicles.

Recent activity includes the 2014 Gulf of Mexico Wave Glider field program, and co-PI sponsorship of the Gulf of Mexico Research Institute-funded CONsortium for oil spill exposure pathways in COastal River-Dominated Ecosystems (CONCORDE).

Fitzpatrick has authored/co-authored peer-review journal articles, two books on hurricanes, three encyclopedia articles, three book chapters, and assorted technical reports/conference preprints. He annually participates in 10 to 20 conferences/workshops. He holds positions on several organization committees and state boards.

Prior to MSU, he was an associate professor of meteorology at Jackson State University. He is a graduate of Texas A&M University and Colorado State University with a Ph.D. in atmospheric sciences.

ROOBAN THIRUMALAI | RESEARCH SUPPORT

Rooban Thirumalai is a research associate at the Institute of Imaging and Analytical Technologies (I2AT) at Mississippi State. He earned his bachelor’s degree at Anna University, India, and both his M.S. and Ph.D. at MSU. He did his Ph.D. under the guidance of Yaroslav Koshka, a professor in the Department of Electrical and Computer Engineering.

During the course of graduate study, he has taught various labs, including Microprocessor, Digital Devices and Digital System Design. His research primarily focuses on nanomaterials and semiconductors. He is currently involved in cross-disciplinary research and has participated in multiple proposals as a co-PI.

Thirumalai has been with I2AT for over two years under the leadership of Giselle Thibaudeau, director of I2AT and interim associate dean for research in the College of Arts and Sciences, and has played crucial roles in training, outreach and scientific support for internal and external users.
KALA MARAPEREDDY | GRADUATE STUDENT

Ramakalavathi "Kala" Marapareddy received B.S. and M.S. degrees from Jawaharlal Nehru Technological University (JNTU), in 2000 & 2003, respectively, both in electrical and computer engineering (ECE). She was an assistant professor in the Department of ECE at JNTU from 2003-2011. She joined the Department of ECE at Mississippi State University in 2011, where she is currently a Ph.D. candidate. She served as a graduate teaching assistant from January 2012-April 2013.

Her research field is signal and image processing, and its application to remote sensing using polarimetric synthetic aperture radar (polSAR) imagery. The research she is conducting covers major topics in remote sensing signal and image processing, and analysis with her strong background statistics, such as anomaly detection, supervised and unsupervised classification.

At present, she is working as a graduate research assistant at the Geosystems Research Institute, and is a National Science Foundation graduate research fellow. She was recognized as a “Preparing Future Faculty” in 2014.

EVAN MCBROOM | UNDERGRADUATE STUDENT

Evan McBroom of Starkville is a graduate of Starkville Academy. During the summers after his freshman and junior years in high school, he worked as an intern in the National Forensics Training Center in Mississippi State University’s Department of Computer Science and Engineering.

Additionally, he worked after school at the NFTC during his senior year in high school, and he has continued to be a student worker at the NFTC during is time as a student at MSU, which started the summer of 2014. Under the supervision of Kendall Blaylock and Dave Dampier, he has become an integral part of the NFTC.

McBroom is currently a freshman computer science major. His research interests include file systems, process memory management, and software exploit development and mitigation. Upon graduation, he plans to pursue a career working at the National Security Agency.
Ronald Gatewood joined Mississippi State in 2009, and is now a Desktop Support Specialist II for Information Technology Services. He provides tech support for the Office of Research and Economic Development and the Athletic Department. His duties consist of everything from troubleshooting basic computer issues to consulting clients of the best technology needed to be more efficient.

A native of Memphis, he grew up outside of Columbus. He is a seven-year veteran of the Mississippi Army National Guard, and served a year in Iraq in support of Operation Iraqi Freedom. His military honors include the Army Commendation Medal, Global War on Terrorism Service Medal and Combat Action Badge, among others.

He volunteers with his local 4-H Youth Club and volunteers his technology services at the Boys and Girls Clubs of the Golden Triangle. He has enjoyed being a part of the Day One program that allows him to mentor freshman students at MSU. He also enjoy serving as an internship supervisor for students in the information technology undergraduate program.

Gatewood received his bachelor’s degree in information technology in 2007, master’s degree in instructional technology in 2012, and is currently pursuing a Ph.D. in instructional systems — all at MSU.

When he’s not working around campus, he enjoys working out, traveling, reading and enjoying life.
RALPH E. POWE RESEARCH EXCELLENCE AWARD

BRENT FUNDERBURK

In 33 years as a faculty member in the Department of Art at Mississippi State University, Brent Funderburk has achieved an outstanding record of nationally recognized professional research, teaching, community service, collaboration, leadership and creative work.

A Charlotte, North Carolina native, Funderburk has exhibited his mixed-media paintings and drawing in 32 one-person exhibitions in museums, universities and galleries, and has presented his artwork, often with awards, in over 70 invited or juried (peer-reviewed) regional, national, and international exhibitions. He has given more than 100 invited or juried illustrated lecture-performances to galleries, museums, conferences, and professional organizations. His artwork is represented in museum, university and private collections across the country, in 26 states, and in Canada.

Funderburk studied with artist-author Edward A. Reep in the School of Art at East Carolina University, where he received BFA and MFA degrees in painting/drawing in 1975 and 1978. His research in watercolor and water media has been shared in lectures and workshops — an upcoming tour will travel to California, New Mexico, and Arizona — and in his book “Flying World” (2011).

Named the official artist of the 2010 USA International Ballet Competition, Funderburk has had artwork featured in international publications such as Creative Quarterly, Graphis, and Studio Visit Magazine. In 2012 he was one of six US artists selected for the “Graphis Annual: Best of International Visual Communication” in illustration, and has been featured in four issues of the journal Creative Quarterly.

His research has also focused on the life, art and influence of 20th Century American artist/naturalist Walter Inglis Anderson and his contemporaries through research, publications, curating exhibits, presenting lectures, developing courses, and in the ongoing development of a multidisciplinary research center at MSU. Funderburk’s efforts have enlivened a critical national discussion on the work of Anderson. His curated exhibit, “Ecstasy — The Mystical Landscapes of Walter Anderson,” has toured U.S. museums, with Funderburk’s lectures, since 2006.

Funderburk served as department head of the MSU Department of Art from 1995 to 2002, and is currently senior fine art thesis coordinator for the department. He has been awarded the John Grisham Teaching Excellence Award, The Burlington Northern Award for Excellence in Teaching, and the Coley-Lee Teaching Award from Mississippi State University. He is married to Deborah Wyatt Funderburk, who teaches dance and dance history in the MSU Department of Kinesiology.
RALPH E. Powe Research Excellence Award Winners

2014 — Nicholas Herrmann
2013 — Daniel G. Peterson
2012 — Kambham “Raja” Reddy
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
1997 — Lewis R. Brown