



Physiology News

The UMMC Department of Physiology and Biophysics Newsletter

Chair's Welcome

Issue 2 | October 2016



The Department of Physiology and Biophysics at the University of Mississippi Medical Center has a rich history and a legacy of excellence in research, education and service. Our faculty, fellows, students and staff continue to excel in all aspects of our mission and as leaders of multiple professional organizations.

This newsletter highlights a few of the people, activities and accomplishments of the department during the last year.

We were delighted to welcome **Dr. Ji Li** as an associate professor in July 2015. Ji comes to us from the University of Buffalo-SUNY and brings unique research skills in cardiac physiology and metabolism. He is internationally recognized for research on cardiac signaling mechanisms in ischemic stress and is well-funded by the National Institutes of Health (NIH) and the American Diabetes Association.

We are proud of the major honors and recognition that our faculty, fellows and students continue to receive for their research and education activities. **Dr. Joey Granger**, professor of physiology and biophysics and dean of the School of Graduate Studies in the Health Sciences, received the 2016 Southeastern Conference Faculty Achievement Award for the University of Mississippi. **Dr. Alejandro (Alex) Chade**, professor of physiology and biophysics, received the prestigious Hypertension Mid-Career Award for Excellence in Research from the American Heart Association. **Dr. Jane Reckelhoff**, professor of physiology and biophysics, was elected as the 89th president of the American Physiological Society and celebrated her 25th anniversary in the department. Janie is now serving as interim chair of

the Department of Biochemistry in addition to her duties in our department. The department can now claim nine presidents of the American Physiological Society who have served as members of our faculty or were former trainees of the department.

For the last two years the department has been selected by UMMC medical students for the Carl G. Evers Society Basic Science Department of the Year award. Also, several members of the department have received awards for their teaching excellence. **Dr. Tom Adair** received the Higher Education Appreciation Day, Working for Academic Excellence (HEADWAE) Award for 2015-16. **Dr. Lique Coolen** was named to the UMMC Nelson Order for excellence in teaching. These and several other awards of our faculty, fellows, students and staff are highlighted in this newsletter.

Despite the continued increase in competition for extramural funding, our faculty members continue to be highly competitive in their applications. **Dr. James Wilson**, professor of physiology and biophysics, led a team of investigators in a successful application for the "Mississippi Center for Clinical and Translational Research" grant from the NIH. This large award is aimed at developing infrastructure and training programs for clinical and translational obesity-related research at UMMC. It is highly unusual that members of a basic science department would lead an institution in developing its clinical and translational research programs. We congratulate Jim for taking the initiative. The department is also fortunate to have received continued research funding for other major NIH grants, including a Program Project Grant (now in its 48th year of funding), a Center for Biomedical Research Excellence grant, an NHLBI training grant, and multiple R01s from the NIH.

Table of Contents

- Chair's Welcome.....1
- Awards.....2-3
- Achievements.....4
- Grants Awarded.....5-6
- Dept. Activities.....7
- Staff News.....8
- Research Centers.....9-10
- Miscellaneous.....11

Chair's Welcome (continued)

Our department faculty members currently lead seven multidisciplinary research centers that provide core research services, training programs and facilities that serve multiple departments, including basic and clinical departments at UMMC. These centers illustrate important leadership that our faculty provide in education, research and service missions at UMMC.

We are always pleased when former members of our department visit us.

Dr. A. P. "Pete" Shepherd was recognized by the School of Graduate Studies in the Health Sciences as the 2015 Distinguished Alumnus. Pete received his Ph.D. in physiology and biophysics at UMMC in 1971 and had a terrific career as a scientist, inventor and entrepreneur in founding AVOX Systems, Inc. A summary of his visit can be found [here](#).



Dr. Pete Shepherd

We are saddened by the passing of **Dr. Aubrey E. Taylor** on Dec. 23, 2015. He received his Ph.D. in physiology and biophysics in 1964 and became a world leader in the field of physiology. A summary of his outstanding career as a scientist, mentor and leader was provided in the *Physiologist* by one of his former students, Dr. D. Neil Granger, who received a Ph.D. in physiology at UMMC in 1977. Neil, like his mentor, became a world-renowned physiologist, serving as 77th president of the American Physiological Society and as chair of the Department of Molecular and Cellular Physiology at Louisiana State University-Shreveport since 1986.



Dr. Aubrey Taylor

We are proud of the accomplishments of the current department members and honor the legacy of the many distinguished graduates and former faculty members of the department who have led the field of physiology. ■

Awards

The Department of Physiology and Biophysics received the Carl G. Evers, M.D. Society Basic Science Department of the Year Award for 2015-16.

Faculty

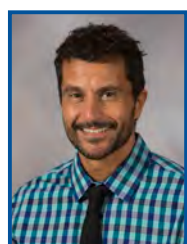
Dr. Thomas Adair, Professor

- The Mississippi Legislature's 2016 Higher Education Appreciation Day, Working for Academic Excellence (H.E.A.D.W.A.E.) honoree



Dr. Kristine DeLeon-Pennell, Instructor

- Early Career Investigator Travel Award from the International Society for Heart Research World Congress
- 2016 Trustmark Postdoctoral Publication Award at the UMMC School of Graduate Studies Honors Day



Dr. Alejandro Chade, Professor

- 2016 Hypertension Mid-Career Award for Excellence in Research from the American Heart Association

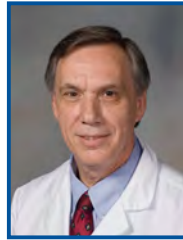


Dr. Joey Granger, Professor

- 2016 Mayerson-DiLuzio Lectureship at Tulane University
- 2016 Southeastern Conference Faculty Achievement Award winner for the University of Mississippi

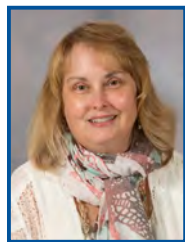
Dr. John Hall, Arthur C. Guyton Professor and Chair

- Ray G. Daggs Award from the American Physiological Society
- Meritorious Achievement Award from the American Heart Association
- Distinguished Service Award from the Association of Chairs, Departments of Physiology
- 2016 Carl G. Evers Society “All Star” Professor selected by UMMC medical students
- 2016 Thomas G. Muldoon Memorial Lectureship, Medical College of Georgia, Augusta University
- 2016 British Medical Association Book Award for the Guyton and Hall Textbook of Medical Physiology, 13th edition



Dr. Suttira Intapad, Assistant Professor

- UMMC Graduate Research Day poster presentation winner
- Kidney Council New Investigator Award from the American Heart Association



Dr. Barbara Alexander, Professor

- Platinum Medallion Award, Excellence in Research Awards from the University of Mississippi Medical Center

Dr. Lique Coolen, Professor

- Bronze Medallion Award, Excellence in Research Awards from the University of Mississippi Medical Center
- UMMC Nelson Order for excellence in teaching



Dr. Eric George, Assistant Professor

- Silver Medallion Award, Excellence in Research Awards from the University of Mississippi Medical Center
- New Investigator Award from the American Physiological Society Water and Electrolyte Homeostasis Section

Dr. Romain Harmancey, Assistant Professor

- Bronze Medallion Award, Excellence in Research Awards from the University of Mississippi Medical Center

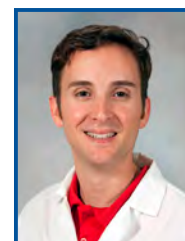


Dr. Rugmani Iyer, Instructor

- 2015 Keystone Scholarship for travel to the Keystone Symposia on Molecular and Cellular Biology
- 2015 Trustmark Postdoctoral Publication Award at the UMMC School of Graduate Studies Honors Day

Dr. Merry Lindsey, Professor

- Translational Research Team Award, Excellence in Research Awards from the University of Mississippi Medical Center

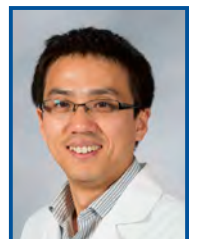


Dr. Frank Spradley, Instructor

- Fall 2015 American Physiological Society Research Career Enhancement Award
- Water and Electrolyte Homeostasis and *American Journal of Physiology – Regulatory, Integrative and Comparative Physiology* Distinguished Trainee Award at the Experimental Biology Meeting

Dr. Yonggang Ma, Assistant Professor

- Junior Faculty Award from the American Society for Investigative Pathology at the 2016 Experimental Biology Meeting



Dr. Paula Warrington Tate, Instructor

- Minority Travel Fellowship Award from the American Physiological Society to attend the 2015 APS Conference on Cardiovascular and Metabolic Diseases: Physiology and Gender



John Henry Dasinger, Ph.D. Student

- Water and Electrolyte Predoctoral Research Recognition Award from the American Physiological Society
- 2016 Robert A. Mahaffey Jr. Memorial Award, which is awarded to UMMC graduate students in recognition of exceptional research potential in basic or clinical biomedical science



Dr. Zhen Wang, Instructor

- Caroline tum Suden/Frances Hellebrandt Professional Opportunity Award from the American Physiological Society



Peter Mittwede, M.D./Ph.D. Student

- 2015 Robert A. Mahaffey Jr. Memorial Award, which is awarded to UMMC graduate students in recognition of exceptional research potential in basic or clinical biomedical science

Students and Postdoctoral Fellows

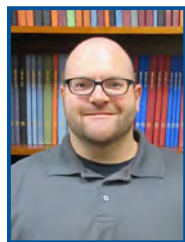
John Clemmer, Postdoctoral Fellow

- International Academy of Cardiovascular Sciences Travel Award



Erin Taylor, Postdoctoral Fellow

- Juan Carlos Romero Water and Electrolyte Homeostasis Postdoctoral Research Recognition Award from the American Physiological Society



Jeremy Duncan, Postdoctoral Fellow

- Region's Outstanding Graduate Research Award at the UMMC School of Graduate Studies Honors Day

Achievements

Dr. Alejandro Chade, Professor

- Chade was promoted from associate professor to professor on July 1, 2016.



Ashley Newsome, M.D./Ph.D. Student

- Caroline tum Suden/Frances Hellebrandt Professional Opportunity Award from the American Physiological Society
- Minority Travel Fellowship Award to attend the 2016 Experimental Biology meeting



Dr. Suttira Intapad, Assistant Professor

- Intapad was promoted from instructor to assistant professor in January 2016.

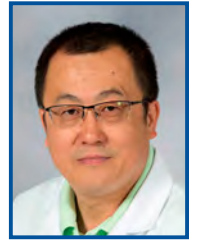
Dr. Jane Reckelhoff, Professor

- Reckelhoff was elected as the 89th president of the American Physiology Society for 2016-17.



Dr. Ji Li, Associate Professor

- Li joined the Department of Physiology and Biophysics July 1, 2015, as an associate professor. Li's general area of expertise is in cardiovascular physiology and pharmacology, as well as cancer pharmacology.



Dr. David Stec, Associate Professor
Stec celebrated his 15th anniversary at the University of Mississippi Medical Center.



Dr. Michael Ryan, Professor

- Ryan was promoted from associate professor to professor on July 1, 2016.

Dr. Heather Drummond, Associate Professor

- Drummond celebrated her 15th anniversary at the University of Mississippi Medical Center.



Dr. James G. Wilson, Professor

- Wilson was invited to serve as a member of the Cancer, Heart and Sleep Section for the Center of Scientific Review of the National Institutes of Health. He also celebrated his 30th anniversary at the University of Mississippi Medical Center.



Grants Awarded

Faculty

Dr. Barbara Alexander, Professor

- American Heart Association Grant-In-Aid, Year 2, "Age-dependent Hypertension in Female Growth-restricted Rats"

Dr. Alejandro Chade, Professor

- American Heart Association Established Investigator Award, Year 3, "Novel Therapeutic Interventions in Renovascular Disease"

Dr. Lique Coolen, Professor

- Department of Defense, "Determining Sensory Plasticity and Developing Recovery for Sexual Dysfunction in Chronic Spinal Cord Injured Male Rats"

John Henry Dasinger, Graduate Student

- American Heart Association Predoctoral Fellowship, "Low Birth Weight and Women's Cardiovascular Health"

Dr. Heather Drummond, Associate Professor

- American Heart Association Grant-In-Aid, Year 2, "ASIC2 Forms Mechanically Gated Channels and Mediates Myogenic Constriction in Renal Afferent Arterioles"

Dr. Taolin Fang, Instructor

- American Heart Association Postdoctoral Fellowship, Year 2, "Regulation of Cardiorenal, Sympathetic and Metabolic Functions by the Central Melanocortin System"

Dr. Eric George, Assistant Professor

- National Institutes of Health Research Transition Award, Year 3, "Hypertensive Mechanisms in Preeclampsia"
- American Heart Association Grant-In-Aid, "Novel Therapy for Preeclampsia"

Dr. Joey Granger, Professor

- National Institutes of Health Training Grant, “Hypertension and Cardiorenal Disease Research Training Program”

Dr. John Hall, Chair and Professor

- National Institutes of Health Program Project Grant, Year 3, “Cardiovascular Dynamics and Their Control”
- National Institutes of Health Center of Biomedical Research Excellence Exploratory Grant, Year 4, “Cardiorenal and Metabolic Diseases Research Center”

Dr. Romain Harmancey, Assistant Professor

- National Institutes of Health Research Transition Award, Year 2, “Unexpected Consequences of Insulin Resistance for the Heart”

Dr. Suttira “Joy” Intapad, Assistant Professor

- American Heart Association Scientist Development Grant, “Maternal Preeclampsia Programs Hypertension in Mouse Offspring”

Dr. Ji Li, Associate Professor

- National Institutes of Health Research Grant, “AMPK-SIRT1 Signaling in the Adaptive Metabolic Response”
- National Institutes of Health Research Grant, “Role of Sestrin2 in Prevention of Age-related Cardiomyopathy”
- American Heart Association Innovative Research Grant, “Stress Signaling in the Aged Heart”
- American Diabetes Association Research Grant, “Sestrin2 Modulates Glucose Transport in the Ischemic Heart”

Dr. Merry Lindsey, Professor

- National Institutes of Health Research Grant, “Systems Biology of Macrophage Polarization Following Myocardial Infarction”
- National Institutes of Health Research Grant, “Systems Biology of Fibroblast Activation Following Myocardial Infarction”
- National Institutes of Health Specialized Center Cooperative Agreement, Subcontract with UCLA, “A Community Effort to Translate Protein Data to Knowledge: An Integrated Platform”
- Veteran’s Affairs Merit Grant, “MMP-9 Roles in the Aging Myocardial Response to Ischemia”

Dr. Yonggang Ma, Assistant Professor

- American Heart Association Scientist Development Grant, Year 2, “Neutrophil Polarization in Post-myocardial Infarction Cardiac Remodeling”

Dr. Michael Ryan, Professor

- Veteran’s Affairs Merit Grant, “Renal Mechanisms of Hypertension in Autoimmune Diseases”
- National Institutes of Health Education Project, “Mississippi Diversity in Hypertension and Cardiorenal Researchers Program”

Dr. Junie P. Warrington Tate, Instructor

- National Institutes of Health Pathway to Independence Award, “Cerebrovascular Abnormalities in Preeclampsia”

Dr. James G. Wilson, Professor

- National Institutes of Health Specialized Center Cooperative Agreement, “Mississippi Center for Clinical and Translational Research”
- National Institutes of Health Research Grant, Subcontract with Massachusetts General Hospital, “Metabolomic Predictors of Insulin Resistance and Diabetes”
- American Heart Association Cardiovascular Genome Phenome Study Pathway Grant, Subcontract with the University of Maryland, “Early Onset Stroke: An Extreme Phenotype to Identify Rare Variants in Ischemic Stroke”
- National Institutes of Health Research Grant, Subcontract with the University of Washington, “CHARGE Consortium-Gene Discovery for CVD and Aging Phenotypes”
- American Heart Association Cardiovascular Genome Phenome Study (CVGPS) Heart Failure Discovery Grant, Subcontract with Brown University, “Integrative Genomics of Gene-Diet Interactions in Vascular Outcomes Across Ethnicities”
- National Institutes of Health Research Grant, Subcontract with the Fred Hutchinson Cancer Research Center, “Leukocyte Telomere Length and Cardiovascular Disease in the Jackson Heart Study”
- National Institutes of Health Research Grant, Subcontract with the University of Washington, “Community-based Evaluation of APOL1 Testing in African-Americans”
- National Institutes of Health Research Grant, Subcontract with Georgia Health Sciences University, “A Genome-wide Methylation Study on Essential Hypertension”
- National Institutes of Health Research Grant, Subcontract with the University of Washington, “Rare Variants and NHLBI Traits in Deeply Phenotyped Cohorts”

Departmental Activities

Physiology Understanding (PhUn) week

PhUn Week is an outreach program sponsored by the American Physiological Society (APS) that involves scientists in the learning of physiology within their local schools. The goals of PhUn Week are to help students gain an interest in physiology, to show the importance of physiology in daily life, to connect physiologists to students in their community, and to help teachers recognize the importance of physiology within their science curriculum.



Dr. Michael Ryan, Dr. Barbara Alexander and **Dr. Jennifer Sasser** organized the PhUn Week activity at the Mississippi Children's Museum on Nov. 14, 2015. Approximately 40 volunteers engaged 300 museum patrons in hands-on activities to teach kidney, lung, heart and gastrointestinal structure and function.

Fifth annual physiology departmental softball game

The annual physiology departmental softball game is an event that all members of the department look forward to every year. This year's game was organized by **Dr. Michael Ryan** and took place at Liberty Park in Flowood on June 29, 2016. Several faculty, fellows, staff and summer students participated in the game or cheered for their peers from the sidelines. The game ended with the S.U.R.E program summer students winning, 17-11.



Dragon boat regatta

The Dragon boat regatta is an event that takes place on the Ross Barnett Reservoir each May. The event is a fundraiser for the city of Ridgeland. Teams of 20 compete in brightly colored boats to see who will be first to cross the finish line.

Our department's team, "Mighty-Chondria," participated in the race for the second year in a row. Several members from our department, including faculty, staff, postdoctoral fellows and students, took part in the event.



Staff News

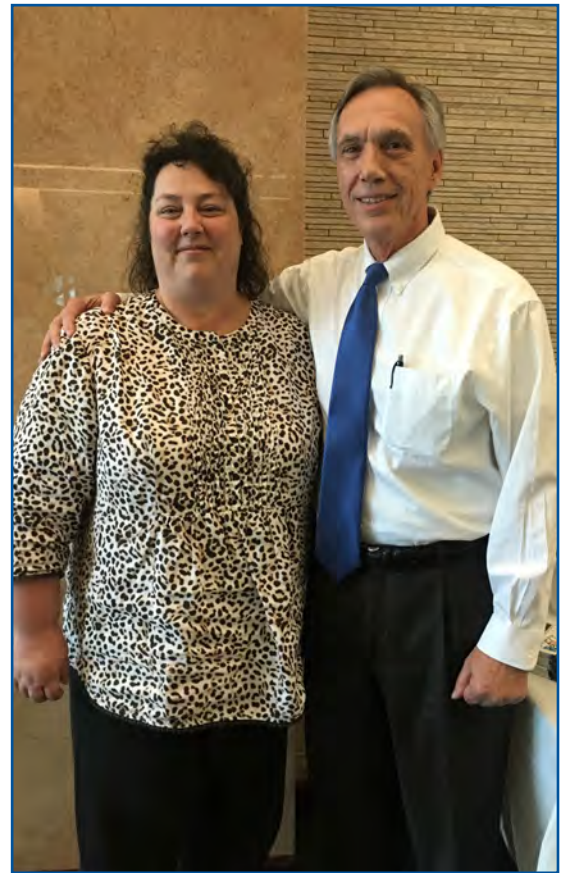


McAlpin with fellow staff members

Gerry McAlpin

Last June, Gerry McAlpin retired from the University of Mississippi Medical Center after 25 years of service. She first came to UMMC in 1993 as a staffing coordinator for the Department of Nursing Services. She then transferred to the Department of Physiology and Biophysics, where she worked as a word processing specialist and as managing editor of the *American Journal of Physiology*. She also served as managing editor of *Hypertension* and as project manager II, working with the medical and dental year 1 physiology students.

A retirement reception was hosted by the department to celebrate McAlpin's service. Physiology faculty and staff, along with well-wishers from other departments throughout the hospital, attended the reception.



McAlpin and Hall at the retirement reception



Kathy Cockrell

Kathy Cockrell received the Meritorious Research Service Support Staff Award at the Excellence in Research Awards Ceremony at the University of Mississippi Medical Center in November. Cockrell has worked as a researcher in the Department of Physiology and Biophysics for 27 years.

Research Centers

Faculty in the Department of Physiology and Biophysics currently lead seven research centers, including an NIH Center for Biomedical Research Excellence and an NIH Center for Clinical and Translational Research. Additional information on the centers can be found below.



Cardiovascular-Renal Research Center (CRRC)

Dr. Joey Granger serves as director of the Cardiovascular-Renal Research Center. The CRRC was established to integrate the various cardiovascular and renal research programs at UMMC. The CRRC's missions are to foster excellence in basic and clinical cardiovascular and renal research at the University of Mississippi Medical Center; to promote the education of basic researchers, physicians and the general public in the area of cardiovascular and renal diseases; to develop resources to enhance cardiovascular and renal research at the University of Mississippi Medical Center; and to utilize the resources, including new research findings of the Cardiovascular-Renal Research Center, to reduce the morbidity and mortality associated with cardiovascular and renal diseases in the state of Mississippi. For more information, visit the CRRC website at <https://www.umm.edu/crrc/>.



Center for Computational Medicine (CCM)

Dr. Robert Hester serves as director of the Center for Computational Medicine. The major objectives of the center are to 1) add computational medicine for use in the training of medical students and residents; 2) integrate and support faculty for the development of simulation tools for research, education and clinical service; 3) develop programs to facilitate communication and interaction among researchers interested in computational medicine at and outside UMMC; 4) increase funding from industry, national and foundation resources to support the unique integrative environment and strengths of the researchers performing computational medicine research at UMMC; 5) establish a training program for pre-doctoral and postdoctoral fellows and for medical students, residents and fellows interested in issues relating to computational medicine; and 6) increase the national prominence of the University of Mississippi Medical Center as the preeminent center for computational medicine research.



Mississippi Center for Heart Research (MCHR)

Dr. Merry Lindsey is director of the Mississippi Center for Heart Research. The broad mission of the MCHR is to promote collaborative research in cardiac research, with special emphasis on translational research. The center is dedicated to performing cardiovascular research that involves 1) developing multidimensional approaches to examine the mechanisms whereby the heart responds to injury or stress; 2) applying the knowledge gained to develop diagnostic tools and therapeutic strategies to prevent, slow or reverse cardiac disease progression; 3) disseminating our results to scientific, medical and general communities; and 4) educating the next generation of scientists.



Mississippi Center for Clinical and Translational Research (MCCTR)

Dr. James Wilson serves as director of the Mississippi Center for Clinical and Translational Research (MCCTR). The MCCTR is an obesity-focused multi-institutional partnership involving UMMC, the University of Southern Mississippi and Tougaloo College. The center was created to establish a research center to study questions from basic biology to issues of diet and lifestyle; to seek treatments, including diet and exercise interventions, that can reduce obesity and related disorders; and to address racial and ethnic disparities related to obesity. The goals of the Mississippi CCTR are to

1) provide the infrastructure needed to support a portfolio of research and a cadre of investigators that will succeed in addressing obesity and related disorders throughout Mississippi; 2) increase collaboration among disciplines and institutions that will integrate basic, clinical and translational research on obesity and related disorders; and 3) improve health and health outcomes among Mississippians through new approaches to the prevention, diagnosis and treatment of obesity and obesity related disorders.



Hall



Jones

Mississippi Center for Obesity Research (MCOR)

Dr. John Hall serves as director of the Mississippi Center for Obesity Research (MCOR).

Dr. Dan Jones serves as director of clinical and population research for the MCOR. The vision for the MCOR is “healthier and more prosperous lives for all Mississippians.” The mission of the MCOR is “to improve lives through discovery, innovation, education, improved patient care and prevention of obesity and related disorders.” For more information, visit the MCOR website at <https://www.umc.edu/mcor/>.

Cardiorenal and Metabolic Diseases Research Center (CMDRC)

Dr. Hall also serves as director of the Cardiorenal and Metabolic Diseases Research Center, which is supported by a five-year award (P20GM104357) from the National Institute of General Medical Sciences (NIGMS). The NIGMS is part of the National Institutes of Health (NIH) that supports thematic, multidisciplinary Centers of Biomedical Research Excellence (COBRE) across the country through its Institutional Development Award (IDeA) program. A major objective in developing the center is to provide infrastructure for a multidisciplinary, diverse group of basic, clinical and population scientists working on the common synergistic theme of obesity, cardiorenal and metabolic diseases and to facilitate their collaborations. For more information, visit https://www.umc.edu/Education/Schools/Medicine/Basic_Science/Physiology_and_Biophysics/COBRE/COBRE_Home.aspx.



Women’s Health Research Center (WHRC)

Dr. Jane Reckelhoff serves as director of the Women’s Health Research Center. The Women’s Health Research Center was established in 2009 at the University of Mississippi Medical Center to accomplish the major goal of fostering excellence in basic and clinical research into issues that affect women’s health across their lifespans. For more information, visit the WHRC website at <https://www.umc.edu/whrc/>.

Miscellaneous

Recent Publications

If you would like to check out the department's latest list of publications, please visit our website at:

https://www.umc.edu/Education/Schools/Medicine/Basic_Science/Physiology_and_Biophysics/Publications.aspx

Former Faculty, Postdoctoral Fellows, and Alumni

We would love to hear where life has taken you since leaving our department. To update us with your most current information, please visit the following website:

https://www.umc.edu/Education/Schools/Medicine/Basic_Science/Physiology_and_Biophysics/Keep_in_Touch_-_Former_Faculty,_Fellows,_Students.aspx

MAKE A DONATION

I would like to make the following contribution to:

\$ _____ Arthur C. Guyton Chair

\$ _____ Arthur C. Guyton Research and Lecture Fund

\$ _____ Physiology and Biophysics Research & Teaching Fund

Name _____

Spouse / Partner name if a joint gift: _____

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Inside, I have enclosed:

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