From the Director:

WHRC members and colleagues: Welcome to our first WHRC Newsletter! The new Fall semester is getting ready to start and we have some exciting news for future events:

1. We are starting our WHRC Seminar Series with Dr. Sharon Lobert’s presentation on September 23, 2010. We are planning to have these every other month so we can get to know each other’s work to foster collaborations and, hopefully, future granting opportunities.
2. We are also beginning to explore the possibility of developing a program project grant to submit to NIH. For anyone who is interested, please contact me and we will send you the meeting times.
3. We are planning a WHRC Inauguration Celebration next year in association with an international meeting on “Sex Steroids and Gender in Cardiovascular-Renal Physiology and Pathophysiology”. There will more information to come on this with the next newsletter.
4. In the Spring we will begin our Distinguished Lecture Series that will be co-sponsored by the WHRC and Office of Research. If you have individuals you would like to invite, please send me their names.

Have a great rest of the summer!
Janie

Jane F. Reckelhoff

WHRC Seminars, Noon in G351

Dr. Sharon Lobert, Thursday, September 23
Professor, School of Nursing

Dr. Ian Paul, Thursday, November 4th
Professor, Psychiatry & Human Behavior

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Our Mission: Women have health care issues that are different from men. Recent research indicates that there are sex differences in the incidence, outcome, and physiological and pathophysiological mechanisms responsible for various diseases. Mississippi has the dubious honor of having one of the highest incidence rates of cardiovascular disease, obesity, diabetes, hypertension, end-stage renal disease, high risk pregnancy, pre-eclampsia (pregnancy induced hypertension), infant mortality and poor child health outcomes in the United States. The Women’s Health Research Center (WHRC) was established in 2009 at the University of Mississippi Medical Center (UMMC) to accomplish the major goal of fostering excellence in basic and clinical research in issues that affect women’s health across their lifespan.
Dr. Christine Maric was a recent recipient of the Research Career Enhancement Award from the American Physiology Society. This award is designed to enhance the career potential supporting short-term visits to other laboratories to acquire new specific skills. Dr. Maric is an expert in field of diabetic nephropathy (renal injury and disease that occurs in patients with diabetes). She used this award to travel to Finland in March 2010 to analyze data from the Finnish Diabetic Nephropathy Study (FinnDiane). FinnDiane is a nationwide study that is being performed in Finland. It is a very comprehensive study that has multiple sites for collection of data. The purpose of the FinnDiane Study is to identify genetic and environmental risk factors for diabetic complications, with special emphasis on diabetic nephropathy (renal injury) in patients with type 1 diabetes. The focus of her study was to examine the cumulative risk of proliferative retinopathy and diabetic nephropathy in members of the FinnDiane cohort that had over 40 years of diabetes. She studied men and women to determine whether there were sex differences in the development of renal injury and she also determined the importance of the timing of the onset of type I diabetes in these individuals, before or after puberty. Interestingly, Dr. Maric found that age at onset of diabetes in men had no impact on the 40-year cumulative risk of proliferative retinopathy (the risk for severe vision loss or blindness in people with diabetes). In contrast, in women, early diagnosis of diabetes was associated with the highest risk of proliferative retinopathy and nephropathy (kidney disease). Post-pubertal onset of diabetes posed the least risk of complications in women. She concluded from her study that the age at onset of type 1 diabetes modifies the risk of long-term risk of diabetic complications differently in men and women.

Women’s health issues are underfunded and understudied. Help support women’s health research by making a tax-deductible contribution. Contact the Development Office at UMMC at 601-815-7473 for more information. Your help is greatly appreciated!
Dr. James N. Martin is the President-Elect of the American College and the American Congress of OB/GYN (ACOG) and will become its president next spring at the annual convocation in Washington, D.C. to be held May 4, 2011. ACOG is a non-profit organization of women’s health care physicians that serves as a strong advocate for women’s health by maintaining high standards of continuing education for its members and promoting patient education. ACOG has over 52,000 members. Dr. Martin, a member of the WHRC, is the Director of the Maternal-Fetal Medicine Fellowship Program at UMMC in the Department of Obstetrics and Gynecology. He was recently awarded the Hope Award for Lifetime Achievement from the Pre-eclampsia Foundation. He is the Past President of the North American Society for the Study of Hypertension in Pregnancy and is also a past recipient of the ACOG National Faculty Award for Excellence.

Dr. Jane F. Reckelhoff is the current Chair of the Water and Electrolyte Homeostasis Section of the American Physiology Society. The Water and Electrolyte Homeostasis Section is an organization of society members who share a common interest. Dr. Reckelhoff, Director of the WHRC, is a Professor in the Department of Physiology at UMMC.

Mark your Calendar!

The Organization for the Study of Sex Differences will hold its ‘Fifth Annual Meeting’ June 2-4, 2011 in Oklahoma City, OK. This meeting will offer researchers from across all biomedical research areas and disciplines the opportunity to present and discuss sex differences research.
FACULTY

Dr. Sharon B. Wyatt received the Sigma Theta Tau Theta Beta Chapter Excellence in Research Award in April 2010 from the Honor Society of Nursing. Dr. Wyatt is the Harriet G. Williamson Professor of Nephrology Nursing in the School of Nursing at UMMC. She is the Principal Investigator for the National Children’s Study funded by the National Institutes of Health.

POST-DOCTORAL FELLOWS

Dr. Michaele Manigrasso received the 2010 American Physiology Society Water and Electrolyte Homeostasis Section Post-doctoral Fellow Trainee Award at Experimental Biology 2010. Dr. Manigrasso is a post-doctoral fellow in the laboratory of Dr. Christine Maric in the Department of Physiology.

Dr. Kedra Wallace was a recipient of the 2010 American Physiology Society / National Institute of Diabetes and Digestive and Kidney Diseases Minority Travel Fellowship Award for the Experimental Biology 2010. Dr. Wallace is a post-doctoral fellow in the laboratory of Dr. Babbette LaMarca in the Department of Obstetrics and Gynecology.

GRADUATE STUDENT

Dr. Sydney R. Murphy received the 2010 American Physiology Society Water Electrolyte Homeostasis Section Pre-doctoral Trainee Award at Experimental Biology 2010. Dr. Murphy is a recent graduate from the Department of Physiology. She received her Ph.D. while working in the laboratory of Dr. Joey P. Granger and is continuing her training as a post-doctoral fellow in the laboratory of Dr. Richard Roman in the Department of Pharmacology and Toxicology.

Mark your Calendar!

The “Global Obesity Summit 2010” will be held November, 9-11 in Jackson, MS. The Summit will highlight innovative solutions to the causes of obesity, preventive strategies, and therapeutic management approaches. For more details visit: http://gos.umc.edu

In the June issue of Neuroscience Dr. Zhengwai Cai, Professor of Pediatrics, reported that acute injury in the neonatal rat brain induced by exposure to interleukin-1beta, an inflammatory cytokine, was preventable by treatment with alpha-phenyl-n-butyl-nitrone (PBN), an antioxidant. PBN also improved associated neurological dysfunction in juvenile rats. Thus, this study indicates that treatment with an antioxidant such as PBN may serve as a preventative treatment for brain injury induced by infection/inflammation.

Lamarca B. The role of immune activation in contributing to vascular dysfunction and the pathophysiology of hypertension during preeclampsia. Minerva Ginecol. 2010;62:105.

In the April issue of Minerva Ginecol. Dr. Babbette D. LaMarca, an Assistant Professor of Obstetrics and Gynecology provided a review highlighting her work in elucidating potential factors that may play a critical role in linking the ischemic placenta with maternal Cardiovascular abnormalities in preeclampsia.


Tumor cells are very sensitive to mitotic arrest and can undergo cell death in response to agents that perturb the mitotic spindle. Tubulin may be a critical factor that regulates the cellular response to anti-mitotic drugs. In the recent issue of Methods in Cell Biology Dr. Sharon Lobert, Professor of Nursing at UMMC discussed real-time polymerase chain reaction (PCR) as a molecular tool for the quantitative analysis of anti-mitotic drug effects on tubulin isotype and microtubule-interacting protein levels in normal and tumor tissue samples.

In the April issue of the Journal of Pediatric Surgery, Dr. Ken Liechty, Associate Professor in the Department of Surgery at UMMC and Director of The University Center for Fetal Medicine reported that 60% of the children diagnosed prenatally with giant omphalocele have short-term mild to severe neurodevelopmental delay. In addition, motor scores in 60% were also mildly to severely delayed. Omphalocele is a birth defect that involves a defect in the abdominal wall resulting in protrusion or herniation of the abdominal organs through the abdominal wall and into the base of the umbilical cord, resulting in a membrane covered sac. In giant omphalocele the defect is quite large (>5cm) and involves herniation of the liver into the omphalocele sac. These findings underscore the importance of early and standardized neurodevelopmental evaluation throughout childhood for all survivors with giant omphalocele.


In the April issue of the American Journal of Kidney Disease Dr. Sharon Wyatt, the Harriet G. Williamson Professor of Nephrology Nursing in the School of Nursing at UMMC examined the association of socioeconomic status with chronic kidney disease (CKD) in a high risk population. Utilizing the Jackson Heart Study, a cohort of over 3,400 African American men and women living in the tri-county area of Jackson, MS, this study found that the odds of having CKD were 40% lower for affluent participants than their less affluent counterparts.