

The Department of Physiology at UMMC.

With the explosion in technology for studying health and disease at the cellular, molecular and genetic levels, it is the task of the modern physiologist to integrate that information to understand function at the whole organism level. This integration brings into focus the multiple mechanisms that contribute to the myriad functions of the body in health and disease. The Department of Physiology and Biophysics at UMMC has a long history of teaching and research excellence that is recognized nationally and internationally. Extramural funding for the department, primarily from the National Institutes of Health (NIH) and the American Heart Association (AHA), totals ~ \$5,000,000/year. In addition to research, the faculty plays leading roles in national and international service to organizations including the American Physiological Society and the AHA among others. Several faculty members in the department are interested in working with REO students for the upcoming summer 2009. Listed below are their names, email addresses, and a brief description of their research interests.

Dr. John Hall (jehall@physiology.umsmed.edu)

My research areas are 1) Brain signaling in obesity and hypertension and 2) mechanisms of obesity-induced cardiovascular and renal injury

Dr. Joey Granger (jgranger@physiology.umsmed.edu)

My laboratory is interested in renal mechanisms of hypertension. Current studies are focused on pregnancy-induced hypertension.

Dr. Barbara Alexander (balexander@physiology.umsmed.edu)

Low birth weight, an indication of poor fetal growth and an adverse fetal environment, is strongly associated with adult blood pressure and cardiovascular death. Mississippi has the highest incidence of low birth weight in the US. My laboratory investigates how adverse influences during fetal life lead to an increased risk for later cardiovascular disease and high blood pressure.

Dr. Christine Maric (cmaric@physiology.umsmed.edu)

Our laboratory focuses on examining the interaction between the renin-angiotensin system, estrogen and testosterone in the pathophysiology of diabetic kidney disease.

Dr. Michael Ryan (mjryan@physiology.umsmed.edu)

My laboratory is interested in the mechanisms that lead to hypertension during chronic inflammatory diseases. We are currently focusing on the autoimmune disorder systemic lupus erythematosus.

Dr. Alejandro Chade (achade@physiology.umsmed.edu)

My lab is interested in understanding the mechanisms of renal injury in renovascular disease using a combination of in vivo and ex vivo imaging and bench-type techniques, as well as the feasibility of therapeutic interventions

For more information, please visit our website: <http://physiology.umc.edu>