American Heart Association.

2019 AHA-Funded Research Grants in the Triad

$447.5 Million in the U.S.

$18 Million in NC

$1.3 Million in Triad

Dr. Mark Chappell (right) and his PhD student, Dr. Bryan Wilson (left) at graduation

Dr. Mark Chappell
Wake Forest University
$300,000

Dr. Mark Chappell's research focuses on making advancements in the treatment of cardiovascular disease (CVD), which is the primary cause of death in the United States for both women and men. Dr. Bryan Wilson had a predoctoral AHA grant which contributed to Dr. Chappell's current AHA award and overall research.

With the AHA award, Dr. Chappell is focusing on uncovering new therapeutic treatments for CVD that target the endogenous endocannabinoid system within the kidney to prevent the chronic damage to the kidney under hypertension and diabetic conditions. It is necessary to discover new therapeutic approaches to prevent the reliance on renal dialysis or renal transplants in cardiovascular disease patients.

Both Dr. Chappell's mother and father passed away due to cardiovascular disease and with CVD being the most prominent cause of death for both men and women in the United States, making strides in this area is very important to all of us.

Hypertension can affect anyone, but it disproportionately and significantly affects African Americans compared to their Caucasian peers. Environmental factors, such as diet and lack of exercise, play a significant role in the development of high blood pressure (BP).

The gut microbiome is associated with vascular disease, including hypertension, and research has shown that exercise can improve gut microbial characteristics that are related to improved overall health, and likely BP. Motivated by the clinical significance that both exercise and the gut microbiome have on health and disease, Dr. Cook and others are utilizing exercise to quantify changes in gut microbes that may be associated with changes in BP after moderate-to-vigorous aerobic exercise training in African American men and women with high BP.

Dr. Cook feels that this is an important issue to focus on because we often negate to tell people WHY they need to eat right and exercise to promote healthy blood pressure. That why has lead us to the "organ" that has a huge impact on blood vessel health (the gut and the microbes that live there and work for us).

Dr. Cook explains that we also have a great chance to develop treatment strategies that include the gut (educating patients and practitioners) and help explain WHY diet and exercise impact this disease and the relationship to healthy habits to promote good gut microbial balance and better cardiovascular health. To keep beneficial bacteria in our gut is going to require us to do something (i.e., exercise and eat plenty of things that feed those good bacteria like fiber).

Dr. Marc Cook
North Carolina A&T University
$231,000

American Heart Association.

2019 AHA- Funded Research Grants in the Triad

$447.5 Million in the U.S.

$18 Million in NC

$1.3 Million in Triad

Dr. Hossam Shaltout
Wake Forest University
$301,912

Over the past 19 years of his research work, Dr. Shaltout has always been interested in assessing how the brain controls the heart. Simply, the heart communicates with the brain and how in turn the brain sends signals back to regulate how fast or slow the heart beats and to control how the rest of the vascular system adjusts to keep us healthy.

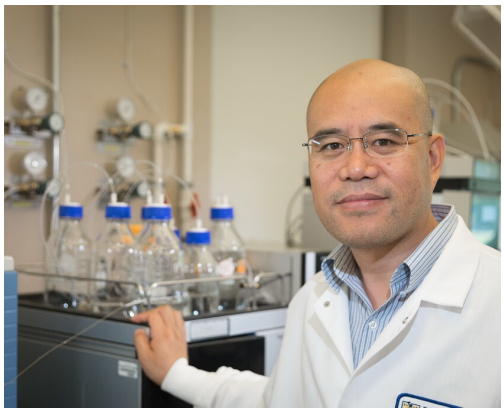
Dr. Shaltout's research project focuses on adolescent patients who suffer from orthostatic intolerance, which means feeling dizzy when you stand up for a long time or when you move fast from supine position to standing or get out of bed fast. This usually comes with other symptoms such as fast heart beats, nausea and/or vomiting. These symptoms usually impact more women than men (80% of patients are women), and could affect school attendance and participation in sports. Most of the adolescents in this generation tend to spend less time in the sun and have limited outdoor activity, thus a large percentage of them have low vitamin D levels. Dr. Shaltout's research focuses on the body changes that lead to the development of these symptoms and if treatment with vitamin D for two months may correct the symptoms.

This is personally important research for Dr. Shaltout, as he had a family member who suffered from orthostatic intolerance for a few years. I saw firsthand how restoring Vitamin D level completely reduced the symptoms and greatly improved her life and he wanted to test if it would work for other patients. The studies carried out in Dr. Shaltout's research will help identify the role of vitamin D in the regulation of cardiovascular response and the physiological changes that lead to the development of these orthostatic intolerance symptoms. If the vitamin D supplementation reduces symptoms, this will provide a safe alternative treatment for this group of patients.

Working with Dr. Janet Snell-Bergeon, an Epidemiologist at the School of Medicine at the University of Colorado, Zhang and Snell-Bergeon are aiming to identify novel protein and lipids predicting cardiovascular complications in type 1 diabetes (T1D) population.

Cardiovascular disease (CVD) is the leading cause of death in people with T1D, and the risk is elevated several-fold among people with T1D compared to non-diabetic adults. Only about half of the excess CVD risk in T1D can be explained by known risk factors.

Therefore, additional biomarkers are needed to refine the risk stratification and more accurately predict the disease progression, so better therapeutic strategies can be administered early to prevent the onset of CVD.



Dr. Qibin Zhang
UNC Greensboro
$496,303