Good News!

Wake Forest School of Medicine Cardiovascular Sciences Center

Second Quarter 2017

Wake Forest Baptist Health Emergency Medicine Brings the HEART Score to EMS Providers

Wake Forest Baptist Health has partnered with three surrounding county EMS agencies to successfully launch a pre-hospital pilot implementation of the HEART Score, a tool designed to risk stratify patients with chest pain. This pilot aims to determine whether paramedics using the HEART Score and Abbott's i-STAT point-of-care troponin assay in the pre-hospital setting can achieve 98 percent sensitivity and negative predictive value for major adverse cardiac events during the index visit and at 30 days in patients with symptoms concerning for ACS.



This pilot is built upon **Dr. Simon Mahler** and **Dr. Jason Stopyra's** extensive work with the HEART Pathway combined with a strong section of faculty EMS medical directors. This novel approach is the first use of point-of-

Dr. Mahler

care troponin analysis in the back of a moving ambulance. Abbott i-STAT Point-of-Care has provided funding for this study that has already enrolled over 25 percent of the target. The plan is to enroll through the spring of 2018. Pre-hospital utilization of the HEART score has the potential to improve the accuracy of triage, speed care delivery to patients at high risk of adverse events, and increase the efficiency of their care once they arrive at a medical facility. It may even be the first step in shifting the clinical paradigm of low-risk chest pain evaluation away from the emergency department and into the hands of pre-hospital/mobile integrated health providers.



Dr. Stopyra with an EMS team member

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Wake Forest[®] School of Medicine

CVSC Honors, Awards and Invited Lecturers



Drs. Herrington, Applegate, Libby and Zhao

Dr. Peter Libby, Mallinckrodt Professor of Medicine, Harvard Medical School and senior physician with Brigham and Women's Hospital, was the guest speaker at the inaugural William C. Little, MD, Cardiovascular Medicine Lecture held Friday, May 19, 2017. The title of Dr. Libby's presentation was "A Reassessment of the Mechanisms of the Acute Coronary Syndromes." Dr. Libby is a world-renowned leader in cardiovascular medicine. His clinical and research interests include vascular biology, atherosclerosis and preventive cardiology.



Drs. Wilson and Chappell

paper titled "Evidence for a Mitochondrial Angiotensin-(1-7) System in the Kidney." The study demonstrates that expression of an Angiotensin-(1-7) system, a key peptidergic pathway of the renin-angiotensin system (RAS) that exhibits beneficial cardiovascular actions, was localized to the renal mitochondria.

Dr. Bridget Brosnihan has been granted Faculty Emeritus status July 1, 2017, in recognition of her outstanding academic achievements and service towards the Bioanalytical Assay Core for over 25 years as a High Complexity Laboratory Director (CLIA). Dr. Brosnihan has actively participated in graduate and medical education and research mentoring throughout her career with accolades such as the Mentor of the Year Award by the Women's Health Center of Excellence at Wake Forest School of Medicine (2012) and Reidar Wallin Teaching Award from the Molecular Medicine and Translational Science Graduate Program (2014). She received numerous awards for her research, most notably the Lifetime Achievement Award of the Council for High Blood Pressure of the American Heart

Association (2008) and Lifetime Achievement Award for the Inter-American Society for Hypertension (2014). Since 1999, ten publications have received special recognition as among the most cited, with data featured as cover art or as having made significant impact in the field. Dr. Brosnihan retired from her current faculty position in Surgery/Hypertension June 30, 2017, but will remain active within the Core facility.

The Biomarker Analytical Core passed the CLIA recertification with no deficiencies. Recertification was held May 23, 2017, with the lab being cleared for two years. Directors of the Biomarker Analytical Core are Drs. K. Bridget Brosnihan and TanYa Gwathmey-Williams.

Dr. David Soto-Pantoja was awarded the Clinical Research Associate Director Pilot Fund through the Comprehensive Cancer Center for his project titled "Determine Whether CD47 is a Biomarker and a Target to Potentiate Responses to Immunotherapy" and obtained the Keystone Symposia Early Career Investigator Travel Award (ECITA) to present this work at the Keystone Conference on Integrating Metabolism and Immunity to be held in Dublin, Ireland. Dr. Soto-Pantoja was also selected to the 2018 Cohort of Keystone Symposia Fellows, which involves a year-long career development training as well as participation in the organization's Scientific Advisory Board.

Dr. Jennifer Jordan was accepted into the 2017 AAMC Early Career Women Faculty Leadership Development Seminar in Stevenson, Wash., this summer. Additionally, she was awarded a scholarship co-sponsored by the Office of Faculty Affairs and the Office of Women in Medicine & Science to attend the program.









Dr. Brosnihan

Dr. Gwathmey-Williams

At the Internal Medicine Teaching Excellence Awards Ceremony on May 25, 2017, the following awards were given.

Master Teacher Awards: Drs. Brandon Stacey and Bharathi Upadhya

Student Voted Awards: Class of 2017 - The Leonard Tow Humanism Award: Dr. Bharathi Upadhya

Class of 2019 - Teaching Award: Dr. Brandon Stacey

Student Teaching Awards for Faculty: Drs. Bharathi Upadhya and David Zhao









Student Achievements

Alexa Hendrix, a Neurosciences Program PhD student working with Dr. Diz, received 1st Place in the Dolores C. Shockley Best Presentation Award in American Society for Pharmacology and Experimental Therapeutics (ASPET) poster presentation at the Experimental Biology meetings in Chicago in April 2017, with a monetary prize, complimentary registration to next year's meeting and a one-year appointment to the ASPET Mentoring and Career Development committee. The title of her presentation was "Fetal Betamethasone Exposure Markedly Attenuates the Protein Expression of Angiotensin Converting Enzyme 2 but not Dipeptidyl Peptidase 3 within the Brain Dorsomedial Medulla of Adult Female Sheep."

Marianne Collard, an IPP PhD student in Drs. Tallant and Gallagher's laboratory, won 3rd Place in the American Society for Nutrition Emerging Leaders in Nutrition Science Poster Competition under the Dietary Bioactive Components RIS and received a cash award. She will also be interning with Aridis Pharmaceuticals in San Jose, Calif., from mid-May to the end of August.

Two oral presentations were given by **Sierra Nance**, a PREP trainee working with **Dr. TanYa Gwathmey-Williams** at the Experimental Biology Meeting in April 2017. The first talk was entitled "Cardiometabolic Status in Obese African-American Women is Linked to Glycative Stress" in the Obesity and Metabolic Syndrome session. The second talk was titled "Soluble Dietary Fiber in Obesity-Associated Inflammation and Oxidative Stress in African-American Women" in the Nutritional Immunology and Inflammation session.

The 2017 Post-Baccalaureate Research Education Program (PREP) Scholars Research Symposium was held June 13, 2017.

David Soto-Pantoja, PhD, assistant professor, Cardiovascular Sciences/Comprehensive Cancer Center, was the keynote speaker and his talk was titled "My Career Pathway."

2016-17 PREP Participants working with CVSC faculty were:

- Yismeilin R. Feliz-Mosquea, BS (Inter American University of Puerto Rico) Mentors: Katherine Cook, PhD/David Soto-Pantoja, PhD
- 2. Sierra A. Nance, BS (Winston-Salem State University) Mentor: TanYa Gwathmey-Williams, PhD
- 3. Sierra L. Patterson, BS (North Carolina State University) Mentors: Gagan Deep, PhD/Tina Brinkley, PhD
- 4. Ashley A. Smith Christensen, BA (Cornell University) Mentor: David Soto-Pantoja, PhD
- 5. Lillian Zerihun, BS (Duke University) Mentor: TanYa Gwathmey-Williams, PhD

CVSC Activities And Events



We would like to welcome **Diego Malaver**, **MAS**. Mr. Malaver recently graduated from the Institute for Advanced Analytics at North Carolina State University where he earned a Master of Science in Analytics degree. Prior to this, he grappled with biology and economics at the University of North Carolina at Chapel

Hill. In addition to cultivating his skills as a scientist, he enjoys analyzing the NBA and building models that optimize offensive schemes throughout various eras of the sport. Mr. Malaver has a passion for solving challenging problems through teamwork and is eager to apply complex methods for large-scale data modeling to better health. He will be working with us as a biostatistician to assist with analytics and statistical information.



Carlos Rodriguez, MD, MPH, FACC, associate professor, Department of Epidemiology and Prevention in the Division of Public Health Sciences, was named interim director of the Maya Angelou Center for Human Equity (MACHE) in May 2017. Dr. Rodriguez, who is also an associate professor of medicine, joined

our faculty in 2011. The focus of Dr. Rodriguez's research is on cardiovascular health disparities, minority cardiovascular health, hypertensive heart disease and heart failure. He is the principal investigator of ECHO-SOL and ECHO-SOL2, which are national multi-center studies on cardiac structure and function in Hispanics/Latinos across the country. Dr. Rodriguez was awarded a perfect score from the National Institutes of Health for his grant application, which is a very rare accomplishment.



The second CVSC Academic Journeys Seminar Series was held on May 11, 2017, at Wake Forest Biotech Place. **Dr. Alain Bertoni** gave a presentation on the things that have led him to the position he holds today. The talk was well attended by students, fellows and faculty. The next Academic Journeys Seminar is scheduled

for August 10, 2017, 4 pm, and will be held at Wake Forest Baptist Medical Center in The Commons. The speaker will be **Dr. W. Gregory Hundley**.



The AMPLATZER™ Amulet™ Left Atrial Appendage Occluder device Under **Dr. Patrick Whalen's** leadership, we have enrolled our first two patients in the AMPLATZER[™] Amulet[™] study, and these patients have undergone implantation of the AMPLATZER[™] Amulet[™] Left Atrial Appendage Occluder. This study is looking at an alternative device to the Watchman[™] for stroke prevention in atrial fibrillation patients who cannot take chronic anticoagulation. This Amulet PR Kit received IRB approval for site use on June 8, 2017.

Recent CV COE Faculty Publications April through June

During the last quarter, Wake Forest School of Medicine CV COE faculty published 140 manuscripts in peer-reviewed journals including JAMA, JACC, Circulation, Cell Report and American Journal of Medicine. A full list of these publications can be found at https://www.ncbi.nlm.nih.gov/sites/myncbi/1JSeQsdreOokM/collections/52965755/public/.

Below are a few highlights from the list:



















Cell Report.

Circulation.

Middle-Aged and Older Adults."

Dr. Kritchevsky

Dr. John Parks published an article titled "Hepatocyte ABCA1

Deletion Impairs Liver Insulin Signaling and Lipogenesis" in the

Dr. Jennifer Jordan et al, published an article titled "Early Myocardial Strain Changes During Potentially Cardiotoxic

Chemotherapy May Occur as a Result of Reductions in Left

Ventricular End-Diastolic Volume: The Need to Interpret Left

Ventricular Strain With Volumes" in the June 20th edition of

Drs. Stephen Kritchevsky, Dalane Kitzman and Gregory

Hundley et al, published an article in Metabolism: Clinical and

Experimental titled "Racial Differences in Circulating Levels of

the Soluble Receptor for Advanced Glycation Endproducts in

Dr. Kitzman

Dr. Hundley

Dr. Soliman

Dr. Zhang

Dr. Barnes

Dr. Jao

Drs. Elsayed Soliman and Zhu-Ming Zhang et al, published an article in The American Journal of Cardiology titled "Usefulness of Maintaining a Normal Electrocardiogram Over Time for Predicting Cardiovascular Health."

Dr. Erin Barnes is co-author of the article "Hospitalizations for Endocarditis and Associated Health Care Costs Among Persons with Diagnosed Drug Dependence - North Carolina, 2010-2015." The article was published in the Morbidity and Mortality Weekly Report (MMWR).

Dr. Geoffrey Jao co-authored the chapter titled "Heart Failure" in the book "Cardiovascular Hemodynamics for the Clinician, 2nd Edition," published by Wiley Blackwell.

Announcing the CVSC Pilot Award Winners and the Next Deadline for Applications

In an effort to promote new areas or technologies for cardiovascular research (basic, clinical and population), as well as foster collaborative efforts or new collaborations, the Cardiovascular Sciences Center (CVSC) invited investigators to apply for funding through the CVSC Pilot Award Program.



Andrew South, MD, MS, was the first recipient of the CVSC Pilot Funding awarded in January 2017. Dr. South is an assistant professor in the Section of Pediatric Nephrology, Department of Pediatrics. His research interests focus on pediatric hypertension and the role of the reninangiotensin system (RAS) in renal pathology. Dr.

South was funded by the CVSC for his project titled "The Role of the Renin-Angiotensin System in Pediatric Hypertension," which seeks to better define the relationship between hypertension and target organ damage in children and the potential role of Angiotensin-(1-7) as a mitigating factor.



Hariom Yaday, PhD, is the recipient of the CVSC Pilot Funding award for July 2017. Dr. Yadav is an assistant professor in the Center for Diabetes, Obesity and Metabolism (CDOM). His research program focuses on the gut microbiome-mediated pathology of diabetes, obesity and cardiovascular diseases, as well as designing innovative strategies

to modulate the microbiome-gut-brain axis against these pathologies.

We welcome Drs. South and Yadav as members of the Center and wish them the best in their ongoing research at Wake Forest School of Medicine.

Investigators are invited to apply for the next Pilot Funding Award by submitting their application through the ePilot electronic submission system by October 18, 2017. Please use this link to apply: https://redcap.wakehealth.edu/redcap/ surveys/?s=CRYX7TED39.