



# GOOD NEWS!

Wake Forest University School of Medicine Cardiovascular Sciences Center

Winter 2025



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## DRS. MARK CHAPPELL AND ASHISH KHANNA LEAD A TEAM AWARDED A \$3.8 MILLION NHLBI GRANT TO TEST PRECISION MEDICINE APPROACH FOR SEPTIC SHOCK



Chappell



Khanna



Files



Schaich

**Drs. Chappell and Khanna (MPIs)**, in collaboration with investigators from Wake Forest University School of Medicine (**Drs. D. Clark Files and Christopher Schaich**) and Massachusetts General Hospital (Drs. Daniel Leisman, Michael Filbin and Marcia Goldberg), received a five-year, \$3.8 million R01 grant from the National Heart, Lung, and Blood Institute titled **Dysfunctional Renin-Angiotensin-Aldosterone System in Septic Shock**.

The randomized clinical trial aims to determine whether matching septic shock patients to specific treatments based on blood biomarkers improves outcomes by comparing Angiotensin II versus norepinephrine (conventional care) treatment. Septic shock is the leading cause of intensive care unit deaths worldwide, with a roughly 40% mortality rate even when the most advanced critical care is administered.

The team will enroll 78 patients from Atrium Health Wake Forest Baptist Medical Center in Winston-Salem, Atrium Health High Point Medical Center in High Point and Massachusetts General Hospital in Boston. After initial treatment with fluids and norepinephrine, participants will be randomly assigned to receive either Angiotensin II or additional norepinephrine. The investigators will measure how well each treatment restores the Renin-Angiotensin-Aldosterone System which may be functionally impaired in septic shock, track immune function and monitor safety. They will also explore whether Angiotensin II helps white blood cells clear infection more effectively than standard care.

*Continued on page 2*

## FUNDING

During the months of September to December, CVSC members were awarded 31 grants including 10 from federal agencies for a sum of ~ \$6.6M and 21 from other sources for a sum of ~ \$9.3M. Below we highlight awards from the CVSC.



Akbilgic



Herrington

**Dr. Oguz Akbilgic**, in collaboration with **Drs. David Herrington**, Ibrahim Karabayir and Olivia Gilbert, was selected as one of the four finalists of the 2025 LAUNCH Program and

received a \$60K grant for a 1-year project on Smartwatch Based Low EF Detection.



Peters



Kitzman

Anthony Peters, MD, MS (mentor **Dr. Dalane Kitzman**) was a recipient of the 2025 Clinician-Scientist Transdisciplinary Aging Research Coordinating Center (Clin-STAR) Aging

Research Development and Training Grant for *The relationship between the senescence-associated secretory phenotype (SASP) and heart failure with preserved ejection fraction (HFpEF)*.



Akbilgic

**Dr. Oguz Akbilgic** and PI Tina Baykaner from Stanford University received a fundable score from NCI for the R01 Post BTKI Treatment Atrial Fibrillation Risk Prediction Project.



Singh

**Dr. Jai Singh** (PI and Director of the Cardio-Oncology Program) and Dr. Bradely Lenoir (Co-I and Surgical Director of the Cardio-Oncology Program) were awarded one of the 2025 Heineman-Robicsek grants for their project titled An Integrated Cardio-Oncology Surgical

Heart Team: A Multidisciplinary Model for Cardiothoracic Surgery in Cancer Patients.

**Dr. Oguz Akbilgic** received a \$40K pilot award from the Center For Health Care Innovation for a Pilot Award for "Remote, Bloodless BNP Test."

**Dr. Veronica Lisi** (postdoc in **Dr. Sophie Maiocchi's** Translational NanoTherapeutics Lab) won an AHA postdoctoral fellowship for 2026-2027 for "Advancing

Cell-Mediated Drug Delivery to Treat Deep Vein Thrombosis."

**Dr. Nicole Cyrille-Superville** (PI) and team received an award to be part of the TRITON-CM study which will be the first study in the ATTR cardiac amyloid space at Atrium Health Wake Forest Baptist. It is a phase 3 randomized double blinded placebo control study evaluating the efficiency and safety of the new TTR silencer, Nucleosiran.

### NHLBI Grant *continued*

Dr. Leisman's earlier studies in mice suggested Angiotensin II improves bacterial clearance by enhancing neutrophilic. A 2017 New England Journal of Medicine trial, with Dr. Khanna as lead author, showed that more than 70% of patients with vasodilatory septic shock responded to Angiotensin II, and those with high renin levels had better survival rates. Recent analyses by Drs. Chappell, Schaich, Khanna and others found renin and angiotensinogen that form Angiotensin II were stronger predictors of poor outcomes than lactate, the current standard biomarker.

Enrollment is expected to be completed within three years with the remaining time spent analyzing samples. This outstanding study may lead to more appropriate treatment methods and improve outcomes for septic shock patients and promote the standards for therapeutic development of targets in septic shock

**Next CVSC Pilot Funding Deadline: March 15, 2026.**

# INTRODUCING BILL SAUNDERS, PHD, MPH

## Senior Data Scientist, Sanger Heart & Vascular Institute, Atrium Health

Dr. Bill Saunders is a seasoned data scientist with a rich background in biostatistics and epidemiology. He earned his BSPH, MPH in Biostatistics, and PhD in Epidemiology from UNC Chapel Hill. Since joining Atrium Health Sanger Heart & Vascular Institute (SHVI) in January 2024, he has been instrumental in leading data-driven projects focused on cardiovascular health, including collaborations on lead extraction, OB/CVD, and amyloidosis research.

With a career spanning academia, pharmaceuticals, government, and consulting, Dr. Saunders has contributed to numerous published articles and has directed a master's program in Health Informatics at UNC Charlotte. His past work includes designing a flu study at Glaxo-Wellcome and developing a “Healthcare Information Factory” to support clinical and marketing research. At IBM Watson, he played a key role in tracking the COVID-19 epidemic using electronic health records.

Dr. Saunders is a member of ISPOR (International Society for Pharmacoeconomics & Outcomes Research), has been involved with ISPE (International Society for Pharmacoepidemiology), and SER (Society for Epidemiologic Research). His passion for biostatistics was sparked by a love for math and medicine, influenced by his father, a math professor. Known for his hands-on approach to data and strategic insight, he excels in programming, analysis, reporting, and executive-level research planning.



A unique and inspiring aspect of Dr. Saunders' journey is that he is also a patient at SHVI! Born with Tetralogy of Fallot—a rare congenital heart condition—he underwent corrective surgery as a child. More recently, he has received stents and a pacemaker/defibrillator, giving him a deeply personal understanding of the patient experience and further enriching his compassionate approach to research.

## INVITED PRESENTATIONS



Eyadiel

**Lauren Eyadiel, MS, MMS, SLP, PA-C** was a speaker during the Plenary Session IV: Heart Failure and presented "HFrEF Playbook: Mastering GDMT and Knowing When to Pass the Ball" in November at the Cardiology Advanced Practice Provider National Conference.



South

**Dr. Andrew M. South:**

- Guest speaker at the American Heart Association Hypertension Scientific Sessions, Baltimore, MD on September 6 and presented "Young Adults: How to Transition from Pediatric Care Smoothly" in the Hypertension Across the Lifespan Session—Primary Care.
- Gave an invited Heart Center Grand Rounds talk "Empowering Each Other: Cardiovascular Research Made Easier and Better" as part of a Visiting Professorship at Nationwide Children's Hospital and The Ohio State University College of Medicine on September 18.
- Taught in Ho Chi Minh City and Hanoi, Vietnam, in October as an invited instructor in the International Pediatric Nephrology Association's Teaching Course.
- Presented "Blood Pressure through Puberty and Menarche" at the NHLBI's "Blood Pressure Across Women's Health" Virtual Workshop on December 10.
- Guest speaker at the American Society of Nephrology Kidney Week in Houston, TX on November 6 and presented "Improving Pediatric Hypertension Screening in Primary Care: Challenges and Strategies" in the "A Lifespan Approach to Pediatric Hypertension: Guiding Care from Youth to Adulthood" Session.



Phelan

**Dr. Dermot Phelan** co-chaired the American Society of Echocardiography Scientific Sessions in Nashville, TN, September 5-7.



Bhave

**Dr. Prashant Bhave** and Dr. Bartlomiej Imielski were invited to present multiple talks related to electrophysiology and cardiac surgery at the Chilean Society of Cardiology and Cardiovascular Surgery (SOCHICAR) Annual Cardiology Conference in Santiago, Chile.

During the Gulf Intervention Society (GIS) Conference in Dubai on November 27th,

**Dr. B. Hadley Wilson** gave a presentation on the Update on Cardiogenic Shock.



Wilson

**Dr. B. Hadley Wilson** presented "The Global Heart Attack Treatment Initiative (GHATI): An ACC initiative for STEMI Care in Low and Middle Income Countries" in Djerba, Tunisia on October 16, 2025.



Yamaleyeva

**Dr. Liliya Yamaleyeva** presented an invited talk titled "Preeclampsia and Long-Term Cerebrovascular Risk" at the American Physiological Society (APS) 2025 New Trends in Sex Differences and Women's Health Research Conference, New Orleans, October 23-26, 2025.



Westwood

**Brian Westwood, M.S.** (Senior Research Associate) presented his work at APS 2025 New Trends in Sex Differences and Women's Health Research Conference in New Orleans, October, 23-26, 2025:

**Westwood B, Sun X, Su Y, Singh S, Ray J, Lewis N, Kumar A, Deep G, Yamaleyeva LM.** Placenta-Derived Extracellular Vesicle miRNAs Target Vascular and Cellular Function Pathways in a Transgenic Rat Model of Preeclampsia.



Cruz-Diaz



Gallagher

Nykea Lewis, B.S. (Intern in Dr. Yamaleyeva's lab) presented at the 2025 WFUSM Surgical Sciences Research Day: **Lewis N, Cruz-Diaz N, Sun X, Tallant**

**EA, Gallagher PE, Yamaleyeva LM.** The Exposure to Muscadine Grape Extract During Pregnancy Does Not Alter Cardiac Hemodynamics but Increases Proteinuria in Preeclamptic Rats.

Dr. Olivia Gilbert:

- Presented "Medical Weight Management for Optimization of Cardiovascular Health" at Grand Rounds Sessions for the University of North Carolina at Chapel Hill (September 15, 2025), the University of Oklahoma Health Campus (virtual-November 6, 2025), the Atrium Health Cardiovascular in Charlotte, NC on November 17, 2025, and during the North Carolina and South Carolina 32nd Annual Joint Conference in Asheville, NC on September 20, 2025.
- Presented "The Heart of Improvement: Translating QI Methodologies into Clinical Experience" and the "Artificial Intelligence in Quality Improvement and Health System Performance" at the American College of Cardiology (ACC) Quality Summit, Denver, CO in October 2025.

## INVITED PRESENTATIONS *continued*

- Session Chair for “Rendering New Arrhythmia Innovations Gamer Changes, Not Just Players” – Heart and Rhythm 2025, San Diego, CA.
- A Moderator and Panelist for “The Ralph G. Brindis Keynote Lecture – The Heart of the Matter: Rescuing and Transforming American Health Care in Troubled Times during the ACC Quality Summit, Denver, CO in October 2025.
- Chaired the American College of Cardiology (ACC) Quality Summit, October 14-17, 2025 in Denver, CO.

### Dr. Oguz Akbilgic:

- Keynote Speaker and presented “An AI Model’s Path from Algorithm to Patient Care” at The International Symposium on Health Informatics and Bioinformatics (HIBIT), Istanbul, Türkiye.
- Presented "Electrocardiographic Artificial Intelligence: From Lab to Clinical Implementation" during the UNC Health Informatics Seminar Series.
- Presented five abstracts and one poster at the 2025 American Heart Association (AHA) Scientific Sessions and three abstracts and one poster at the European Society of Cardiology (ESC) Digital & AI Summit.

## PUBLICATIONS

During the months of September to December, Cardiovascular Sciences Center members published 141 manuscripts. Of these, 13 were CVSC first author publications. Below we highlight several publications.

**Phelan DM**, Claessen G, Eijsvogels TMH, Churchill TW, Dineen EH, Gati S, Guseh JS 2nd, Hsu JJ, Shah AB, Sperry BW, Wasfy MM, La Gerche A, Martinez MW, Papadakis M, Baggish AL, Kim JH; American College of Cardiology Sports and Exercise Cardiology Council. Cardiovascular Imaging Considerations for Masters-Aged Athletes. *JACC Cardiovasc Imaging*. 2025 Nov 26;S1936-878X(25)00636-9. doi: 10.1016/j.jcmg.2025.10.024. Epub ahead of print. PMID: 41324521.

Santiago-Fernández O, Coletto L, Tasset I, Kaushik S, Concepcion AR, Qaisar R, Macho-González A, Lindenau K, Diaz A, Khawaja RR, Donega S, Banskota N, Ubaida-Mohien C, Pharaoh G, **Ahn B**, Hartnell LM, Ramírez-Pardo I, Chavda B, Gazteluiturri A, Kinter M, Ferrucci L, Reisz JA, D'Alessandro A, Van Remmen H, Muñoz-Cánoves P, Feske S, Cuervo AM. Age-related decline of chaperone-mediated autophagy in skeletal muscle leads to progressive myopathy. *Nat Metab*. 2025 Dec;7(12):2589-2611. doi: 10.1038/s42255-025-01412-9. Epub 2025 Dec 3. PMID: 41339969; PMCID: PMC12727505.

Zhu F, Sinha A, Graça G, Neeland IJ, Pandey A, Tzoulaki I, Karaman I, Tracy RP, Lima JAC, Shah SJ, **Herrington D**, **Bancks MP**, Rivera AS, Greenland P. Serum Metabolites and Heart Failure Risk: MESA and RS. *J Am Heart Assoc*. 2025 Dec 16;14(24):e044211. doi: 10.1161/JAHA.125.044211. Epub 2025 Dec 11. PMID: 41378459.

Masrouri S, Chevli PA, **Bancks MP**, Mirzai S, Lima JAC, Bluemke DA, Pagidipati NJ, **Shapiro MD**. Longitudinal

Trajectories of Albuminuria and Risk of Subclinical and Clinical Heart Failure, Atrial Fibrillation, and Coronary Heart Disease: the MESA Study. *Eur J Prev Cardiol*. 2025 Nov 3;zwaf699. doi: 10.1093/eurjpc/zwaf699. Epub ahead of print. PMID: 41178268.

**Patel NA**, Parrott C, Hicklin HE, Ferris C, Hodges E, **Bhave PD**, Whalen SP, **Zhao DX**, **Richardson KM**. Volume retention after left atrial appendage occlusion: incidence and risk factors. *J Interv Card Electrophysiol*. 2025 Dec 12. doi: 10.1007/s10840-025-02194-6. Epub ahead of print. PMID: 41385172.

Pandey A, Gilbert ON, **Kitzman DW**, **Bertoni AG**, Duncan PW, Mentz RJ, Reeves GR, Whellan DJ, Nelson MB, Chen H, Subramanian V, Reed SD, **Upadhyia B**, O'Connor CM, Pastva AM. Sex Differences in Efficacy of Multidomain Rehabilitation Among Older Adults With Acute HF: The REHAB-HF Trial. *JACC Heart Fail*. 2025 Nov;13(11):102547. doi: 10.1016/j.jchf.2025.102547. Epub 2025 Sep 24. PMID: 40990882; PMCID: PMC12462890.

Dr. Imielski et al published the first study investigating cardiopulmonary bypass patients and vasoplegic shock.

• Imielski BR, **Khanna AK**, Tingey S, **Schaich CL**, Wright KN, Zarbock A, **Chappell MC**. Attenuated renin response and reduced angiotensin II concentrations: association with cardiopulmonary bypass-induced vasoplegia. *Br J Anaesth*. 2025 Dec;135(6):1832-1834. doi: 10.1016/j.bja.2025.08.028. Epub 2025 Sep 25. PMID: 41006168.

# ENVISION FACULTY SPOTLIGHT

## ENVISION – Employing Novel Virtual and In-person Strategies to Increase the Number Of Students Pursuing Healthcare and Biomedical Research Careers

In this CSVC ENVISION portfolio feature we showcase [Dr. Deepak Palakshappa](#). Follow these links to access [Deepak's brochure](#), [animation](#), and [podcast](#). A survey link is provided with all materials to gather feedback from those accessing the portfolios. All materials are free to download and use without copyright restraints.



The target audience for the portfolios includes high school/early college level students and their teachers, with resources for educators to implement within their curriculum or share with their students directly, including [Lesson Plans/Activity Sheets](#), [Journal Articles](#), [Brochures](#), [Careers-focused PowerPoints](#), and [Podcasts](#) with [transcripts](#) and [PowerPoints](#). Materials are produced in English and Spanish.

Please visit the [ENVISION website](#) to access other materials published so far and feel free to share this information with your networks, particularly with high school and early college students, and science

teachers. The ENVISION team (Drs. Debra Diz, David Herrington, Indra Newman and Shea Gilliam-Davis) with funding from **The Duke Endowment** partners with [Futurum](#), a publishing company specializing in profiling scientists, to produce these portfolios of our amazing colleagues as relatable role models. If anyone wishes to participate as a featured individual or team or has suggestions for those to feature, please reach out to: [Shea.Gilliamdavis@Advocatehealth.org](mailto:Shea.Gilliamdavis@Advocatehealth.org)

# AWARDS AND ACCOMPLISHMENTS



**Dr. Oguz Akbilgic**, pictured with Dr. Ebony Boulware, was selected as one of six exceptional Wake Forest faculty recognized for his transformative research and leadership in artificial intelligence, specifically for his role as a health informatics expert developing AI-powered, wearable technologies for cardiovascular and maternal health. His innovations include an FDA-designated Breakthrough Device.



**Rose**

**Dr. Geoffrey Rose** received the 2025 Physician Lifetime Achievement Award during the 50th Anniversary Scientific Sessions of the American Society of Echocardiography (ASE) for his years of leadership in cardiovascular imaging, patient outcomes, and health policy, while also serving patients directly in the echocardiography lab and supporting colleagues.

Dr. Jens Eichhorn and Cody Frye received the Physician and Sonographer Biggest Heart Awards during the 50th Anniversary Scientific Sessions of the American Society of Echocardiography (ASE).

Allyson Boyle, MHA, ACS, RDCS, FASE received the Soulmate Award during the 50th Anniversary Scientific Sessions of the American Society of Echocardiography (ASE).

## AWARDS AND ACCOMPLISHMENTS *continued*



Zhao



Richardson

**Drs. David Zhao**, MD, FACC, FSCAI; David Tryon, MD; **Karl Richardson**, MD Jeff Corbett, MD along with the **structural heart team** (Becky Hayes, BSN, RN, RCIS, Assistant Clinical Manager- Structural

Heart Program; Kathy Lewis, NP- Structural heart Program; Christine Ryce, RN- Structural Heart Coordinator) **the Cardiac cath lab staff** (Jennifer Underwood, BSN, RN RCIS, Assistant Clinical Manager- Cardiac Cath Lab; Candace Gootman, RCIS; Chelsea Kennedy, RCIS; Rick Poplin, RN-RCIS; Amanda Smith, RT, CI **and the anesthesia staff** (Steven Eastlack, MD Tiraj Parikh, DO) completed their first percutaneous tricuspid valve replacement with Evoque during the second week of December. The procedure was successful, and moving forward will provide expanded opportunities for our patients and community.



**Drs. David Zhao**, David Tryon, **Karl Richardson**, Jeff Corbett pictured with the structural heart team, cardiac cath lab staff and anesthesia staff after completing their first percutaneous tricuspid valve replacement with Evoque.

Dr. Olivia Gilbert was invited to co-write a chapter with Dr. Charles German on “Medications for Weight Loss: Impact on Cardiovascular Health” in the “Obesity and Cardiovascular Disease” section of the ESC Textbook of Cardiovascular Medicine which is the only comprehensive publication on cardiovascular disease in Europe.



Kim

During the 36th Annual Scientific Sessions of the Society for Vascular Medicine in Philadelphia, PA, **Dr. Esther Kim** was installed as President, and Dr. Aditya Sharma was instated as the President-Elect.

In September, **Dr. B. Hadley Wilson** was featured in an article in the Charlotte Business Journal (CBJ), [Matters of the Heart - NC native pioneers protocol for cardiac care that became a model used across the globe](#), as part of the CBJ's Health Care Heroes Awards Program. As the 2025 recipient of the CBJ's Health Care Heroes Lifetime Achievement Award, Dr. Wilson was honored for his contributions to interventional cardiology, academic leadership, philanthropy, and international mission work.

Other teammates recognized by the CBJ's Health Care Heroes Awards Program are as follows:

- Dr. Erin Murphy – Innovation and Advancements in Health Care: Recognized as a national and international leader in venous and lymphatic medicine, driving groundbreaking clinical trials, shaping best practices, and co-chairing one of the world's most prestigious vascular conferences.
- Dr. Fanny Alie-Cusson – Rising Star Award, Vascular Medicine: Celebrated for her dynamic leadership in research, education, and clinical care, already making a major impact through mentorship, publications, and national presentations early in her career.
- Deborah Denton, RVT – Health Care Executive: Honored for more than 25 years of leadership in vascular surgery, guiding the division's expansion across the region and building programs that have transformed access and quality of care.

On November 9, 2025, Dr. Olivia Gilbert was interviewed by WFMY News 2 to discuss “Davidson County Paramedic Receives Life-Saving Heart” and in October 2025 participated in an EP Lab Digest Podcast interview to talk about “Integrating Pharmacologic Weight Management into the Electrophysiology Practice for Better Atrial Fibrillation Outcomes.”

**Dr. Dermot Phelan** served as the American Society of Echocardiography (ASE) co-chair for programs.

With the ACC's Workgroup for Initiation of Therapy for Heart Failure, Dr. Olivia Gilbert worked on numerous CardioSmart Infographics:

- “Heart Failure with Preserved Ejection Fraction” (10/2025)
- “5 Steps to A Successful Heart Failure Treatment Plan” (10/2025)
- “Diagnosed with Heart Failure” (10/2025)
- “Heart Failure (11/2025)

# ANNOUNCEMENTS

The Cardiovascular Sciences Center (CVSC) will be seeking proposals for the **2026 Pilot Award Program**. The goal is to promote new areas or technologies for cardiovascular research (basic, clinical, population), as well as to foster new collaborations, particularly across the Atrium Health System. Projects from early career researchers, pursuit of novel and innovative ideas and research that uses Institutional Cores and other shared resources are encouraged. The funding is also meant to allow investigators to perform critical experiments, access core facilities or improve analyses to address specific critiques raised by reviewers for already submitted and reviewed applications.

**Completed applications are due March 15, 2026, with an award start date of June 1, 2026.** Please contact Dr. Liliya Yamaleyeva ([Liliya.Yamaleyeva@wfusm.edu](mailto:Liliya.Yamaleyeva@wfusm.edu)) if you need further guidance.

Here is how you get started!

Go to this link to access the application and instructions.

<https://redcap.school.wakehealth.edu/surveys/?s=49X7WN3XW93DA8CD>



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