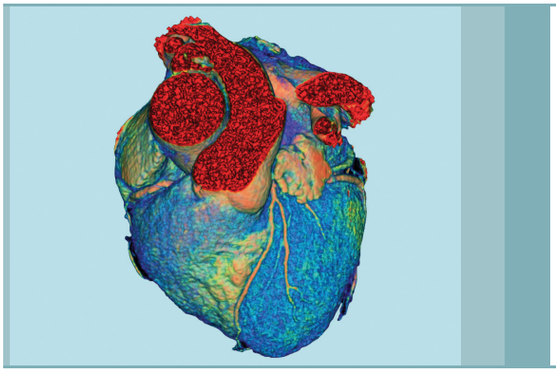


WASHINGTON UNIVERSITY ALUMNI NEWSLETTER
Winter 2015

CARDIOLOGY

Women and Heart Disease

Cardiologist Kathryn Lindley, MD, says there's a need for a special niche in the cardiovascular field that focuses on heart disease in pregnant women. "These are the trends we see now — a higher incidence of acquired heart disease among older moms, trends in diabetes and obesity that increase the risk for heart disease, and congenital heart disease babies growing up to have kids of their own," she says.

Lindley, a former fellow in the Cardiovascular Division, has a passion for both obstetrics and cardiology. Torn between a medical career in either direction, Lindley realized that the flexible third year of training in the cardiovascular fellowship here was the perfect opportunity to forge her own pathway. The Division paid for her to receive specialized training at Emory University focused on pregnant women with heart disease. Additional rotations at Washington University included training with maternal-fetal medicine and pulmonary hypertension specialists. "I also spent an entire year in the congenital heart disease clinic and volunteered to see any inpatient consults of patients who were pregnant and had heart disease," she adds.

Having joined the faculty in mid-2014, Lindley is working to establish a Women's Heart Center, which she envisions will span services from before pregnancy to end of life. She hopes to have a special clinic jointly operated by cardiovascular and maternal-fetal medicine specialists to care for women with heart disease who want to get pregnant or who have recently confirmed a pregnancy.

Already, a Maternal-Fetal Cardiovascular Management Team meets monthly to risk-stratify patients and discuss all aspects of care. "The continuity of care and knowledge that Dr. Lindley provides as the point person for cardiology is invaluable," says Alison Cahill, MD, MSCI, Chief of the Maternal-Fetal Medicine Division. "We care for a large number of women with high-risk pregnancies who have a range of congenital or acquired heart diseases. The care plans for these women require multidisciplinary teams involving maternal-fetal medicine (high-risk obstetrics), cardiology and anesthesia."

Cardiologist Kathryn Lindley, MD (right), works closely with maternal-fetal medicine specialist Alison Cahill, MD to provide care to pregnant women with heart disease.

Lindley also points out that some women have unique risk factors that have not been globally recognized. Women with preeclampsia during pregnancy, for example, are four times more likely to develop hypertension years later. "It's usually asymptomatic, so without screening it could go undetected for years," she says.

Unrelated to pregnancy, Lindley says a specialized Women's Heart Center could address other cardiovascular risk factors in women. "Rheumatoid arthritis causes accelerated heart disease risk as does gestational diabetes," she says, "but these are nontraditional risk factors that both patients and some physicians tend to underestimate.

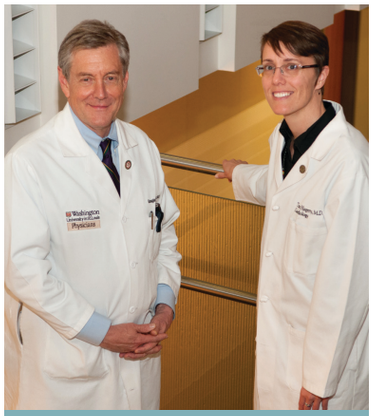
On the horizon, Lindley aims for collaborative research opportunities. "There's only a handful of people in the country with this subspecialty," she says. "We want to be on the forefront of developing the care protocols and identifying critical research pathways."

MESSAGE FROM THE CHIEF

In 2012, the 65th anniversary of our Cardiovascular Division, we established the Smith-Oliver Alumni Society to foster and maintain the connections between alumni, faculty and fellows. This fall, we had the opportunity to see how forging these relationships is blossoming into unique training opportunities for our fellows.

Tracy Hagerty is a second year fellow in our cardiovascular training program. Prior to her fellowship, Tracy completed a residency in Arizona, where she had the opportunity to work with the Native American population in the southwestern United States. For a time, she also served as an internist for the Indian Health Service. With cardiovascular disease now the leading cause of death in American Indians, Tracy wanted to pursue cardiovascular career and research options that would benefit the Native American population. In October, Tracy noted that there was a rare opportunity to meet face-to-face with members of a steering committee for the 13-tribe Strong Heart Study, which focuses on improving the overall health of Native Americans. The cost of the trip was prohibitive. Thanks to donations to the Smith-Oliver Alumni Fund, however, Tracy was able to attend the meeting. Says Tracy, "Participating in this meeting allowed me to begin a research collaboration with a population that I have had longstanding interest. I could not have afforded to do this without the support from the Smith-Oliver Fund."

I thank those of you who have generously contributed to our alumni fund and encourage you to regularly consider extending your appreciation of your time in our training program to the next generation of cardiologists.



Douglas Mann, MD with cardiovascular fellow Tracy Hagerty, MD

This issue of the Alumni Newsletter also contains stories on exciting changes at the John Cochran VA, renovations of the Center for Cardiovascular Research, and a review of the AHA symposium that was organized by Alan Braverman.

As always, I want to personally thank you for sending us updates as your careers progress. We look forward to seeing you at upcoming meetings and/or when you visit Saint Louis.

Douglas L. Mann, MD
Lewin Professor and
Chief, Cardiovascular Division

THANK YOU to Our 2014 Donors

The following physicians have made donations in the past year to the Cardiovascular Division. Your support helps us to advance the field of cardiology by enhancing our fellowship training programs and supporting distinguished lectureships and other activities. Thank you for your support!

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ALUMNI NEWS

Fellowship Program Update

Andrew Kates, MD

Challenging. Hands-on. Individualized. Supportive. Transformative. These are some of the words that our current fellows use to describe the Cardiovascular Training Program at Washington University School of Medicine. This fall, the Division debuted a program overview video to prospective fellows visiting the medical center campus. The video highlights the unique attributes of our training program, including two Investigator Pathways and eight Clinical Pathways. Justin Vader, MD, a recent fellow who joined the faculty specializing in heart failure. said in the video, "Here the clinical volume and breadth is excellent, the expectations are high, the environment is stimulating, and the results are tangible at the end of training." We are actively promoting the differentiating factors of our training program. The results are clear —the quality of the fellowship applicants has never been stronger, collaborative research activities with fellows are numerous, and the diversity of subspecialty pathways envisioned by our fellows continues to grow. We've posted the video on our website for you to see: http://cardiology.wustl.edu/education/program-overview.html.

With a strong program in place, our faculty is focused on ensuring a vibrant teaching environment with opportunities for close mentorship. This year, we debuted the IMPACT program (see page 6). Overseen by Sharon Cresci, MD, the program links women faculty and alumni to current women fellows for support and mentorship. If you are one of our women alumni, I encourage you to learn more about IMPACT. Learn how you can help your future colleagues, and help shape our training program while remaining connected to Washington University.

Alumni Update

Drs. Jay and Shimoli Shah

Clinical Cardiology Fellows, 2009-2012 (Jay); 2010-2013 (Shimoli)

Currently: Jay Shah established and is the director of the Cardiovascular Department at The Portland Clinic in Portland, OR. He serves both an administrative and clinical role through consultative services to the 100+ physicians within the clinic as well as overseeing an echocardiography and vascular lab. Shimoli is a full-time general cardiologist and assistant professor with the Knight Cardiovascular Institute at Oregon Health & Sciences University (OHSU), where she is actively building a comprehensive Women's Heart Program. Both teach in the echo lab at OHSU (Jay is adjunct faculty) and Shimoli also has clinical responsibilities at the local VA Hospital. In addition, Shimoli also serves on OHSU's Cardiovascular Education Committee and is involved in recruitment of fellows and curriculum development.

Favorite Leisure Activities: We're delighted to pass along that Jay and Shimoli just had their first child, Avi Jay Shah, born Oct. 9. Hiking, traveling, cooking, and reading are some of their other leisure activities in addition to family time.

Favorite Fellowship Memories: Many! Looking back, our clinical experience was simply fantastic and unparalleled. The independence given to the fellows and trust from the faculty was unique. Our training has given us both the confidence and ability to transition into our current roles. On a personal level we still have very strong ties to Division faculty who we still communicate with on a regular basis and very much serve as mentors and friends.

Shimoli and Jay Shah with newborn Avi.

First Year Cardiology Fellows, July 2015

We welcome the following physicians to our Cardiovascular Fellowship training program at Washington University School of Medicine:

Adefolakemi Babatunde, Duke

Tim Dunn, Stanford

Jake Goldstein, BJH

Joshua Mitchell, Walter Reed Army

Jonathan Moreno, BJH

Elizabeth Riddell, Vanderbilt

Adam Shpigel, Johns Hopkins

Curtis Steyers, Iowa

Sangita Sudharshan, BJH

Renovation Sparks Collaboration, Synergy

The Center for Cardiovascular Research (CCR) at Washington University School of Medicine recently underwent renovations to create a dynamic, interactive and synergistic atmosphere among researchers involved in cardiovascular research.

"These renovations put a new, bright and modern face on the CCR and the dedicated common areas will enable increased interactions among faculty from diverse scientific disciplines such as cardiology, molecular and cellular biology, physiology, biophysics and bioorganic chemistry, as well as among fellows, students and staff in their laboratories," says Jeanne Nerbonne, PhD, CCR Director and Alumni Endowed Professor of Molecular Biology and Pharmacology.

Multiple research projects are under way in CCR laboratories; among them, studies examining the molecular, cellular and systemic mechanisms involved in the dynamic regulation of cardiac membrane excitability; the role of autophagy in atherosclerosis; cellular responses to myocardial damage or injury; mechanisms of cell death; and genomic predictors of cardiovascular disease risk and complications.

Cardiology researcher Abhinav Diwan, MD, whose team is investigating the regulation of lysosome machinery in heart disease, says new CCR research equipment, in addition to the more accessible and larger common areas, will facilitate more collaborative research.

"The CCR has been a dynamic and growing enterprise with exciting research in rapidly emerging areas," he says. "The quality and diversity of research, coupled with the vibrant atmosphere, position us as a highly competitive center of excellence in the field of cardiovascular research."

CENTER FOR CARDIOVASCULAR RESEARCH

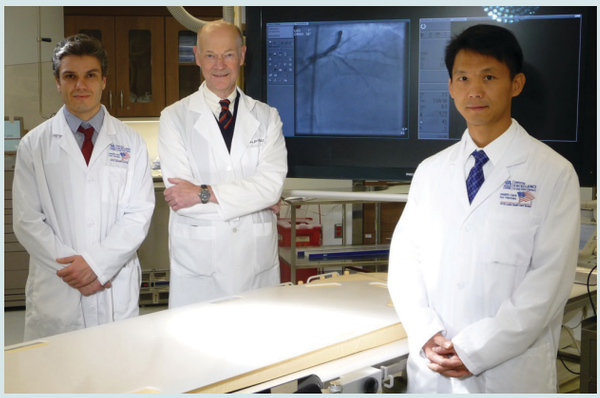
VA Cardiology Program Growing

A new, state-of-the-art, multi-million dollar electrophysiology lab. New and renovated cath labs. The build-up of a small clinical research unit. More cardiology faculty. An expanded fellowship training program.

In just six months, William Balke, MD, the new chief of cardiology at the John Cochran VA Medical Center in St. Louis, has seen an influx in critical enhancements to the cardiology program for veterans in St. Louis. With an aging veterans population, the St. Louis VA annually sees over 2,000 new cardiology consults. It also logs the largest number of coronary artery interventions of all U.S. VA hospitals.

Balke, on the faculty at Washington University, has a three-pronged mission at the VA — enhance clinical care, increase opportunities for clinical research, and expand and strengthen the cardiology training program, which has fellows from both Washington University and Saint Louis University.

Clinical Care — Balke and his colleagues focused early efforts on reducing the wait time for cardiology appointments. Where last year wait times averaged three months, this year wait times have dropped to 14 days or less. His goal is to reach 7 days. The VA also recruited a cardiac surgeon so that patients don't have to travel to Columbia, MO, or Nashville, TN for surgery. A new EP specialist joined the team in late December, bringing the total number of faculty at the VA to 10 (6 from Wash U; 4 from SLU).



Ilia Halatchev, MD; William Balke, MD; and Jiafu Ou, MD, in the VA's new electrophysiology suite.

Ilia Halatchev, MD, and Jiafu Ou, MD, former Cardiovascular Division fellows, are among the VA faculty. Ou, head of the echo lab, was instrumental in obtaining new technologies and in establishing better workflows in the echo lab. "We have 3-D and 4-D technologies now, which improves the quality of echocardiograms and patient care," Ou says.

Halatchev has overseen the establishment of a multidisciplinary heart failure clinic. "It's an opportunity to provide general cardiology care with cardiologists and nurse practitioners as well as provide home care and cardiac rehab services," he says.

Research — Halatchev also is focused on heart failure research and is participating in a multicenter clinical trail evaluating the effects of oral iron in reduced ejection fraction and functional capacity for patients diagnosed with heart failure. Research efforts by other colleagues focus on peripheral vascular disease and cardiac arrhythmias.

Education — Currently the VA cardiology program has four fellows — 2 from Wash U and 2 from SLU. Balke plans to expand the training program beyond general cardiology to include subspecialties such as EP, vascular, echo, and heart failure fellows.

"It's a unique opportunity to work in a VA, because we are removed from the traditional reimbursement issues and can focus directly on patient care," Balke says. "Admittedly, this has been a population that has been historically underserved both in access and in quality. All of the building blocks are now here to fix that and we can become a model for all government care as well as academic and private care."

Spotlight on Aortic Disease at 4th Annual AHA Satellite Symposium

Dr. Kim Eagle speaks at the 4th Annual AHA Satellite Symposium.

Kim Eagle, MD, Director of the Cardiovascular Center at the University of Michigan Health System, was the keynote speaker for Washington University School of Medicine's 4th Annual AHA Satellite Symposium.

The Symposium, held in mid-November focused on aortic disease and also featured three leading cardiovascular specialists from Washington University. Symposium organizer **Alan Braverman, MD**, Chief-of-Service for the Inpatient Cardiology Firm and Director of the Marfan Syndrome and Related Disorders Clinic, says the topic is critical because of the significant morbidity and mortality associated with thoracic aortic aneurysm disease.

"Recent advances in basic mechanisms, clinical care and surgical treatment for genetic aortic diseases such as Marfan syndrome and related disorders have revolutionized this field," says Braverman. "Cardiologists, cardiovascular surgeons, vascular surgeons and other health professionals need to understand how to recognize and manage patients with these complex disorders because a multidisciplinary management approach has the promise to improve outcomes."

Dr. Eagle is internationally renowned for his expertise in aortic dissection. He is the co-founder of the International Registry of Acute Aortic Dissection (IRAD). "Large databases such as IRAD have led to enhanced understanding of clinical and surgical outcomes for aortic dissection patients," explains Braverman.

Marc Moon, MD, Chief of the Cardiac Surgery Section, discussed patient criteria for ascending aortic surgery. He directs the Center for Thoracic Aortic Diseases and is principal investigator at Washington University for the Aortic Valve Sparing Root Replacement Study in Marfan Syndrome.

Luis Sanchez, MD, Chief of the Vascular Surgery Section, discussed the use of thoracic endovascular aortic repair (TEVAR) for acute aortic syndromes. Dr. Sanchez and his colleagues are leaders in surgical and endovascular repair of aortic and branch vessel arterial disease and have multiple studies under way examining novel endovascular techniques to repair complex aneurysm disease.

3rd Annual Cardiovascular Research Day

Washington University School of Medicine put the spotlight on cardiovascular research during the 3rd Annual Cardiovascular Research Day, held in November.

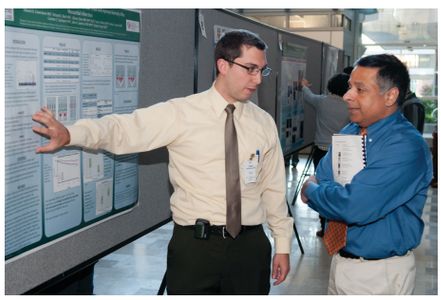
The event focuses on basic, clinical and translational research conducted on the campus.

"It was a great celebration of the diversity and the quality of cardiovascular research at Washington University," says Jeanne Nerbonne, PhD, Director of Washington University's Cardiovascular Research Center. "There were more than 50 outstanding poster presentations from undergraduate and graduate students, postdoctoral and clinical research fellows, eager and anxious to discuss their work with the faculty and their fellow trainees."

Awards for the best poster presentations were given to:

- **Zachary Beller** (Cui lab): *KCNE1 Modulates KCNQ1 Channel Gating, Permeation and Pharmacology Through a Single Mechanism*
- **Sarah Jinn** (Ory lab): *snoRNA U17 Regulates Cholesterol Trafficking*
- **Ed Coverstone** (Cresci lab): *Haplotype Varies nACh Receptor Gene Expression in Myocardial Cells and Improves Cardiovascular Mortality After Myocardial Infarction*
- **Jiyeon Lee** (Schaffer lab): *rpL13a snoRNAs Regulate Systemic Glucose Metabolism*

Keynote speaker for the 2nd Annual Burton E. Sobel Lecture was **Helen Hobbs, MD**, Professor of Internal Medicine and Molecular Genetics at the University of Texas Southwestern Medical Center. Prior to the lecture, a portrait of Dr. Sobel was unveiled. It now hangs in the Cardiovascular Research Center, a fitting location to recognize Dr. Sobel's achievements.



Cardiovascular fellow Ed Coverstone, MD, discusses his poster with Division researcher Diwan Abhinav, MD.

The portrait of Burton Sobel, MD, showcased at Cardiovascular Research Day. (left to right: Dr. Helen Hobbs, Dr. Doug Mann, Dr. Jeanne Nerbonne)

"The Third Annual Research Day was a wonderful demonstration of both the breadth and quality of the ongoing cardiovascular research laboratories in the Medical School and the Danforth campus," says Douglas Mann, MD, Lewin Chair and Professor of Medicine and Chief of the Cardiovascular Division. "It was exciting to see the number of young trainees who are engaged in innovative research."

Make an IMPACT

Faculty and Alumni team to Support Women Trainees

In a 2008 survey, less than 6 percent of Fellows in the American College of Cardiology and only 14% of cardiology fellowship trainees were women. Despite strides made in the number of women graduating from medical school (almost 50-50 men versus women currently), cardiology is still one of the slowest specialties to gain traction in attracting more women into the field.

"We've been actively recruiting qualified women fellows for some time, but the reality is that this is still a male-dominated field," says Sharon Cresci, MD, Assistant Professor of Medicine and Genetics and Director of the Applied Genomics Core Laboratory for the TRIUMPH study. "Over the years, as I transitioned from fellow to faculty, women came to me asking for advice, not only on career steps, but also on life issues and other concerns unique to women."

For example, how should handling of radioactive waste from a research lab be delegated if a trainee or faculty member is pregnant? Or, how can women continue breastfeeding while on high-demand clinic rotations? Or, far more complex, what are the real work-life balance issues to overcome in any subspecialty?

The result of these questions and concerns is the birth of IMPACT — Initiative for Mentoring, Promoting Networking and Advocacy for Cardiology Trainees. Under the direction of Cresci, IMPACT has three components:

Mentorship — Every interested female fellow is now paired and meets regularly with a female faculty mentor.

Advocacy — For any question, problem or challenge that arises during fellowship training, Cresci serves as the liaison to address the issues with other faculty or division administration.

Networking — A network of female Division alumni in all subspecialties is being created so that trainees can seek advice and support from experienced cardiovascular specialists.

Fellows Deana Mikhalkova, MD, and Mirnela Byku, MD, talk with IMPACT coordinator Sharon Cresci, MD.

"It has been important for me to identify attending cardiologists who once traveled down the path I will embark on," says cardiology fellow **Nishtha Sodhi, MD**, who has an interest in invasive cardiology. "Their success stories in balancing the demands of an invasive specialty, expectations in academics, and family responsibilities have been the motivation that I, too, can strive for what was previously called "the impossible." IMPACT provides support, networking, and leadership throughout fellowship and beyond. It is exactly the type of program that will help launch the next generation of successful women in cardiology."

The Division's goal is to eventually host informal IMPACT get-togethers at scientific sessions. Cresci is still recruiting more alumni to participate. "To encourage and support more women in the cardiology field," she says, "we need advocates and a sounding board. IMPACT does both."

Contact Dr. Cresci at scresci@dom.wustl.edu if you want to be an IMPACT mentor.

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