

DukeMed  
**AlumniNews**

FALL 2013



Duke Doctors Create First

**BIOENGINEERED  
BLOOD VESSELS**

## Message from the Dean

This fall, we will welcome reunion classes back to Duke for **Medical Alumni Weekend on October 18-19**. This is always one of my favorite weekends. It's an opportunity to reminisce with alumni and also, importantly, to discuss the future of the school and academic medicine. This year marks the 45th Anniversary of the Davison Club, and I want to extend my heartfelt gratitude to every member. Our alumni are our most loyal supporters – with their time, ideas, feedback, and contributions. While it is said often, it has never been more true that the

support we receive from our alumni and friends is absolutely critical for the school's continued success. In this issue, you will get a glimpse of our exceptional students, groundbreaking research, and outstanding patient care. You'll read about the launch of the Duke Institute for Molecular Physiology, an exciting new partnership between the Sarah W. Stedman Nutrition and Metabolism Center, the Duke Center for Human Genomics, and

the laboratories of Duke researchers Bill Kraus, MD, and Virginia Kraus, MD, PhD. The new institute, led by Chris Newgard, PhD, will host sophisticated capabilities to explore and model human and animal physiology, with the goal of understanding many of the major chronic diseases that impact our world today.

In this issue, you'll also learn about the transformative research of Jeffrey Lawson, MD, PhD, a profes-

sor in Duke's Department of Surgery, and his former Duke colleague, Laura Niklason, MD, PhD. Fifteen years ago, they began a collaboration to develop a bioengineered blood vessel. This spring, Dr. Lawson grafted a synthetic vessel into an artery in a Duke patient's arm, the first-in-human procedure of its kind in the United States.

Also this spring, a group of Duke University medical students received a national *Alpha Omega Alpha* Service Leadership Project Award recognizing innovative programs that support leadership development for medical students through mentoring, observation, and science learning. Duke students received the award for developing the Duke Leadership and Education (LEAD) Program, one of the country's first formal medical student leadership curricula. The program was piloted at Duke last year and has been incorporated into the 2013-2014 curriculum.

As you know, there is never a shortage of exciting achievements and opportunities at Duke, and this year has been no exception. I hope that we will see you on campus in the coming months, and I wish you a wonderful fall and holiday season.

Sincerely,



**Nancy C. Andrews, MD, PhD**  
 Dean, Duke University School of Medicine  
 Vice Chancellor, Academic Affairs  
 Nanaline H. Duke Professor of Medicine  
 Professor, Pediatrics  
 Professor, Pharmacology and Cancer Biology

### DukeMed Alumni News

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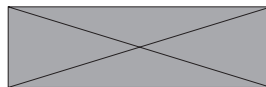
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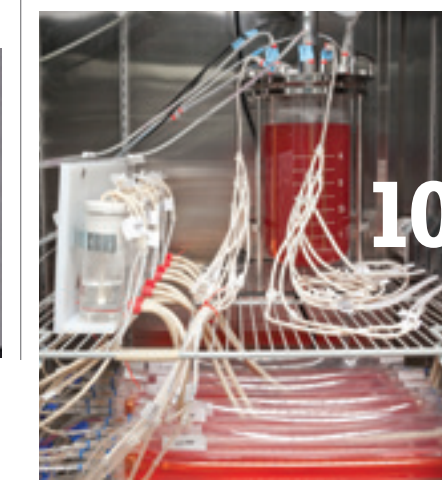
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## Andrews Honored with Two Awards

Dean Nancy Andrews has received two recent awards—the 2013 Marion Spencer Fay Award of Drexel University College of Medicine’s Institute for Women’s Health and Leadership and the 2013 Henry M. Stratton Medal of the American Society of Hematology.

The Marion Spencer Fay Award, now in its 50th year, is presented annually to a woman physician and/or scientist who has made an exceptionally significant contribution to health care as a practitioner, medical educator, administrator and/or research scientist, and who exhibits significant future potential.

Dean Andrews is being honored for her research in the study of iron metabolism; her contributions at the local, national, and international level in clinical medicine, education, training, research, and community service; and her impressive leadership credentials.

The Henry M. Stratton Medal is given annually to two senior investigators, one in basic research and one in clinical/translational research. Dean Andrews received the award for basic research in the field of iron homeostasis. The award for clinical research went to Elaine Jaffe, MD, of the National Cancer Institute, for her work on erythropoiesis and lymphoma.

## Students Launch Peer-Reviewed Science Journal

Duke medical, graduate, and undergraduate students now have a peer-reviewed journal specifically for them to publish articles on scientific subjects. The 48-page *Duke Science Review* (DSR) premiered in June after its editorial board secured funding from various Duke academic departments.

Articles are reviewed by the DSR editorial board, which currently consists of 10 Duke medical students and one undergraduate student.

The journal currently is being published once a year, but **Lowell Nicholson, MSII**, an editor for the magazine, said he hopes to expand to more issues as funding becomes available.

The editor-in-chief is second-year medical student Anirudh Penumaka. The inaugural issue contains 18 articles on topics including advances in genomics, Alzheimer’s disease, and electroconvulsive therapy.

Funding was made possible with donations from the Bassett Fund, the departments of immunology and pharmacology, the Graduate Professional School Committee, and the Pratt School of Engineering.

A copy of the journal is available by e-mailing Penumaka at [anirudh.penumaka@duke.edu](mailto:anirudh.penumaka@duke.edu)



## School of Medicine, Duke Hospital Top Ranked by U.S. News & World Report

Duke University School of Medicine moved up one place to rank 8th among medical schools that have a research focus in the spring 2013 *U.S. News & World Report* Best Graduate Schools ranking.

The rankings are based on MCAT, GPA, NIH funding, and student-faculty ratio, among other criteria. Duke placed in the top 10 in five specialty areas, including 4th in geriatrics, 5th in internal medicine, 6th in AIDS, and 8th in both family medicine and women’s health.

Duke University Hospital is again ranked number 1 in North Carolina and is nationally ranked at 12th in the fall 2013 ranking of America’s Best Hospitals.



Duke University Hospital top ranked specialties included:

**Pulmonology 4th**

**Heart and heart surgery 6th**

**Urology and ophthalmology, both 8th**

**Nephrology 11th**

**Orthopaedics and rheumatology, both 12th**

**Gynecology 13th**

**Geriatrics 14th**

**Cancer 18th**

## Duke Wins Federal Funds to Develop Diverse Scientists

Duke University is launching a program to promote diversity and develop scientific talent in undergraduates and graduate students. The Biosciences Collaborative for Research Engagement (BioCoRE) is supported by a \$1.8 million, five-year grant from the National Institute of General Medical Sciences (NIGMS).

“There’s always a need to cultivate scientists to the best of their ability,” said Sherilynn Black, director of Duke’s Office of Biomedical Graduate Diversity in the School of Medicine, and co-leader of the grant.

“But for students from under-represented groups, there can also be a need to help them feel engaged in the scientific community,” she said.

At both the graduate and undergraduate levels, the BioCoRE program will have several activities built on what Black calls “a community engagement model.” The program will engage students from the Pratt School of Engineering, the School of Medicine, the Graduate School, and Trinity College of Arts & Sciences.

The program is Duke’s first award from a National Institutes of Health program called the Initiative for Maximizing Student Development. It should enable Duke to support up to 10 undergraduate students in each class, plus about 20 graduate students each year.



Faces of Change event steering committee co-chair, Loren Robinson, MD’09, (second from left) was among the hundreds who gathered in April to commemorate the individuals who left a lasting legacy on diversity at Duke, including (left to right) Drs. Eddie Hoover, Jean Spaulding, and Delano Meriwether.

## School of Medicine Celebrates Legacy of African Americans; Leads Nation in Diversity of Students

When nearly 300 members of the Duke University School of Medicine and Durham communities came together in April to celebrate the legacy of African Americans at Duke, they learned just how much the medical school has grown in regard to diversity.

While 1963 marked the admission of the first black student to the School of Medicine, 2013 has found Duke leading the nation in diversity among predominantly white medical schools.

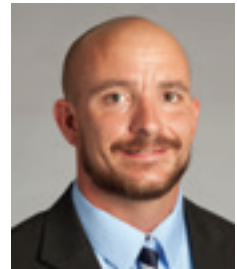
Duke’s medical school cohort includes 20 percent African Americans—double the national average of 10 percent, according to the Duke University Office for Institutional Equity. There were nine medical schools in the U.S. that did not graduate a single black physician in 2011, according to the office.

In 1963, the first five black undergraduates enrolled at Duke. At that time, the university had no black faculty, administrators, or trustees. **Delano Meriwether, MD’67**, became Duke’s first black medical



student. **Jean Spaulding, MD’72, HS’72-’76**, was the first African American female student, and **Charles Johnson, MD, HS’65-’67**, was the first black faculty member. **Eddie Hoover, MD’69, HS’69-’71**, was the first black house staff officer selected through the national match program.

April’s event celebrated the pioneers who paved the way for future black medical students at Duke and showcased some of today’s most accomplished African American students. Three videos were shown, and can be viewed at [medalumni.duke.edu/faces-change](http://medalumni.duke.edu/faces-change).



Andrews



Tsipis



Pierce

## Three DukeMed Students Earn Schweitzer Fellowships

A trio of Duke University School of Medicine third-year students will spend the next year working to improve community health and developing their lifelong leadership skills as Albert Schweitzer Fellows.

Duke students Jon Andrews, Nicholas Tsipis, and Brittany Pierce were among the 220 Albert Schweitzer Fellows chosen for the 2013-14 class. They will develop and implement projects that will address the root causes of health inequalities in vulnerable populations.



Andrews and Tsipis' project site is the Durham Nativity School, a tuition-free private school for promising at-risk boys that offers support for an 11-year period from middle school through college. They will work to increase the self-sufficiency of the middle school boys by providing survival and first-aid training.

Pierce's community site is Senior PharmAssist, which promotes healthier living for Durham seniors by providing health education, Medicare insurance counseling, community referrals, and advocacy. She will work to improve communications between seniors and health care providers.

This year's class of Schweitzer Fellows will be inducted during the 100th anniversary year of the building of The Albert Schweitzer Hospital in the African country of Gabon.

The fellowship program's mission is to improve the health of vulnerable populations now and in the future by developing a corps of leaders in service.

## Golden Apple Awards

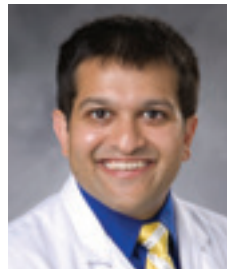
Duke medical students have chosen three outstanding teachers to receive the Golden Apple Awards.

### BASIC SCIENCE TEACHING AWARD

**Matthew Velkey, PhD**, is assistant professor of the practice of medical education in the Department of Cell Biology. Velkey has been at Duke for almost three years, having come from the University of Michigan Medical School (UMMS). He holds a PhD in cell and developmental biology from UMMS and a master's of science in anatomy from the University of Mississippi Medical Center. He also received a BA in English and a BS in biology, both *summa cum laude*, from Millsaps College. He has won several awards for teaching, including the Kaiser-Permanente Award for Excellence in Pre-clinical Teaching and the Provost's Teaching Innovation Prize, both from UMMS. This is the third year in a row that he has received a Golden Apple Award at Duke.



Velkey



Chudgar

### CLINICAL FACULTY AWARD

**Saumil Chudgar, MD'05, HS'05-'08**, is assistant professor of medicine in the Hospital Medicine Program and associate medical director for education in the Department of Medicine. He teaches medical students and residents in the care of inpatients at Duke University Hospital. This is the second year in a row that he has received a Golden Apple Award, and in 2011 he received the Thomas Kinney MD Distinguished Teaching Award.



Leon-Guerrero

### HOUSE STAFF AWARD

**Christopher Leon-Guerrero, MD, HS'10-'13**, completed a residency in neurology at Duke. He received an MD from the University of North Carolina at Chapel Hill and completed an internship in internal medicine at Carolinas Medical Center before coming to Duke in 2010 to begin his residency. He is now on a one-year fellowship in vascular neurology at Washington University in St. Louis.

## Hertz, Chadwick Earn Top Student Honors

By the time Robert Drucker, MD, was just a few words into his introduction of the winner of the School of Medicine's top student honor ("This year's recipient is a 'super-senior' in all senses of the word..."), the only person in the room who might not have known who he was talking about was the person he was talking about.

"It was a huge surprise," says **Julian Hertz, MD'13**, recipient of the 2013 Thomas Jefferson Award. "I think I was in shock."

Hertz was the unanimous selection of the advisory deans for the award, which is presented each year to the student who best exemplifies the ideals of scholarship, leadership, humanism, and service.

"He's a very gifted student, incredibly bright and accomplished, but he's so humble and unassuming you would never know it to meet him," says Caroline Haynes, MD, PhD, Hertz's advisor.

**Whitney Chadwick, MD'13**, won the other major honor, the national Arnold P. Gold Foundation's Leonard Tow Humanism in Medicine Award.

"It's such an honor, especially since it's an honor for humanism, which is what we all strive for," Chadwick said. "I hope I live up to it."

Hertz and Chadwick were honored, along with the winners of academic and Dean's Recognition Awards, at the annual School of Medicine awards ceremony.

Hertz decided on medical school after earning his undergraduate degree in chemistry at Princeton and then spending a year working in a clinic in Haiti.

"I saw a lot of suffering there," says Hertz. "It was a very powerful experience."

At Duke, he led teams of medical students on two spring break trips to provide care and service at the same clinic. He also spent two third-year research terms in Tanzania, doing groundbreaking work identifying an arbovirus that was frequently confused with Dengue Fever. In Durham, Hertz co-founded and led the MedMentors Program, through which medical students provide mentoring, tutoring, life skills education, and other guidance for at-risk youths in the Durham Youth Home detention center.

He is doing his residency in emergency medicine at Vanderbilt and plans to work in global health.

Chadwick did service overseas, too, leading a team of nine medical students on a second-year elective experience in Kampala, Uganda. She and her fellow students worked for a month at Mulago Hospital, where she initiated her own project to improve



Chadwick



Hertz

the medical record-keeping system.

In Durham, Chadwick led the Duke in Durham community service project to its largest and most successful participation, served as one of the two program coordinators for the DukeMed Elementary program, led a Project Compassion team, and was twice elected Service Vice President of the Davison Council.

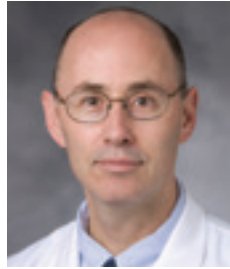
"Whitney is very energetic, outgoing, a dynamic personality," said Drucker, who was her advisor. "I think the way she would like to be remembered at Duke is through her community involvement and getting others involved in service."

Dean's Recognition Award winners were: Simon Ascher, Christopher Danford, Deeptee Jain, Jordan Komisarow, Navid Pourtaheri, Nino Mihatov, Hannibal Person, Brian Steiner, Fallon Ukpe, and Lindsey Wu.

Academic Awards were presented to: Jake Berchuck, Gabe Griffin, and Julian Hertz.

## Neurology Becomes a Department

In July, with Duke University Board of Trustee approval, the Division of Neurology was elevated to department status.

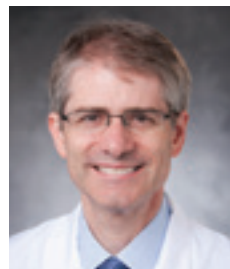


Interim chief **Joel Morganlander, MD, HS'91**, will serve as interim chair while a formal search is conducted. "This is an important step for neurology," said Dean Nancy Andrews. "Nearly all medical schools and all of our peer institutions have departments of neurology, and this move will create an even stronger presence for Duke Neurology nationally."

The School of Medicine now has seven basic science departments, 14 clinical departments, and 12 centers and institutes.

## Alman to Lead Orthopaedic Surgery

Benjamin A. Alman, MD, has been appointed chair of the Department of Orthopaedic Surgery, succeeding **James A. Nunley, T'69, MD, HS'79**. Alman comes from the University of Toronto, where he was the A.J. Latner Professor and chair of



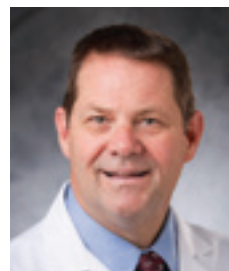
Orthopaedics, vice chair for research in the Department of Surgery, and interim director of the Toronto Musculoskeletal Centre. Alman also was a senior scientist in the Developmental and Stem Cell Biology Program at the Research Institute of The Hospital for Sick Children in Toronto. Alman's clinical practice focuses on the care of children with syndromes, spinal deformity, neuromuscular disorders, and tumors involving the bones, joints, and soft tissues. In basic science research, he studies the role of developmental signaling pathways in musculoskeletal tumors and reparative processes. He has won numerous awards for research, most recently the Lodwick Award for the best publication in the musculoskeletal field and the Charles Tator Surgeon-Scientist Mentoring Award.

focuses on advanced CT methods and reducing the amount of radiation patients receive during CT scans.

Orthopaedics, vice chair for research in the Department of Surgery, and interim director of the Toronto Musculoskeletal Centre. Alman also was a senior scientist in the Developmental and Stem Cell Biology Program at the Research Institute of The Hospital for Sick Children in Toronto. Alman's clinical practice focuses on the care of children with syndromes, spinal deformity, neuromuscular disorders, and tumors involving the bones, joints, and soft tissues. In basic science research, he studies the role of developmental signaling pathways in musculoskeletal tumors and reparative processes. He has won numerous awards for research, most recently the Lodwick Award for the best publication in the musculoskeletal field and the Charles Tator Surgeon-Scientist Mentoring Award.

## Paulson Returns to Head Radiology

**Erik Paulson, MD'85, HS'86**, has returned to Duke after spending a year as professor and chairman of the Department of Diagnostic Radiology at M.D. Anderson Cancer Center. He was educated and trained at Duke and spent 20 years on the faculty, most recently as chief of the Division of Abdominal Imaging and vice chairman of the Department of Radiology. Paulson is an expert in cross-sectional imaging of the abdomen and has built an academic career around clinically driven research, including cross-sectional imaging of the liver, assessments of computed tomography (CT) technology, and new image-guided interventions. Recent work



focuses on advanced CT methods and reducing the amount of radiation patients receive during CT scans.

focuses on advanced CT methods and reducing the amount of radiation patients receive during CT scans.

## Duke to Offer Leadership Program in Integrative Medicine

A \$1.4 million grant from The Bravewell Collaborative will allow Duke Integrative Medicine to offer the nation's first leadership program in integrative health care. Set to begin in January 2015, the program will train and mentor health care leaders prepared to transform the practice of medicine and improve health through a patient-centered, personalized, and prevention-oriented approach.

Integrative health care seeks to integrate the best of Western scientific medicine with a broader understanding of the nature of illness, healing, and wellness, according to Adam Perlman, MD, executive director. Duke's one-year training program will begin with personal transformation and provides tools for systems reorganization and change. It includes two in-person retreats, an extensive online curriculum, and a personal mentorship experience, all resulting in the creation of a business plan for each participant's individual goals and work environment.

"There is an urgent need and unmet demand for world-class executives with the qualifications, competencies, and leadership attributes to build, sustain, and grow integrative health care programs and institutions across the United States," said Christy Mack, co-founder and president of The Bravewell Collaborative, a community of philanthropists dedicated to bringing about optimal health and healing for individuals and society. "The program at Duke will fill the void by creating leaders prepared to implement integrative strategies across a variety of health care settings.



The new Duke Medicine Pavilion provides efficient, patient- and family-friendly care.



- Number of levels: 8**
- Square footage: 608,000**
- Key components:**
  - 160 critical care beds
  - 18 total operating rooms
- Features:**
  - Intraoperative surgical imaging
  - Natural-light filled public spaces, patient rooms, and staff work zones
  - Café
  - Gift shop
  - Interfaith chapel
- Sustainability features:**
  - Green roof space
  - Use of sustainable building materials

## Duke Medicine Pavilion Opens

Duke University Hospital officially opened the new Duke Medicine Pavilion in June. The first major expansion of the hospital since Duke North opened in 1980, the state-of-the-art building is designed to provide efficient, patient- and family-friendly care and meet the increasing demand for Duke medical services and priority programs.

The eight-floor, \$600 million, 608,000-square-foot pavilion includes 160 critical care rooms and 18 operating rooms, including two with intraoperative MRI and CT. It is LEED silver certified, with spectacular views of Duke Chapel and the medical center campus, spacious and comfortable waiting areas equipped with flat screen televisions, larger patient rooms with family zones, natural light wells, courtyard gardens, and patient amenities including a café, an interfaith chapel, and a gift shop.

The building opened for the public in June. Hospital staff spent months training on the new equipment and preparing to move patients. In July, a total of 86 intensive care patients were successfully transferred to the new ICU facilities. Plans are now underway to renovate Duke North Hospital.



James Urbaniak, professor of orthopaedic surgery; Steven and Rebecca Scott, and Chancellor Victor J. Dzau.

## Scotts Give \$20 Million for Sports Medicine

**Steven Scott, MD, HS'74-'78**, and his wife, Rebecca, committed \$20 million to expand Duke's sports medicine programs, including clinical and research program development, faculty recruitment and retention, and support for sports medicine training, as well as

support for the School of Medicine.

Under the direction of **Claude T. Moorman III, T'83, MD, HS'93**, Duke Sports Medicine currently comprises the Duke Sports Medicine Clinic, Duke Sports Medicine Physical Therapy, the Michael W. Krzyzewski Human Performance Lab, and the Duke Sports Performance Program. It is a division of the Department of Orthopaedic Surgery.

Scott is a member of the Campaign Steering Committee for Duke Forward,

the \$3.25 billion Duke University-wide fundraising campaign launched in September 2012. He is also on the planning committee for **Medicine that Changes the World**, Duke Medicine's \$1.2 billion fundraising effort.

"I see a great opportunity for Duke Medicine to differentiate itself in sports medicine," said Scott, a member of the Duke University Health System Board of Directors. "I truly believe Duke Orthopaedics is one of Duke's signature programs, and I hope this gift will benefit both the department and Duke University School of Medicine."

In October 2012, the Scotts committed \$10 million to Duke Athletics to help support the activities and programs in a new 35,000 square foot building that will house ticket offices, a team store, and training rooms.

Scott is the retired chairman of the medical investment company Scott Holdings, LLC. He also serves as an assistant consulting professor of obstetrics and gynecology in the School of Medicine, president of the Scott Family Foundation, and a member of the Board of Trustees at the University of Florida. The Scotts, who live in Boca Raton, Fla., have five children, including two who currently attend Duke medical school.

## SPOTLIGHT on Duke Medicine!

On Thursday-Saturday, November 7-9, Duke Medicine will host Spotlight, a campaign event for top donors and volunteer board members. The event features a Gala Reception and Dinner with keynote speaker Sanjay Gupta, MD, CNN chief medical correspondent, and a High-Impact Philanthropy Panel moderated by **David Rubenstein, T'70**, managing director of The Carlyle Group and chair of the Duke University Board of Trustees. Robert Lefkowitz, MD, winner of the 2012 Nobel Prize in Chemistry and James B. Duke Professor of Medicine, will speak at a Thursday dinner for all Duke Medicine volunteer boards. On Friday afternoon, guests may participate in interactive Duke Medicine tours, featuring research and clinical faculty from Duke Cancer

Institute, Duke Children's, Duke Eye Center, heart and heart surgery, medical and nursing education, basic science research, transplantation, and other topics. The weekend concludes with the Duke-NC State football game.

## Faculty Attend Medical Mystery Dinner

In May, **David Trice, T'70**, and his wife Kathy Houston, Texas, joined Dean Nancy Andrews; Vice Dean for Research Sally Kornbluth, PhD; and Duke clinical and basic science faculty members for dinner and conversation exploring a research mystery in the neurosciences. The research mystery focused on promising research by Dean Andrews that involves a potential drug pathway in Parkinson's disease. The dinner was the first in a series where Duke basic and clinical scientists gather for free-ranging discussion on an unsolved medical challenge. The Trices have given \$1 million to the School of Medicine for the Holland-Trice Scholars Program, which provides four \$50,000 faculty research grants annually and one \$35,000 graduate student fellowship. Experience at Duke has shown that modest funding for early-stage research can lead to grants of more than 20 times the initial investment.



A lively after-dinner discussion ensued, with David and Kathy Trice and Sally Kornbluth actively listening.

## Campaign Surpasses the Halfway Mark

Fiscal year 2013 was the second highest performing year in Duke Medicine history, with a total of \$119 million raised toward the fiscal-year goal of \$85 million. The seven-year **Duke Forward: Medicine that Changes the World** campaign passed the halfway mark in April, and as of June 30 a total of \$676 million had been raised toward the \$1.2 billion overall Duke Medicine campaign goal.

The School of Medicine's portion of the campaign goal is \$970 million, with a total of \$353 million raised as of June 30. The goal includes \$11 million for the Medical Annual Fund; \$50 million in capital funds for new buildings, equipment, and programs; \$135 million in endowed funds for research, fellowships, faculty support, and financial aid; and \$774 million in current-use funding that can be immediately applied to research, technology, and education.

The campaign was publicly launched together with Duke University's \$3.25 billion campaign in September 2012 and will end June 30, 2017.

## 2013 was Record Breaking for Medical Annual Fund and Davison Club

The Medical Annual Fund surpassed its annual goal of \$1.4 million this fiscal year. As of June 25 gifts to the Medical Annual Fund totaled more than \$1.5 million. The Davison Club, recognizing donors of \$1,000 or more to the Annual Fund, grew by 62 members, a 15 percent increase over 2011.

## New Director of Medical Alumni Affairs

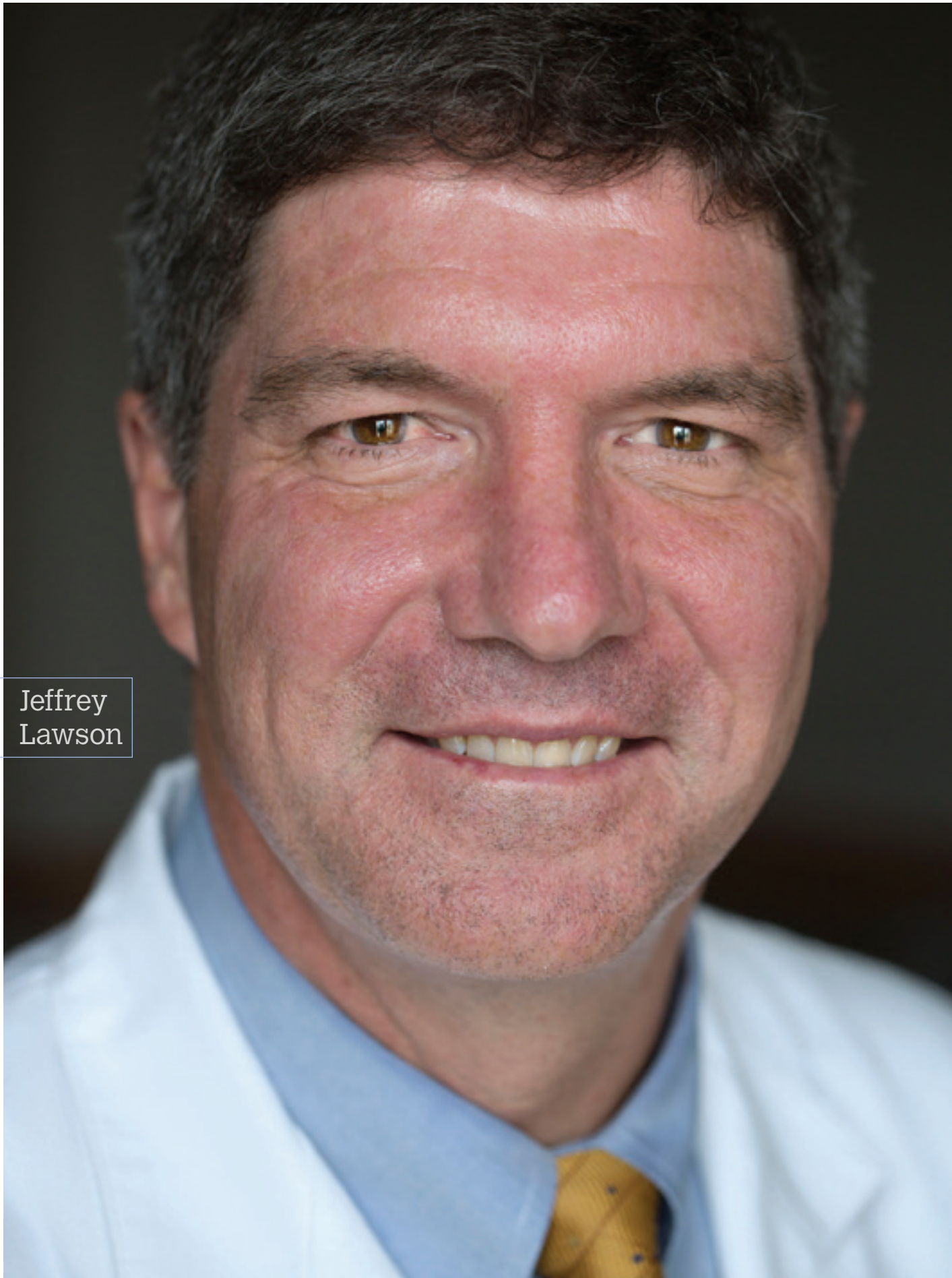
**Grace M. Taylor, T'81**, has been appointed director of alumni affairs for the School of Medicine. For the past two years, she was assistant director for regional affairs with the Duke University Alumni Association, where she focused on alumni programming and engagement activities on the West Coast and in some Mid-Atlantic and Northeastern states. She worked closely with alumni during the rollout of the One Duke program, taking responsibility for four major regions—northern California, southern California, Philadelphia, and Boston—to create coordinated alumni programming across the university.



Taylor

From 1992-98, Taylor worked in Duke Medicine Development, serving as director of special events and donor relations. From 1998-2010, she owned and operated Taylor Made Events, an event consulting business.

A native of Philadelphia, Taylor attended Duke on a swimming scholarship and graduated *magna cum laude* with a double major in political science and French.



Jeffrey  
Lawson

# BIOENGINEERED BLOOD VESSELS

A 15-Year Journey of Discovery

**JEFFREY LAWSON, MD, PHD, HOLDS OUT ONE HAND**, palm flat and fingers pointed straight up, and slowly raises it straight toward the ceiling. “It was like watching a rocket take off,” he says. “You stand there watching it go up, and then—“

His hand reaches eye level, and then slows, traces an arc, and plummets back toward the floor. “Boom.”

Lawson looks up and smiles. “Back to the drawing board,” he says.

**THE REMARKABLE JOURNEY OF DISCOVERY** taken by Lawson, a vascular surgeon and biologist, and his former Duke colleague Laura Niklason, MD, PhD, to successfully create and implant a bioengineered blood vessel included more such back-to-the-drawing-board moments than the researchers can count.

But each one of those hurdles—each chemical formulation that lacked sufficient cohesion, each attempt that failed to grow the requisite cell layers, each animal prototype that ruptured under stress—taught them something.

And each of those lessons was a stepping stone that ultimately led to the first successful implantation of a bioengineered blood vessel in a human being by a Lawson-trained surgical team in Poland in late 2012, and the day in June 2013 when Lawson stitched a bioengineered blood vessel onto the artery of a Virginia hemodialysis patient named Lawrence Breakley in a Duke University Hospital operating room, the first such procedure in the United States.

The accomplishment shows every sign of being one of those rare breakthroughs that represents a truly new horizon in medicine. Building on the work Lawson and Niklason have done, it’s hard not to envision a future when not only blood vessels but all sorts of replacement tissues and organs may be

grown from human cells in the lab, stored indefinitely on the shelf, and then transplanted into patients when needed.

“This is a paradigm shift,” says Niklason, who was on the faculty at Duke until 2006 and is now a professor of anesthesiology and biomedical engineering at Yale. “To the best of my knowledge nobody else in the world has done this, and certainly nobody has taken it into the clinic. This opens a lot of doors.”

The world at large recognized that immediately. Breakley’s surgery made headlines throughout the country and across the globe, and in the weeks and months afterward Lawson and Niklason found themselves giving interviews to journalists from places as diverse as Iran, Greece, and Brazil.

“I expected some attention, but honestly, probably not quite as much as we’ve gotten,” says Lawson. “But it is an intriguing story for a lot of reasons, from human interest to medical technology, to a good message about advances in biomedical research. People are fascinated by the fact that we’re making human tissues.”

Even after all these years of working on the project, Lawson and Niklason are among those people.

“Sometimes I pinch myself and think, ‘Wow, I get to be a part of all of this,’” Lawson says.

For her part, Niklason says, “It’s been 18 years of hard work, but it still seems sort of amazing that it works.”

## AN IMMENSE CLINICAL NEED

The surgery to implant the new blood vessel in Breakley’s arm took just two hours, but it represented the culmination of almost two decades’ worth of work and research. Lawson and Niklason teamed up in the late 1990s when they discovered

*By Dave Hart*

Laura  
Niklason

they each had an interest in finding a better process for grafting blood vessels.

The need was, and is, immense; every year many hundreds of thousands of patients in the U.S. require replacement of blood vessels for heart bypass, hemodialysis, peripheral artery disease, and other conditions.

The standard process is to graft either veins taken from elsewhere in the patient's own body or synthetic blood vessels onto the affected artery.

Both procedures are fraught with problems. Many patients don't have sufficiently robust or healthy veins to harvest. Veins and arteries are structurally different organs, and using veins to do the job of arteries seldom works very well. And, even in the best cases, harvesting a patient's own veins requires an additional surgical procedure, with another incision site, and increased operative time, cost, recovery period, and potential for complications.

Synthetic blood vessels are prone to clotting, rejection, and other complications.

"Natural blood vessels work in a way that is very different from a plastic tube, and an artery is very different from a vein," says Lawson. "Laura and I, from different perspectives—me from the surgical perspective and she from her experience as an anesthesiologist watching surgeons struggle to harvest veins—both came to the conclusion that there has to be a better way."

Niklason began working on that problem as a post-doc at the Massachusetts Institute of Technology.

"I remember watching surgeons dig around in the legs or abdomens of patients trying to get veins for bypass," she said. "I thought, 'This is sort of a barbaric process. Do we not know enough about blood vessels to grow our own in the lab?'"

#### TRIAL AND ERROR

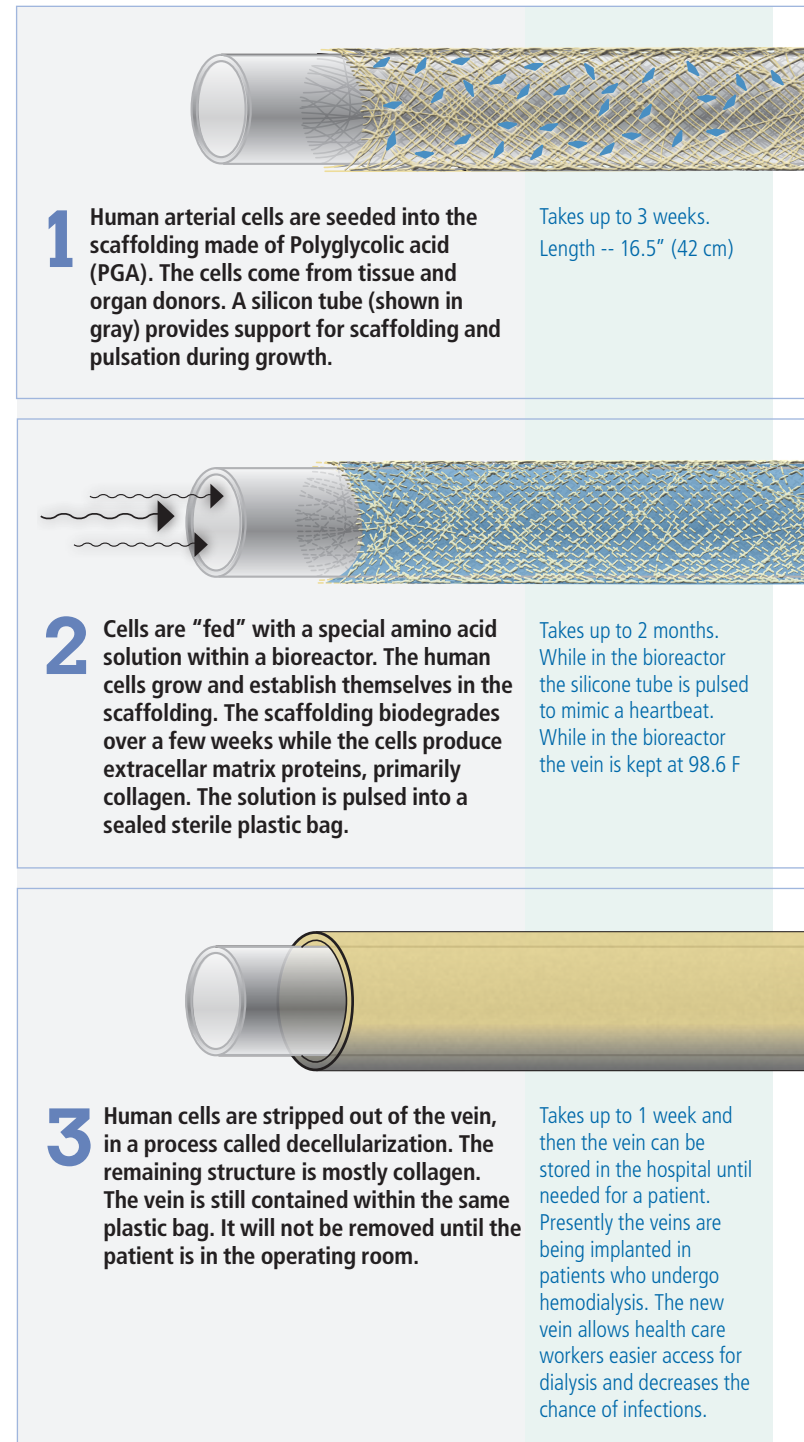
Shortly after Niklason arrived at Duke in 1998, she and Lawson met over an operating table and soon discovered their shared interest in improving vascular grafts. They joined forces to build on the work she had begun. Although some bioengineered tissues had been developed at the time, the idea of growing blood vessels from human cells was still "a little bit out there on the lunatic fringe," Niklason says.

In Lawson, she found the perfect collaborator, and at Duke, the perfect institution.

"Her background is in bioengineering, mine is in vascular biology, so we had different but complementary skill sets," Lawson says "And at Duke we were in an environment that allowed us to collaborate, and we had supportive departments that allowed our collaboration to flourish. For a project this complex, you require that interdisciplinary, multi-faceted approach. We've probably had 20 or 30 grad students, medical students, and post-docs working with us along the way."

By the time she got to Duke, Niklason had developed a

## Making a bioengineered blood vessels



SOURCE: HUMACYTE



workable version of the first essential component: a biodegradable “scaffolding,” a tube-shaped mesh structure that could be made in various lengths and widths. The idea was to “seed” smooth muscle cells onto the scaffolding and immerse it in a stew of amino acids and other nutrients within a “bioreactor,” a container that would mimic the temperature and environment inside the human body where cells naturally grow.

The cells would grow and adhere together—“It’s basically like growing grass seed,” says Lawson—and the scaffolding would dissolve, ultimately leaving behind a solid, flexible tube made of muscle tissue.

It’s easy to visualize, but it was very difficult to do. Every step—creating a scaffolding that would support the structure but dissolve at the right rate, developing the bioreactor, finding the right combination of nutrients to grow the cells—required a laborious process of trial and error.

“There was a lot of tinkering, a lot of prototyping,” says Lawson. “It was, ‘Let’s add more Vitamin C, let’s try this or that.’ Each one was like, ‘Put a little more salt in the sauce.’”

They experienced, Niklason says, “a very large number of failures. But bit by bit we solved the problems.”

#### A COUNTERINTUITIVE BREAKTHROUGH

After many attempts and adjustments they came up with a process that consistently produced arteries strong and stable enough to function properly when implanted in pigs. Once they had solved that challenge, though, the researchers found themselves facing another. They had proven that they could grow a new blood vessel from an animal’s cells and successfully implant it into the same animal. But from a practical standpoint, doing the same thing in humans posed a big problem.

“We could make your own blood vessel for you, but we needed a three to four month lead time—and if you need a heart bypass or a bypass around a circulation blockage in your leg, you usually don’t have four months to wait around for it,” Lawson says. “We needed to be able to grow them in batches and have them available. Growing them from the host one at a time isn’t going to work. But at the same time, if we make the structure from your cells and put it in me, my body would identify it as foreign. How do we make it universally transplantable? OK, back to the drawing board.”

The answer was deceptively simple, if somewhat counter-intuitive.

They devised a process by which, after growing a vessel from a donor’s healthy cells, they “decellularize” it, washing it in a solution that rinses away the living cells. What is left is a flexible tube of collagen that is immunologically neutral.

“It’s still a tissue, but it’s non-living, so it doesn’t trigger an

**I** remember saying at the time that this represents 15 years of Duke-supported research from multiple departments and multiple investigators.”

Jeffrey Lawson

immune response,” Niklason said. “That means we can store it for months, and if somebody needs an artery we can take it off the shelf and put it in the same day.”

What they found next, when they implanted the new blood vessels in baboons, was in some ways the most remarkable aspect of the whole project. Not only does the host’s body not reject the new blood vessel as foreign—the body’s own cells quickly start to populate the new vessel, like new people moving into an empty building.

“To me, that’s the most exciting, fascinating, science fiction-y part of

#### INTO THE OPERATING ROOM

this whole thing,” says Lawson. “Within a few weeks, it’s no longer our structure at all. It’s your blood vessel, made up of your tissue. It becomes a part of you.”

By 2012, after a series of successful trials in baboons, the researchers were confident they had developed a technology that would work and would prove superior to the existing methods of vascular grafts. They applied for regulatory approval to begin human trials in both the U.S. and in Poland, and Niklason founded a spinoff biotechnology company called Humacyte to manufacture the blood vessels in quantity in 2005.

The Polish regulatory mechanism moved more swiftly than the one in the U.S. Teams of Polish surgeons came to Duke to operate with Lawson, and he went there to oversee the procedures, and in December 2012, a team of surgeons from Poland implanted a bioengineered blood vessel in the first human patient. Since then, 20 other implants have been done at three sites in Poland.

“I remember saying at the time that this represents 15 years of Duke-supported research from multiple departments and multiple investigators,” says Lawson.

Several months later the FDA signed off on U.S. trials, and Duke gave its go-ahead. Lawson selected Lawrence Breakley, a 62-year old man from Danville, Va., with end-stage renal disease, for the first U.S. procedure. He is one of the 350,000 people in the nation who needs hemodialysis, a thrice-weekly procedure that draws blood, filters toxins out of it, and then returns the cleansed blood to the system. Prior to the bioengineered vessel graft, Breakley was out of options: both natural and synthetic grafts in him had failed.

“Dialysis is the safest place to test emerging vascular technologies, because it meets the fundamental requirements for what you need a blood vessel to do, but if it fails you don’t



At top, a network of tubes feed a nutrient solution to bioengineered blood vessels as they grow in sterile plastic bags within a bioreactor. Below, in the first procedure of its kind in the U.S., Dr. Jeffrey Lawson and his surgical team prepare to graft a section of bioengineered blood vessel into the arm of a hemodialysis patient.

lose your leg or have a stroke or a heart attack,” says Lawson. “If it fails or shows any sign of weakness or rejection, we’ll be able to see that and deal with it, because it’s right under the skin, not deep in your leg or in your chest cavity.”

On June 5, 2013—in Operating Room (OR) 17 at Duke University Hospital, the same OR where Lawson and Niklason first met 15 years earlier—Lawson grafted a length of bioengineered blood vessel onto an artery in Breakley’s arm. By all indications, it was a complete success.

“It’s amazing, you know, the things they can do,” Breakley told a local newspaper after the operation. “At the rate they’re going, eventually there won’t be any part of the body they won’t be able to give (patients).”

#### THE RIGHT TREE

Lawson followed the initial operation up with several more in the following weeks, with still more on the way.

Thus far, all indications are that the grafts done both in Poland and in the U.S. are working just as the researchers projected they would. Assuming the grafts in dialysis patients’ arms continue to function without complications, the plan is to begin using the new blood vessels to treat peripheral artery disease (PAD) and then, at some point in the future, for coronary bypasses.

And ultimately, Niklason says, the potential exists to use the same technology to grow many other sorts of tissues—for respiratory, gastrointestinal, and urinary tracts, for example.

But one step at a time, she cautioned. What the researchers have already accomplished is breathtaking.

“It’s gratifying and exciting and scary all at the same time,” says Niklason. “If you work on something your whole adult life and now it’s being tested, you hold your breath a little bit. It has huge implications for the patients, obviously, because we want them to do well. But it’s also the moment when you find out whether you’ve been barking up the right tree this whole time. And so far, it looks like we have.”

#### NEXT STEPS

That doesn’t mean the hurdles are over. Probably the biggest immediate challenge is economic: Can bioengineered blood vessels be manufactured and implanted at a cost that will make them widely available in the health care marketplace? That is a tremendously complicated equation, involving production scale, up-front costs versus long-term savings, competition from synthetic vessel manufacturers, and many other factors.

“You can make the coolest, fanciest thing, but if it’s unobtainable with the health care dollars we have, it will die an economic death,” Lawson says. “I wouldn’t be talking to you if I didn’t think it was going to work, but the biggest challenge in the next two to five years will be the business model viability.”

As Lawson describes the long journey and the many hurdles the researchers had to overcome, he shakes his head in wonder at how many times an idea that seemed a little off the wall at the time turned out to be the solution.

“So many of these breakthroughs were dumb-luck things,” Lawson says with a smile. “Somebody says, ‘Hey, how about we try it this way?’ ‘OK, give it a shot!’ That’s the nature of research. I love that quote from Albert Einstein: ‘If we knew what we were doing, it wouldn’t be research.’”

And they aren’t done yet. In some ways, with the trials under way, the next series of procedures on the horizon, and Humacyte working on the manufacturing and business end, they’re just setting out.

“Laura and I sometimes tease other,” says Lawson. “We tell each other, ‘Fifteen years down the road, we’re at the end of the beginning.’”

# HOW THE PARTS FIT TOGETHER



JARED LAZARUS

## USING METABOLITES TO PREDICT AND PERSONALIZE

Walking through glass-walled labs to the back of the Sarah W. Stedman Nutrition and Metabolism Center, Chris Newgard T'78, PhD, enters a large windowed room and says, “This is my baby.” He’s referring to the metabolomics lab, which houses seven mass spectrometers. He points out one machine in particular, a liquid chromatography quadrupole time-of-flight mass spectrometer. It doesn’t look especially impressive—like three small, white air conditioners in a row, with a smoke stack on top. But to Newgard, it’s a Rolls-Royce. Because he’s a biochemist, this machine can tell him a story.

The mass spectrometer separates a blood sample into all its components, according to their charge and mass.

Knowing the mass of a compound enables a biochemist to identify it. Is it a lipid, an amino acid, a sugar? These compounds in the blood are byproducts of something that happened inside the body—the breakdown

*by Angela Spivey*

Newgard (above, right) talks with Olga Ilkayeva, PhD, director of the Metabolomics Core Lab, in front of one of the Stedman Center’s seven mass spectrometers.

On a map of the human body’s metabolic pathways, pink flags mark all the metabolites for which Newgard’s team has developed an internal standard—a method of precisely measuring the exact amount present in a blood sample.

## THE DUKE INSTITUTE FOR MOLECULAR PHYSIOLOGY

- As of July 2013, the [Duke Institute for Molecular Physiology](#) combines the [Sarah W. Stedman Nutrition and Metabolism Center](#), the [Duke Center for Human Genetics](#), and the [labs of Duke researchers William Kraus MD'83, HS'83-'88, and Virginia Kraus, MD'83, HS'83-'89, PhD'93](#).
- Basic and clinical researchers from a wide range of disciplines will operate under one roof with advanced capabilities and expertise in metabolomics, genomics, physiologic profiling, and computational biology.
- The institute will be largely self-supporting, with an expected funding mix of 40 percent government grants, 20 percent industry investment, and 20 percent foundation funding.

of fat or glucose or protein for fuel. When these byproducts, known as metabolites, show up in the blood, they can tip off a biochemist as to what is going right and what is going wrong.

One complication: these metabolites lurk in the blood in tiny concentrations—on the micromolar and nanomolar levels. Most proteins normally measured in blood are present at levels that are at least ten times that. For two decades, Newgard, the W. David and Sarah W. Stedman Distinguished Professor of Medicine and Pharmacology and Cancer Biology, has refined his methods for measuring trace levels of these metabolites and understanding their significance. For instance, for many of the metabolites he measures, the Stedman Center metabolomics laboratory has an internal standard—a method of spiking the sample with a known amount of a separate compound that will show up on the mass spectrometry peaks next to the metabolite of interest. Since Newgard knows the exact amount of the standard he added, he can, by comparison, measure the exact amount of metabolite the sample contains.

Newgard, in collaboration with researchers across the School of Medicine, uses metabolites to try to understand some of the most common and devastating diseases—cardiovascular disease and diabetes. The team has found that elevations in certain metabolites can serve as early markers of heart disease and of insulin resistance and diabetes.

Some of these metabolite clusters might one day be developed into clinical tests that can identify patients at high risk. Others are helping researchers understand why people get these diseases. But they aren't the whole picture. Ultimately, Newgard and his collaborators want to understand all the processes that make our bodies able to function every day. That's why the Stedman Center is merging with several other Duke labs—the Center for Human Genetics; the lab of [William "Bill" Kraus, MD'83, HS'83-'88](#), professor of medicine; and the lab of [Virginia Kraus, MD'83, HS'83-'89](#),

[PhD'93](#), professor of medicine. Together, they will form one enterprise called the Duke Institute for Molecular Physiology. Their goal is ambitious: to draw a complete picture of almost any human disease that is heritable. "If someone brings us a disease, we want to have the tools to study it," Bill Kraus says.

### WHAT'S SO GREAT ABOUT PHYSIOLOGY?

When Newgard first joined the faculty at Duke in 2002, the School of Medicine no longer had a department of physiology, and he's credited with putting the discipline back on the map here. "Physiology is the overall operation of a living system," Newgard says. "How do all the parts fit together so that you and I can sit here as organized human beings? There's a tremendous amount of crosstalk between our tissues, between products that are in our blood interacting with receptors on cells. We want to take a step back and understand the whole system." This type of work has also been called systems biology—using sophisticated tools like metabolomics, genomics, and proteomics to view all the happenings inside the body as one integrated whole.

[Svati Shah, MD, HS'01-'05, MHS'05](#), associate professor of medicine, is a cardiologist who founded and runs an adult cardiovascular genetics clinic where people with a family history of heart disease can come to receive genetic testing to determine their risk. She has tools she can use to predict whether a patient is at high risk for heart attack or dying from heart disease in the future. "When someone's overweight or has diabetes or has bad cholesterol levels, I can predict with about 70 percent accuracy whether they will have a heart attack or die of heart disease in a few years," says Shah, associate professor of medicine. "But 70 percent isn't good enough. We're talking about people who may die."

So, in the three days a week when she's

not seeing patients, Shah looks for something better. As a member of Duke's Center for Human Genetics, she, along with Bill Kraus and Elizabeth Hauser, PhD, director of the Center for Human Genetics, have worked with Newgard to find ways to predict who is at greatest danger from heart disease. This work was made possible by the CATHGEN database, which Bill Kraus and several other investigators founded. In 2000, the database began collecting DNA and serum samples from patients undergoing cardiac catheterization at Duke University Medical Center who consented to be included. Shah was a cardiology fellow at Duke at the time and helped collect some of the early samples. CATHGEN is tied to the Duke Databank for Cardiovascular Diseases, which collects clinical information about each of the patients in CATHGEN and follows up with them yearly.

Using samples and data from CATHGEN and the Duke databank,

the researchers started by measuring changes in levels of about 70 metabolites—those that would be likely to be involved in heart disease. Some are lipids, some are amino acids (the building blocks of protein), others are hormones involved with signals of hunger and fullness, while still others are byproducts of breakdown of proteins or carbohydrates. Once they had the reams of mass spectrometry data, the team narrowed down the original set of 70 metabolites to just a few clusters that are elevated in people with more serious problems. When a set of results come in, Newgard might spend days sitting in a room poring over spreadsheets that catalog the metabolite levels. He's looking for a coherent story. Which of the elevated metabolites would cluster together logically? Which share a transporter? How are the liver metabolites changing in relation to those from the muscle? The team also analyzed which clusters were correlated statistically, using the bioinformatics capability

of the Center for Human Genetics. "Chris picked it up biochemically, and the computer, unbiased, picked it up too," Shah says.

In two handfuls of studies published over the past five years, the team reported that elevations in a cluster of metabolites—short chain dicarboxylated acylcarnitines, if the name means anything to you—can identify people who will have a heart attack or die from heart disease even when clinical signs can't. "We can take somebody's blood right now and predict up to seven or eight years in the future what their risk will be of dying of heart disease or having a heart attack," Shah says.

### A NOVEL PATHWAY FOR HEART DISEASE

This metabolite cluster is ripe for development into a commercial clinical test. But there are hurdles to that. First, the predictive value of the metabolites will need to be verified in larger studies, Shah says. The Duke research to date has found them to be predictive in



Christopher Newgard and Svati Shah in the Stedman Nutrition and Metabolism Center, which is merging with several other groups to form the Duke Institute for Molecular Physiology.

*“That’s one reason why metabolomics tools are so attractive: they have potential to personalize medicine by identifying individuals who are most likely to benefit from specific nutritional or pharmacological approaches.”*

Deb Muoio



people who had already come in with chest pain or some other symptom that caused them to get a diagnostic cardiac catheterization. But are they predictive in the general population? Second, to be made into a practical, affordable test, the cluster would need to be narrowed down to just one or a few metabolites. Such development work will require an industry partner.

In the meantime, the metabolite findings have helped the Duke researchers in their search for clues to the causes of heart disease. The team analyzed the genomes of patients from CATHGEN to find out if people with elevations in particular metabolites had any genetic variants in common. They did, and those genes are part of a pathway not previously thought to be involved in heart disease. “It’s like we were looking for Waldo all over the United States,” says Bill Kraus. “Analyzing the metabolites helped us to get to the state level. Then we could narrow it down from there.” The researchers have submitted the results for publication.

#### **A TRAFFIC JAM THAT LEADS TO DIABETES?**

Deb Muoio, PhD, associate professor in the departments of medicine and pharmacology and cancer biology and the Stedman Center, is a long-time athlete who studies what happens inside the body when people eat too much and don’t exercise enough. She has found metabolite profiles that are predictive of insulin resistance and diabetes. Some of these metabolites are related to what she calls “nutrient stress” inside mitochondria, which are cellular engines that produce energy. Based on these findings, Muoio thinks that the road to diabetes involves a “traffic jam” inside mitochondria. “The carbs, fats, and protein we eat are made of carbon and get used as mitochondrial fuel,” Muoio says. But when sedentary muscles are fed too much fuel, the carbons build up rather than being burned. The overloaded mitochondria must work over time, and eventually, these engines fail. That may not

be the only mechanism for development of type 2 diabetes, Muoio says, but it’s one possibility.

In animals and in a small study with humans, Muoio has found that mitochondrial buildup of the troublesome metabolites is reduced when she supplements the diet with carnitine (a substance that our body makes and that is found in meat and other foods), without changing anything else about diet or exercise. “Carnitine shuttles the bad metabolites out of the mitochondria, alleviating the traffic jam and reducing cellular stress,” Muoio says. “This seems to be an effective anti-diabetic strategy, at least in a subset of people. Maybe some people have plenty of carnitine, but for whatever reason, genetic or otherwise, other individuals might have insufficient amounts. In the second case, carnitine supplements appear to boost a defense mechanism that helps the mitochondria cope with excess nutrients. That’s one reason why metabolomics tools are so attractive: they have potential to personalize medicine by identifying individuals who are most likely to benefit from specific nutritional or pharmacological approaches.”

Muoio studies the traffic jam in animals and people who eat a high-fat diet. Newgard has been studying a different mechanism for type 2 diabetes, in which metabolites known as branched chain amino acids are elevated, in animals who are fed too much protein. As it turns out, Newgard’s work and Muoio’s work appear to be converging; the mechanism he is studying may also involve stress to the mitochondria.

As Muoio describes it, it’s like these researchers are trying to put together a gigantic jigsaw puzzle when many of the pieces are missing. Every so often, by working together, the group finds a new piece and determines where it fits. “We may not have all the pieces of the puzzle in the right order, but each new study provides a new clue, and eventually a clearer picture begins to emerge,” she says. ♥

# Duke

University School of Medicine

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“THIS CURRICULUM WASN’T ABOUT ADDING ON MORE CLASSES BUT REPURPOSING THEM.”

Kyle Gibler

# LEADiNg the Charge

*Student-led curriculum is a national first, wins AOA leadership award*

by Bernadette Gillis

In its relatively short history, Duke University School of Medicine has earned a reputation for its ability to prepare leaders in all areas of medical practice, education, and research. Yet, pinpointing exactly when and how that leadership training occurs over the course of a student’s studies at Duke could be difficult. That is, until now.

As of this fall, the school has officially incorporated leadership training into its curriculum with the new Duke Leadership, Education, and Development (LEAD) Program. Created by medical students, the program focuses on developing students’ leadership skills throughout their years at Duke, whether they dream of one day reaching department chair or CEO status, flying solo as a practitioner, or landing somewhere in between.

The LEAD Program is one of the country’s first formal medical student leadership curricula. Earlier this year, *Alpha Omega Alpha* recognized the group of Duke medical students responsible for creating the innovative program with its annual Service Leadership Project Award. One of only three recipients of the award nationwide, Duke will receive \$9,000 over three years to support the new LEAD curriculum. The group was led by medical student Kyle Gibler, MSIV, and over the past two years has included team members Marisa Dowling, MSIII; Parastou Fatemi, MSIII; Nimit Lad, T’10, MSIII; Nicole Zelenski, MSIV; Peter Wei, MSIV; Mitchell Bassett, MD’13; and Grant Sutter, MD’13, HS-current.

Piloted in the 2012-2013 academic year, the LEAD Program was fully rolled out to first-year students during the 2013-2014 academic year. Unlike other programs geared toward residents or medical students seeking special qualifications or an additional degree focused on management or leadership, the LEAD Program is not a separate track and will benefit all Duke medical students regardless of their interest or future goals.

On the surface, the LEAD Program may not look much different than what students over the past few decades have experienced. Students will continue to take courses such as the Practice course during the first year and the Capstone course during the fourth year. However, what’s special about LEAD is that leadership components are more explicitly woven into the existing curriculum’s basic courses, clinical rotations,

## LEAD curriculum

<b>1ST YEAR</b>	<ul style="list-style-type: none"> <li>• <b>Workshops</b> on team building and leadership</li> <li>• <b>Individualized</b> goal setting and monitoring</li> <li>• <b>Mentorship</b> from 3rd-year student leaders</li> </ul>
<b>2ND YEAR</b>	<ul style="list-style-type: none"> <li>• <b>Lectures</b> and <b>workshops</b> on clinical leadership skills</li> <li>• <b>Individualized</b> goal tracking</li> </ul>
<b>3RD YEAR</b>	<ul style="list-style-type: none"> <li>• <b>Distinguished Leader Series</b></li> <li>• <b>Mentorship</b> of 1st-year learning teams</li> <li>• <b>Feagin Scholars Program</b></li> </ul>
<b>4TH YEAR</b>	<ul style="list-style-type: none"> <li>• <b>Real-world project</b> in either hospital or community setting</li> <li>• <b>Capstone presentation</b> on leadership journey</li> </ul>

and during the scholarly research year. Special workshops, small group activities, and lectures led by faculty outside of the School of Medicine are highlights of LEAD as well.

Colleen O'Connor Grochowski, PhD, associate dean for curricular affairs, says leadership has been a fundamental yet implicit part of medical school training at Duke for years.

“Students glean leadership-type experiences through the educational program, particularly as it relates to the third year,” she says. “They have to be self-motivated, create a proposal, and integrate themselves into a working team to do research. It’s sort of implied that those experiences will result in leadership skills or leadership qualities within our graduates, but I always thought we had an opportunity to do a little more.”

Aware of this gap in leadership training at the medical-student level, along with the health care industry’s growing need for more physician leaders, in 2011 Dean Taylor, MD’85, HS’87-’91,

task as part of the already-established, yearlong Feagin Scholars Program named in honor of emeritus faculty member **John A. Feagin Jr., MD’61**. Gibler and the student group worked closely with Taylor and other faculty mentors, **Saumil Chudgar, MD’05, HS’05-’08**; and **Devdutta Sangvai, MD, B’03**, to find ways to incorporate leadership training models from the business world and the military into the world of medical education. They also collaborated with faculty and administrators in the Duke Fuqua School of Business and Duke Corporate Education to come up with the LEAD Program.

“Medical students’ schedules are already so packed,” Gibler says. “This curriculum wasn’t about adding on more classes but repurposing them.”

The group worked to make sure the leadership components fit well into both the lecture-based and experiential portions of the curriculum and would naturally build on one another as students progressed through medical school. The topics covered include team-building, communication, self-reflection, and leadership theory for first-year and second-year students. Third- and fourth-year students will have a chance to officially put their new skills in practice during a community service project and while serving as leadership mentors to first-year students.

Taylor was pleasantly surprised at how well the group’s proposal turned out and was eagerly accepted by several faculty members, including Grochowski.

“I was very excited,” Grochowski says of first hearing the group’s proposal for LEAD. “We’ve had this opportunity in our curriculum, and this was a way we could address that.”

It did not take long for other faculty and the advisory deans to buy into the idea of the new curriculum as well, particularly considering the

monumental changes currently facing the health care industry.

“Health care is going to be delivered more and more in teams with health professionals working together,” Grochowski says. “Certainly teamwork is a critical cornerstone of leadership, as is knowing when to lead and when to follow and how to interact with others. We have placed an increasing emphasis on creating opportunities for our students to learn with their health professions peers here at Duke. Incorporating teamwork into a leadership curriculum will help enhance our medical students’ participation in these types of inter-professional activities both as students and then as professionals.”

“I think we’ve fallen behind in our profession,” Taylor adds. “We need to take active leadership roles at all levels.”

While Gibler himself is earning an MBA degree in addition to his medical degree, he realizes business or management degrees aren’t for every student, but that doesn’t mean they aren’t cut out for leadership roles.

“An MBA is clearly a good idea for a certain subset of students,” he says. “But every student needs to understand the skills to be an effective leader. The hope is that students will think of themselves as leaders because eventually we’ll all have the opportunity to lead on a daily basis. Traditionally leadership within medicine has been seen as a physician leading a hospital. We believe all physicians are leaders.”

Although the LEAD curriculum is now formally part of the school’s curriculum, the student leaders had the foresight to include a way to measure the effectiveness of the program and make improvements along the way.

Lad headed up that portion of the curriculum development project. He and other students also collaborated with colleagues across campus, including researchers in statistics, to create a 25-question assessment survey that will be given to students periodically over their four years at Duke. The questions focus on six core values: self-management, teamwork, communication, improvement in innovation, mentorship, and health care acumen. ■



The 2011-2012 Feagin Scholars were the architects of the medical school’s new curriculum, which focuses on leadership training throughout all four years.

challenged a group of students to come up with a way to change the direction of leadership education.

“We’ve never really had an identifiable program where we’ve taken on that responsibility,” Taylor says. “Every business school has leadership development as part of its curriculum, but it’s rare in medical schools.”

As chairman of the Feagin Leadership Program at Duke, Taylor assigned the

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DAVISON CLUB

# Genius of Wiley, MD'32, Saves One-Pound Infant—in 1945!

It was a cold winter morning on Jan. 9, 1945, in rural Chesterfield County, S.C., when Maggie Hammonds, only six months pregnant, realized she was in labor. Although her other six children were delivered by a midwife, she and her husband, Barnell, knew they needed a doctor. The nearest doctor drove more than 30 miles to the Hammonds home. Miraculously, the baby girl survived, weighing less than a pound.

**Walter R. Wiley, MD'32**, the local doctor and an alumnus of Duke's first graduating medical class, knew his work had only just begun. Regulating the temperature of this tiny baby girl, who fit perfectly in one hand, would be the key to her survival. He wasted no time recreating the safety of the womb by tightly wrapping her in cotton, placing her in a box, and putting her in one of the warmest places in the house—inside the food warmer of the family's wood-burning stove.

Sylvia Anne was the name Maggie and Barnell had picked out, but Wiley asked permission to instead name the miracle baby for her small size and beauty: Petite Belle.

Such was the beginning of Petite Belle Hammonds' life. It's a story that she loves to tell over and over. She has been asked about her name so often over the years that recently she decided to write and self-publish a book about her birth and the doctor responsible for her unlikely survival.

In *Petite Belle: How I Got My Name* (AuthorHouse 2012), Hammonds recounts how Wiley saved her life using techniques that now sound primitive but were actually quite advanced for the time.

Hammonds says while growing up, her mother told her many times of Wiley and how he used the wood stove to keep her warm during those critical first few days of her life.

"My mother told me and reminded me over and over again that I weighed less than a pound," Hammonds writes in her book. "She said my head was the size of a tangerine with straight, black hair.... Mama said I was red and wrinkled. I didn't

have eyelashes and I had a faint amount of eyebrows, no fingernails, and a thin layer of toenails."

It wasn't until she began working on the book and talking with relatives that she got a better idea of the extent of care Wiley provided.

Not only was Wiley able to fashion the wood-burning stove into an incubator well before the use of more sophisticated equipment, but he also was aware of the threat of infection.

"He wouldn't let anyone hold me," Hammonds says, "not even Mama."

Wiley had Maggie pump breast milk, which he would feed Hammonds using a



Petite Belle Hammonds credits Walter Wiley, MD, with saving her life at a time when the outlook for babies born prematurely was dismal.

medicine dropper. Hammonds says the image gives her a chuckle, considering she and her sister used medicine droppers to nurse injured birds back to health as children.

While doing research for the book, Hammonds learned that Wiley spent the night with her family in their home, keeping close watch over her. Hammonds' brother Arthur, whom she calls "Buster," told her Wiley would sleep at the edge of their parents' bed, tucking Baby Hammonds inside his shirt while he slept, a technique now commonly referred to as the kangaroo method. But her sister Annie Eugenia insists Wiley slept on the family's Davenport loveseat. Still, Hammonds, who is black, says she is astounded that a white physician would sleep in the home of a black family at a time when segregation was the law of the land.

For a week, Wiley also made multiple trips back to the Hammonds' house from his office to check on the baby, with each visit amounting to about 70 miles round trip.

When she was 53 years old, long after she had moved to New York and several years after Wiley's death, Hammonds finally connected with the family of the man who saved her life. With help from a reporter at The Cheraw Chronicle in Chesterfield County, Hammonds got in touch with Wiley's daughter, Monnie Bittle, who easily found Hammonds' medical chart and shared Wiley's handwritten notes with her.

Monnie "wrote to me and asked me to call her collect," Hammonds writes. "I don't know who was more proud to hear from each other; her or me. Our conversation was as if we were long lost relatives."

Through Monnie and others who had been treated by Wiley, Hammonds got further proof that racial segregation played no role in how Wiley treated his patients. In her book Hammonds describes a Mrs. Evans, who informed her that in Wiley's waiting room, "the black people and whites waited together in the same room. He took you by appointment; there was no discrimination."

Hammonds, who spent most of her career as a clinical laboratory technologist, is currently working on a biography of Wiley. In addition to exploring more about Wiley the man, she hopes to delve deeper into the field of neonatology, of which Wiley was a pioneer in Hammonds' eyes. She says she is fascinated with learning what it takes for premature babies to survive, especially considering today's neonatologists use equipment that is light years ahead of Wiley's wood stove incubator.

"I never met him, but I think I know him pretty well," Hammonds says. "Dr. Wiley was a genius."

Hammonds, now retired, lives in Atlanta, Ga. She has one daughter, also born prematurely, weighing 4 lbs., 3 oz. She also has five grandchildren and three great-grandsons.

—Bernadette Gillis

## 1940s

**Stanley Karansky, MD'41**, is working with a writer to create his memoirs. He has five children with whom he stays in close contact. He also has eight grandchildren and nine great-grandchildren, the youngest born on Feb. 19, 2013.

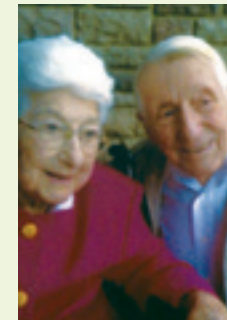
**Lloyd F. Timberlake, MD'41, HS'47**, after losing two wonderful wives, married Lillian Roberts Timberlake on May 24, 2012. Timberlake lives in Atlanta and has four children: Lloyd Jr., Anne, Mark, and Susan.

**David Hubbell, MD'46, HS'47**, is professor emeritus of surgery at the University of South Florida. He and his wife **Barbara, WC'47**, enjoy the blessings of life in St. Petersburg.

**Gilbert A. Rannick, MD'49**, has been retired from his general surgery practice and position as clinical professor of surgery at Quillen East Tennessee School of Medicine since 1993. He has six children, 11 grandchildren, and two great grandchildren. He lives in Johnson City, Tenn., with his wife Elizabeth, who he writes "still keeps me honest and as usual helps complete my sentences." He still shoots his age on the golf course and has done so every year since age 73.

## 1950s

**Norman H. Garrett Jr., MD'50, HS'52-'54, DC**, and his wife **Becky, N'49**, have moved to River Landing, a retirement village in Colfax, N.C. They have four children, 16 grandchildren, and three great-grandchildren. The Garretts enjoy spending time throughout the year with their family at their house in North Myrtle Beach, S.C., and their 30-acre farm near Gibsonville, N.C.



▲ **Dean McCandless, MD'50, DC**, at age 93 still keeps his home call-bag in the back of his Jeep Liberty, and it came in handy one Sunday recently at his church, where the congregation knows him as Deacon Doctor Dean. McCandless served in Europe during World War II, earning a Silver Star, Bronze Star, and Purple Heart, and was a family practice physician and chief of the Department of General Practice with the Fontana Medical Group in California from 1952 until his retirement in 1981.

**Dick F. Bedell, T'53, MD'57**, and his wife **Jean, N'56**, have traveled annually to Mexico and India for the past 30 years, providing medical and faith-based support for individuals living in volatile areas. Their work includes helping people with HIV and AIDS and providing conflict management workshops. The retired couple's service missions have been done with organizations that include Rotary International, Home of Hope, and Project C.U.R.E., the largest collector and distributor of medical equipment in the world. Dick also volunteers with Meals on Wheels and serves on the Board of Directors of the Medical Benevolent Foundation (MBF). The Bedells, who live in Lafayette, Colo., plan to volunteer in Haiti with MBF this year.

**Arthur Dratz, T'47 PhD'53**, is retired from his position as assistant chief of the nuclear medicine service at the VA Medical Center

in Atlanta. He and his wife, Betty Peck Dratz, live in Chamblee, Ga., and have one daughter, two grandchildren, and five great grandchildren. He writes, "We have an unusual marriage—we are both happy after 64 years."

**R. Rodney Howell, MD'57, HS'57-'60, DC**, received the 2013 March of Dimes/Colonel Harland Sanders Lifetime Achievement Award in Genetics. Howell, a pioneer in newborn screening, is professor of pediatrics and chair emeritus of the Department of Pediatrics at the University of Miami Miller School of Medicine. Howell played a key role in the development of the uniform panel of serious disorders for which nearly every baby in the U.S. is tested. He is a member of the Hussman Institute for Human Genomics and has served as president of the American College of Genetics and Genomics, and as president of its foundation. He lives in Miami.

**Luther Sappenfield, MD'57**, recently remarried, exchanging vows with his new wife Priscilla, two years after losing Nancy, to whom he was wed for 57 years. He volunteers twice a week in the surgical section or front desk at the Pineville branch of the Carolinas Medical Center in Charlotte, and he still enjoys playing golf and spending time at the lake house at Lake Tillery. "Life is short," he says, "so enjoy every day as if there is no tomorrow."

**Donald H. Tucker, MD'58, HS'62, DC**, is a member of the Medical Alumni Council at Duke and is co-chair of the Class of 1958 Reunion Committee. He founded Physicians East, a large multi-specialty group in Greenville, N.C.; is past president of the Pitt County Medical Society; and served

*Continued on Page 29*

## After 45 years, Green, T'56, MD'60, reunites with pilot whose arm he saved

As an Air Force surgeon stationed at Wright-Patterson Air Force Base in Dayton, Ohio, during the height of the Vietnam War, **Robert Green, T'56, MD'60**, saw a lot of badly injured servicemen cross his operating table. But one of them in particular stuck with him, a wounded young pilot whose journey from the skies over North Vietnam to Dayton was especially remarkable. For the next 45 years, Green often wondered what had ever become of Capt. Tom MacDougall, whose right arm was shattered when he ejected from his crippled F-4 Phantom over the Gulf of Tonkin. Years later, Green tried to find MacDougall, but beyond verifying that a pilot by that name had been shot down that day in 1967, he got nowhere.

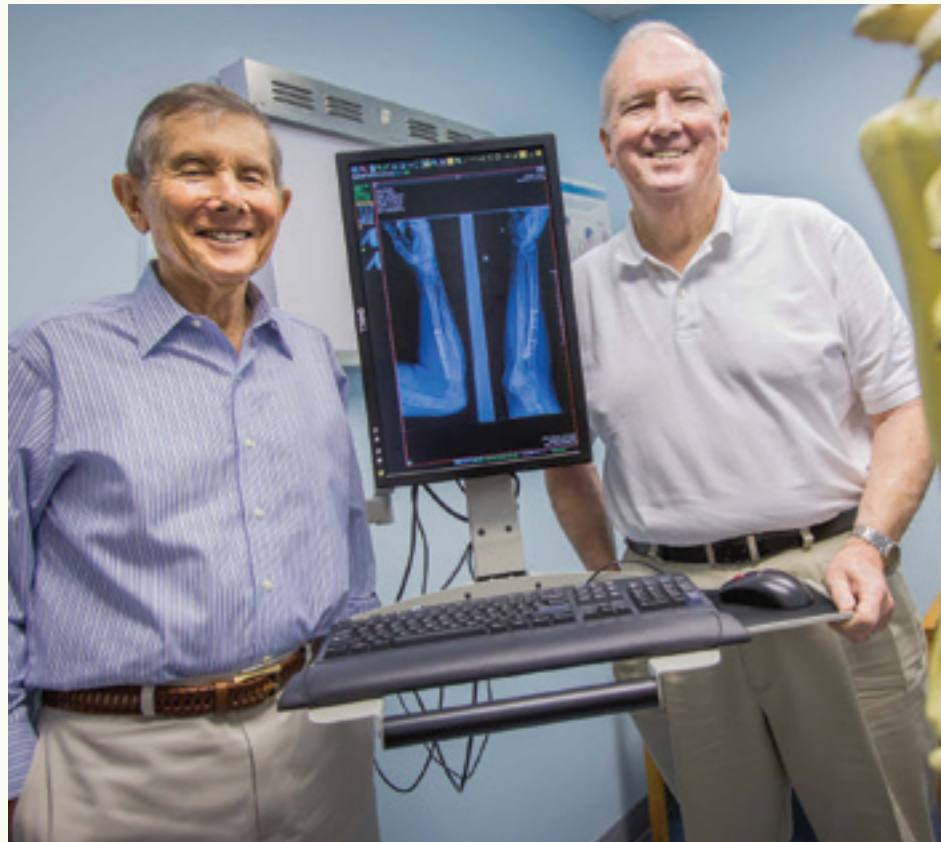
Then one day last year the phone rang in Green's Florida clinic.

"I was with a patient, and a nurse took the call," says Green, who is a prominent orthopaedic surgeon in his hometown of Palm Beach. "She told him she couldn't give him my home number or email address, but she took his number. She said his name was Tom MacDougall."

Green was stunned. As soon as he was able, he called the number.

"We spoke for an hour, and I'm not a phone person," Green said. "It was great. It was really flying when I got off the phone. I immediately called my wife and said, 'Guess who just called?'"

The two men were drawn into the war by very different paths. Green, who earned both his undergraduate and medical degrees at Duke—where he was also an Atlantic Coast Conference



Orthopaedic surgeon Robert Green, T'56, MD'60, repaired multiple fractures and nerve damage that Air Force Capt. Tom MacDougall suffered when his plane was shot down over Vietnam in 1967.

tennis champion—was pulled away from his young wife, their new baby, and the orthopaedic surgery practice he had just opened when he received his draft notice in June 1966. He was assigned to Wright-Patterson, where he joined a surgical team that treated an endless procession of grievously wounded servicemen.

MacDougall planned to go into medicine himself, but he fell in love with flying and instead joined the Air Force ROTC pilot training program at the University of Buffalo. On Memorial Day of 1967, during his second tour of duty in Vietnam, he had just completed an attack on a barge suspected of carrying munitions when his F-4 was hit first by machine gun fire and then by a missile.

MacDougall ejected as the burning jet spun toward the water. As the ejection seat blasted him free, his right arm got snagged in the plane's cockpit, shattering all three

*"What he did with his skills was just phenomenal. He's very modest; he keeps saying, 'Anybody could have done it.' But I really don't think so."*

Tom MacDougall

bones and damaging nerves. He landed on the beach, staggered into the water and began to swim, as best he could with one useless arm, toward an American destroyer he had seen several miles offshore.

Somehow he swam for over an hour, covering more than a mile, until a skiff launched by the destroyer found him and pulled him aboard, dodging fire from a North Vietnamese boat all the while.

MacDougall's arm was too badly damaged for either the doctors aboard ship or at the base in Da Nang to save. He was flown to the Philippines and then to the U.S. Incredibly, within less than 24 hours he was in Dayton, Ohio, on Green's table.

"It has always amazed me that they were able to get him from Da Nang to Dayton in 22 hours," Green said. "I knew we could save the arm. It was a question of how much function he would have."

Over the course of six surgeries, Green repaired the massive damage to MacDougall's arm. He was able to restore enough motion that within a year MacDougall returned to full flight status. He became a flight instructor until he returned to civilian life, earning a law degree and practicing aviation law for nearly 40 years.

Over those years, even as Green wondered what had become of MacDougall, MacDougall wondered what had become of the doctor who saved his arm and his career. Like Green, he had tried without success to track the other man down. Then, one day in 2012 his daughter Caroline, who was doing research for a video biography of him for his family, asked him if he had ever found Dr. Green. No, he said, he never had. "Well," she said, "I think I've found him."

By coincidence, the two men now both live on the Florida coast: Green in Palm Beach and MacDougall in Port Orange. After that initial phone reunion, they and their families have gotten together several times, and Green and MacDougall told their story on the "Fox & Friends" cable talk show.

"He's a wonderful man, a very genuine person," MacDougall says of Green. "What he did with his skills was just phenomenal. He's very modest; he keeps saying, 'Anybody could have done it.' But I really don't think so."

Green brushes off that kind of compliment. But he can't keep something like wonder, and maybe a little pride, out of his voice when he talks about shaking hands with MacDougall.

"He has great strength in that arm," he says. "He could break your hand."

— Dave Hart

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on the Duke Hospital Advisory Board. He and his wife Barbara Lane Tucker, WC'54, live in Greenville and have a remarkable Duke family legacy: all four of their children—**Donald H. Tucker Jr., T'81**; **Susan Tucker Weaver, T'83**; **Michael A. Tucker, T'85**; and the late **Lynn Tucker Grogan, T'81**—graduated from Duke, as have three grandchildren.

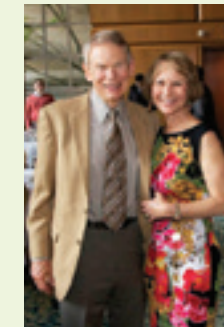
### 1960s

**William W. Fore, MD'60, HS'64**, and his wife Judy O. Fore, live in Black Mountain, NC. He volunteers with ABCCM Medical Ministry. He writes: "I enjoy having the energy and ability to care for some of the uninsured in Buncombe County."

**Philip H. Pearce, MD'60, HS'60, '64-'67**, has found it personally rewarding over the years to serve as a patient advocate for family and friends, especially upon discharge from the hospital or during evaluation of complex medical problems. He writes, "Medicine is more complicated than ever, and getting into or out of the hospital is like a 'full court press.'" He welcomes any of his fellow classmates interested in becoming a patient advocate to call him for advice at (919) 383-9322.

**Donald Collins Mullen, Sr., MD'61, DC-Century**, embarked on a second career in missionary and medical work in Vietnam, Greece, Africa, and China, after a 20-year career in cardiac surgery, including serving as associate professor at Medical College of Wisconsin. In 1994 he served as African director for Samaritan's Purse, a nondenominational evangelical Christian missionary and physical aid organization.

Mullen and his wife, Patsy Few Armstrong Mullen, now live in Newnan, Ga. They have five children—**Donald Collins Jr. T'85**, **Melissa Mullen Ballantyne**, **Mary Christina Mullen**, **Julie Ann Mullen-Hartman**, and **Martha Mullen Conroy**—and 16 grandchildren.



▲ **David T. Pitkethly MD'61, DC**, and his wife Mara went on a two-week volunteer mission in March 2013 to the Addis Ababa School of Medicine in Ethiopia, under the auspices of the Foundation for International Education in Neurological Surgery. The medical school there has a neurosurgery residency program with three faculty and 21 residents, and their graduates will soon be practicing in the smaller cities of the country, which has more than 90 million people. The primary teaching hospital, Black Lion, has 600 beds, including six ICU beds and four ventilators for the entire hospital. Pitkethly writes, "Equipment of all kinds is in short supply. The neurosurgical microscope and power drill are both inoperable, so craniotomies are done with hand drills and gigli saw blades. The need for American/European teaching standards is acute, and those interested in global medicine can make a huge contribution in Sub-Saharan Africa." Find out more on Pitkethly's blog: [dtpit10.blogspot.com](http://dtpit10.blogspot.com).

**Robert K. Yowell, MD'61, HS'69, DC-Century**, and his wife, **Barbara Dimmick Yowell, N'62**, celebrated their 50<sup>th</sup> anniversary on June 30, 2012. They have four children—**Robert, T'88**, **Sally, T'90**, **Charles, T'92**, and **Kelly**—and seven grandchildren, the youngest of whom, **Kendall Ruby Barbour**, was born on Aug. 27, 2012. The Yowells live in Durham.

**Leslie C. Norins, MD'62**, and his wife Ann "Rainey" have been invited to become Honorary Members of the Walter and Eliza Hall Institute for Medical Research in Melbourne, Australia. After receiving his medical degree from Duke, Norins did postdoctoral research at the Hall Institute in the 1960s and earned a PhD there as a fellow of the Nobel laureate in immunology, Sir Macfarlane Burnet. He and Rainey live in Naples, Fla., and have returned to Melbourne several times and hope to go again.

**C. Franklin Church, MD'63, HS'64-'66, DC-Century**, of Raleigh, is currently a founding principal and chief medical officer for IndUShealth, a management company dedicated to serving the self-insured and under-insured. The company facilitates access to affordable quality health care in India, Puerto Rico, and Costa Rica at Joint Commission approved facilities. Church previously served as founding partner and president of Raleigh Family Physicians, founder and chair of North Carolina Medical Management, and as senior medical director for MAMSI/United Healthcare. He was a founding board member of Raleigh Community Hospital, now Duke Raleigh Hospital, and is a former president of

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the North Carolina Academy of Family Physicians. He and his wife Linda have three children: Amy Lynn Church, Ann Clay Church T'91, and Macon Church.

**Norman W. Wetterau, MD'67**, continues to practice family and addiction medicine in rural upstate New York.

He is the American Society of Addiction Medicine's liaison to the Patient-Centered Primary Care Collaborative, where he works to provide leadership in integrating behavioral health into the patient-centered medical home. He is involved with N.Y. State politics, having helped get a bill passed that keeps those who call 911 for a drug overdose from being arrested. He also played a role in the passing of a law to expand drug courts. He has also worked to ensure that in the event of medical marijuana approval in New York State, the drug will be administered in a non-smoking manner and be FDA-approved.

**Melvin L. Elson, MD'69, HS'71-'73, DC-Century**, now semi-retired, is teaching around the world and is president of the American Academy of Aesthetic Medicine. In 1999, he and his wife Betty established the Melvin L. and Betty M. Elson Scholarship Endowment at Duke University School of Medicine. His third book, *Skin Scam: Dying to Be Beautiful*, is available on Amazon.com and as an e-book. It details the issues patients face when looking for qualified doctors to perform procedures to reverse the signs of aging.



▲ **Thomas Wise, MD'69**, is chairman of psychiatry at Inova Fairfax Hospital, a satellite campus of Virginia Commonwealth University and an affiliate of George Washington University. He does his academic work at both Fairfax and Johns Hopkins, where he continues to work part time. His wife Kathy is a volunteer at the Kennedy Center in Washington, D.C. They have two daughters: Catherine, an attorney in New York, and Elizabeth, a first-year resident in psychiatry at Johns Hopkins.

### 1970s

**Pamela Bowes Davis, MD'74, HS'75, PhD'72, DC**, is vice president for medical affairs and dean of the medical school at Case Western Reserve University in Cleveland, Ohio. In March 2013, Davis married James Patrick Herget, an independent executive search consultant. *The New York Times* reported that the couple, who met in 2008, decided to marry after Herget supported Davis through breast cancer and chemotherapy, and they discovered that for all intents and purposes, they were "already married."

**Bruce A. Perler, AB'72, MD'76**, was elected vice-president of the Society for Vascular Surgery (SVS) during the 67<sup>th</sup> Vascular Annual Meeting in San Francisco on

May 31. He will assume the position of president in 2015. The SVS is the largest national and international vascular surgical organization in the world, with more than 4,000 members. Perler is the Julius H. Jacobsen II, M.D. Professor of Surgery at the Johns Hopkins University School of Medicine and the chief of the Division of Vascular Surgery and Endovascular Therapy at Johns Hopkins Hospital. He also is the senior editor of the *Journal of Vascular Surgery*. He and his wife Patti live in Ruxton, Md., and have two children: Mason, a senior at the University of Virginia, and Rachel, a freshman at Yale University.

**William B. Bunn, T'74, MD'78, L'78, HS'79-'83**, has been appointed by the World Health Organization as United States representative to the International Commission on Occupational Health and reappointed to the National Advisory Committee on Occupational Safety and Health by Congress Committee. He is a full professor at Northwestern University School of Medicine and an associate professor at the University of Illinois. Bunn has retired as vice president of health, safety, security, and productivity at Navistar, Inc., where he is now an advisor-consultant.

### 1980s

**Jonathan Christenbury, MD'81, HS'81, '85, DC**, was featured on "In View," an educational television program hosted by Larry King on the Discovery Channel. The show included a five-minute segment about laser eye surgery at the Christenbury Eye Center, which he established in 1987. Christenbury, known for his groundbreaking work

in vision care, performed the first LASIK procedure in the Carolinas and has since performed more than 75,000 laser vision correction procedures. He and his wife, **Mary Christenbury, MD, HS'84**, live in Charlotte. They have two children, **Joseph, T'08, MD'13**, and **Lauren, T'11**.

**Nancy E. Dunlap, MD'81**, was appointed interim dean of the University of Virginia School of Medicine in May. She is expected to be with the university for at least 18 months as it continues the process of hiring a new executive vice president for health affairs. A search for a permanent dean for the School of Medicine will be launched following that appointment. A pulmonologist, Dunlap is physician-in-residence with the National Governors Association Center for Best Practices in Washington, D.C. She previously held numerous appointments at the University of Alabama at Birmingham, most recently as professor of medicine and business.

**Alice M. Ormsby, MD'82**, recently celebrated her 25<sup>th</sup> wedding anniversary with her husband, Robert G. Freid. They are the proud parents of 15-year-old twins; daughter Abigail is passionate about musical theater and is her school's student body president, and son Spencer is an expert in exotic cars and actively follows the stock market. The family lives in Woodinville, Wash.

**Scott D. Stevens, MD'83**, was inducted as a Fellow in the American College of Radiology (ACR) during the ACR Annual Meeting and Chapter Leadership Conference in Washington, D.C., in May. He

is an assistant professor of radiology and division chief of abdominal imaging at the University of Kentucky College of Medicine in Lexington.

**Cheryl Walker-McGill, T'80, MD'84, HS'84**, was promoted earlier this year to secretary/treasurer at the North Carolina Medical Board in Raleigh, N.C. She lives in Charlotte.

**William T. Obremsky, T'84, MD'88**, is chief of orthopaedic trauma at Vanderbilt University Medical Center. He was promoted to professor of orthopaedics last September and is involved in U.S. Department of Defense research on severe orthopaedic injuries to civilians and the military. He is completing a health care MBA at Vanderbilt and plans on continuing clinical medicine and helping the medical center navigate health care evolution. His wife Jill, T'86, is director of the Vanderbilt Pediatric Urgent Care Centers. Their children are Allie, a pre-med sophomore at University of Southern California; Nick, a high school senior and future premed, and Analise, a high school freshman. The family lives in Nashville.

**J. Alan Wolfe, MD'84**, was one of two cardiovascular surgeons to perform the first U.S. implant of eSVS Mesh, a new technology that could improve the quality of life for patients who need heart bypass surgery. The implant was performed at Northeast Georgia Medical Center in February 2013 as part of an initial feasibility clinical trial approved by the FDA. Other cardiac surgery centers in the U.S. will join the clinical trial. Wolfe, who practices with

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# Stonnington, MD'92, is at Home at the Hospital and on the Farm

After riding out Hurricane Katrina with his family on his Mississippi farm just south of the Gulf Coast, **Michael Stonnington MD'92**, stood in the middle of 160 acres of downed trees and debris and thought, "Why am I out here?"

Stonnington had dreamed of owning a farm since he was a little kid, and in 1998, he had realized that dream, buying 30 acres to start a tree farm, on top of running his busy orthopaedics practice. He built the farm gradually, buying surrounding land as it became available. In 2005, Katrina hit, and the storm was worse than he could have imagined. He spent tortuous hours watching the storm destroy all his barns and send trees hurling through the air. "Any one of those trees could have come crashing through the roof. The house was shaking. It seemed like it lasted forever," he says.

In the aftermath, he felt like giving up. Then a logger friend of his showed up to help clear the rural road where Stonnington lives; his friend knew the doctor would be needed at Forest General, the busy trauma referral hospital where he's a trauma and total joint surgeon. (Stonnington is one of the few doctors in Mississippi who can fix a broken pelvis.) The cleanup was arduous and expensive, and he decided he would never run a tree farm again. But his logger friend raised and sold cattle on the side, and Stonnington began partnering with him on a few cows. He did that for two or three years, then went out on his own.

At first he raised his cattle the mainstream way, taking them to commercial feedlots once they reached a certain weight to be "finished" and sold. But now and again he would get a notice that his cow had died at the feedlot. "I don't have cows that routinely die on the farm," Stonnington says. "Why are they dying? They were healthy when I sent them out there."

That's when he started reading about the "farm-to-table" movement and feeding cows grass instead of grain. He decided to process the cows himself, and rather than use feedlots, sell only to individual consum-

*"Ninety-nine percent of cattle farmers think I'm crazy."*

Michael Stonnington

ers. "Ninety-nine percent of cattle farmers think I'm crazy," he says.

But after reading and educating himself, he believes that natural and grass-fed is the best way. "Cows are hard-wired to eat grass," Stonnington says. "We're fighting nature by feeding them grain." He also avoids antibiotics unless necessary and doesn't use growth hormones.

Stonnington's love of learning and his work ethic were both nurtured during his time at Duke, and he applies them to everything he does. "I'm constantly reading about the cattle industry and trying to make myself a better farmer, and I do that with orthopaedics too," Stonnington says. "That's what Duke has done for me.

Whether in research or in seeing patients, you see at Duke among all the professors the ability to continue working hard and achieving, and to not get disconcerted by things that are out of your control."

It was an event way out of his control—the hurricane—that led to Stonnington's love of cattle farming. And he couldn't be happier. His cattle farm now comprises 338 acres ([www.stonningtonfarm.com/](http://www.stonningtonfarm.com/)).

"I don't play golf. I do orthopaedics, farming, and being a dad. And I love it," Stonnington says. He runs the farm with the help of two full-time employees. In the summer, his children—17-year-old Henry, 15-year-old Grace, and 13-year-old Christian—work the farm full time. His wife, Katie, who holds a PhD in materials science from North Carolina State University, runs the business side of the operation. Stonnington works the farm at night and all day on weekends. He takes care of most of the animals' medical needs and does many other tasks. "I'm fixing pipes and building fences and learning how to do all kinds of things I never knew how to do," he says.

—Angela Spivey



Katie, Michael, Christian, Henry, and Grace Stonnington on their cattle farm.

Continued from Page 30

Northeast Georgia Physicians Group Cardiovascular and Thoracic Surgeons in Gainesville, Ga., also has developed his own technique of minimally invasive heart valve reconstructions.

dic Sports Medicine), the largest international orthopaedic sports medicine society, with more than 4,000 members in 92 countries. Safran and his wife, Lee Shelbourne Safran, T'88, reside in Stanford, Calif.



▲ Tina S. Alster, BSN'81, MD'86, is director of the Washington Institute of Dermatologic Laser Surgery, which she founded in 1990. She is also a clinical professor of dermatology at Georgetown University. She has established two scholarship endowments at Duke for women pursuing a career in medicine, and she recently hired two other Blue Devils (Terrence Keane, BS'02, MD and Tania Peters, MD HS'08-'11). In addition, Alster and Keane in February 2013 Launched W for Men, the world's first center focused exclusively on the skin care needs of men, which was featured in *Town and Country*.

They have three children, Janna, Nathan, and Clark.

James Fang, MD'88, has been named chief of cardiovascular medicine at the University of Utah School of Medicine and director of the cardiovascular service line at University of Utah Health Care. Fang, who specializes in treatment of patients with heart failure, previously held the Spitz Master Clinician Chair at Case Western Reserve University School of Medicine in Cleveland, Ohio, where he was a professor of medicine and associate chief of clinical affairs for cardiovascular medicine.

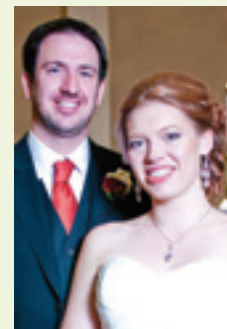


▲ Tim Lahey, MD'98, announces that he "finally lost all of his hair." He is distracted from that development by

leading a curriculum redesign, teaching, conducting HIV/TB immunology research, and seeing patients with HIV in his position as associate professor of medicine at the newly renamed Geisel School of Medicine at Dartmouth. His wife Jessica just earned a book deal with Harper Publishing, so Tim says he is "considering early retirement to live large with sons Ben, 14, and Finn, 9, amid the Laheys' alarmingly populous backyard menagerie."

Wendalyn King Little, MD'98, is on the pediatric emergency medicine faculty at Emory University in Atlanta and recently assumed the position of director of the Pediatric Emergency Medicine Fellowship Program. She and her husband Larry live in Atlanta with their three children and enjoy running, hiking, and camping when busy schedules allow.

2000s



▲ Trisha Voeltz Flesher, DPT'08, married Justin Flesher on December 7, 2013. She is director of physical therapy at Integrated Sports Medicine and Physical Therapy, and he is a project manager. They live in Springfield, Va.

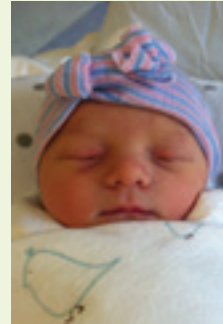


▲ Clarence M. Findley, MD'09, PhD'09, and Hewan Bekele Findley, T'02, were married on March 23, 2013, in Raleigh. Since 2011, they have been living and working in the San Francisco Bay Area. Clarence is continuing cardiology training at Stanford University with plans to pursue advanced training in interventional cardiology. Hewan works as a senior manager in the Delivery System Planning Department for Kaiser Permanente Northern California. The couple spent a few days vacationing in Costa Rica after their wedding but had plans to honeymoon in Venice, the Greek Isles, Istanbul, and Dubai in late summer 2013.

Krish Patel, T'05, MD'09, will serve as chief resident in internal medicine for the Duke Internal Medicine Residency Program, with a faculty appointment as medical instructor from July 2013 to July 2014. After that, he will complete his final two fellowship years in hematology and oncology at Duke.

2010s

Charles R. Author III, MD'10, was appointed chief resident during his psychiatry residency at Johns Hopkins Hospital, in academic year 2013-2014.



▲ E. Philip Lehman, MD'10, MPP'10, and wife Emily welcomed a daughter, Anna Giles Lehman, on May 15, 2013. Anna weighed 6 pounds, 10 ounces and was 19¼ inches long. Lehman currently is an internal medicine resident at Duke.

1960s



▲ Douglas P. Zipes, MD, HS'64-'68, has become interested in writing fiction, after having published many medical articles and textbooks. "Although my dissenters might say that I've been publishing fiction all along!" he writes. He adds that former U.S. president Bill Clinton and Israel's president Shimon Peres are reading his two novels, *Ripples in Opperman's Pond* and *The Black Widows*. *The Black Widows* is about a terrorist cell and takes place in Chappaqua, N.Y., where the Clintons live. Zipes is a distinguished professor at Indiana University School of Medicine.

1970s

Wayne B. Venters, MD, HS'68-'72, retired from orthopaedic surgery in July 2013 after 41 years of practice. He spent 29 years in his own practice in his hometown of Jacksonville, N.C., where he was the town's first orthopaedist. In 2001, he moved to Spokane, Wash., and joined Rockwood Multispecialty Clinic as an ortho-hand surgeon. He now plans to continue to hold musculoskeletal lectures and clinics with the Providence Internal Medicine Residency Program. He also hopes to spend time fishing and working on his photography hobby.

Richard H. Daffner, MD, HS'70-'73, gave the commencement address at his *alma mater*, Albany College of Pharmacy and Health Sciences, in celebration of the 50<sup>th</sup> anniversary of his graduation. Also, the fourth edition of his textbook, *Clinical Radiology: the Essentials*, is scheduled to be published in September 2013.

M. Bruce Shields, HS'74, retired in June 2011 from Yale University, where he was chair of the Department of Ophthalmology and Visual Science. Prior to taking his position at Yale in 1996, he served for 25 years at the Duke Eye Center. He and his wife are now back in North Carolina, where he does volunteer work, including working with Duke residents at the Durham VA Hospital.



▲ James A. Paulson, MD'75, recently met with the First Lady of Tanzania and the leadership of the Paediatric Association of Tanzania to develop a long-range plan to increase the capacity of Tanzania to assess, manage, and prevent environmental health threats to children. Paulson, of Alexandria, Va., met the First Lady, H.E. Salama Kikwete, when she toured the Children's National Medical Center, where he is the medical director for national and global affairs of the Child Health Advocacy Institute and the director of the Mid-Atlantic Center for Children's Health and the Environment. Paulson is also a professor of pediatrics at the George Washington University School of Medicine and a pro-

fessor of environmental and occupational health at the GW School of Public Health.

E. Ruffin Franklin, MD, T'69, HS'75-'76, senior partner for Capitol Pediatrics & Adolescent Center, says that his practice, with three offices in Raleigh and Wake County, is joining the Private Diagnostic Clinic Division at Duke Medical Center on October 1, 2013. Capitol Pediatrics will be the first private pediatric specialty practice to join Duke's PDC. Other Duke-trained pediatricians in the group are Jeffrey Ryan, MD, HS'94-'97; Wendy Taylor Book, MD'99; HS'99-'02, and Jacqueline Farber Kerkow, MD, HS '09-'12.

Russel Kaufman, MD, HS'73-'78, was presented with the Greater Philadelphia Life Science Congress' "The Ultimate Solution" award for his leadership as chair for the past three years. The Life Science Congress is a component of the Philadelphia Convention and Visitors Bureau. Kaufman is president and CEO of the Wistar Institute, an independent, non-profit biomedical research center in Philadelphia. He also recently received the *Philadelphia Business Journal* Life Sciences CEO of the Year award. He and his wife Jane live in Philadelphia and have two children, Jonathan and Emily.

James A. Nunley, T'69, HS'75-'79, recently stepped down as chairman of the Orthopaedic Department at Duke University, a position he held for the last 11 years. He continues to teach and perform research as the J. Leonard Goldner Endowed Professor of Orthopaedic Surgery at

Duke. In 2013, Dr. Nunley was the Presidential Invited Guest of the Royal Thailand Orthopaedic Society, the Chilean Orthopaedic Society, and the Russian Orthopaedic and Traumatology Society. His son Ryan Nunley, MD, is an assistant professor of Orthopaedic surgery at Washington University in St. Louis, and his son Jefferson Nunley, DVM, is completing a surgical residency at Animal Medical Center in New York.

1980s

Claude A. Piantadosi, MD, HS'80-'81, has published *Mankind Beyond Earth: The History, Science, and Future of Human Space Exploration* (2013: Columbia University Press). The book seeks to "re-energize Americans' passion for the space program, the value of further exploration of the Moon, and the importance of human beings on the final frontier." He is a professor of pulmonary, allergy, and critical care medicine and director of the F.G. Hall Environmental Laboratory at Duke.



▲ Ted George, MD, HS'80-'83, has published a book, *Untangling the Mind: Why We Behave the Way We Do*, to help readers understand what happens within the brain, and why. George, a psychiatrist and associate clinical director

at the National Institutes of Health in Bethesda, Md., was struck by how much easier it is for people to say they have a physical illness than it is to admit they feel out of control with an emotion such as fear, anger, or depression. He wrote the book to help people understand the roots of human behaviors and feelings. He lives in Potomac, Md.

Maryella D. Sirmon, HS'85, is a partner with Nephrology Associates of Mobile, Ala., and a clinical adjunct faculty member at the South Alabama College of Medicine. She is past Governor of the Alabama Chapter of the American College of Physicians. She and her husband Wayne live in Mobile, Ala., and have two grown children.



▲ Jorge Gamba, MD, HS'82-'86, is a neuroradiologist and senior partner with Mori, Bean, & Brooks, P.A. in Jacksonville, Fla. He and his wife Ann have two children, Thomas Jorge Gamba, T'10, and Christina Gamba. Christina was born at Duke Medical Center in 1988 during Gamba's radiology residency. She recently graduated from Stanford Medical School. In the photo above: Dr. Gamba celebrates with Christina at her Stanford graduation ceremony.

Augustine M. K. Choi, MD, HS'87, was appointed chair of the Department of Medicine at Weill Cornell Medical College and physician-in-chief at New York-Presbyterian Hospital/Weill Cornell Medical Center. Previously, Choi was the Parker B. Francis Professor of Medicine at Harvard Medical School and chief of Pulmonary and Critical Care Medicine at Brigham and Women's Hospital in Boston. In his new role, Choi leads one of the most comprehensive academic and clinical departments in the nation, comprising 16 divisions and more than 1,700 faculty members, physicians, and researchers focused on clinical care, research, and medical education. He and his wife, Mary E. Choi, HS'87, live in Boston. They have two sons, Justin and Alex.



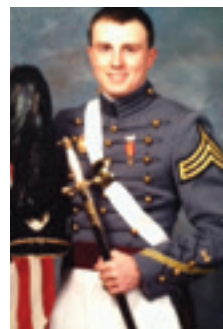
▲ William Broyles, MD, HS'86-'89, MHS'03, and his wife Noelle have been in La Paz, Bolivia for almost two years, working with Hospital Arco Iris, a 100-bed charity teach-

ing hospital that provides care for the estimated 30,000 children who live or work on the streets of La Paz, as well as orphans, vulnerable children, and the impoverished. He is using his masters in leadership training to change the culture of the hospital and develop the capacity of the 80 health care leaders there. He is helping to develop a for-profit ambulatory clinic similar to the urgent care centers at Duke, to provide health care for those who now leave the country to obtain basic health care, to reduce the need for emergency care, and to generate revenue for the charitable mission of the hospital. He has also helped coordinate the creation of Bolivia's first trauma registry and facilitated health care education with several faculty from Duke and other institutions. The Broyles' oldest daughter, Candice, is teaching in Athens, Ga., and was married last year. Their younger daughter, Brienne, spent a gap year with her parents in Bolivia and is now studying nursing in Atlanta.

Debra Schwinn, MD, HS'86-'89, in November 2012 started a new job as dean of the Roy J. and Lucilla A. Carver College of Medicine and professor of anesthesiology, pharmacology, and biochemistry at the University of Iowa. She lives in Iowa City, Iowa with her

husband, Robert Gerstmyer, PhD'95. They have two children, Anna and Heidi.

## 1990s



▲ Dean Scott Edell, MD, MPH, HS'90-'93, was recently named section head of the Division of Pediatric Pulmonary at Children's Hospital of New Orleans and director of respiratory care. He is currently a clinical professor of pediatrics at Louisiana State University School of Medicine and at Tulane University School of Medicine. He recently finished a five-year stint on the American College of Chest Physicians' Pediatric Pulmonary Steering Committee, which sets policy for the organization. He and his wife Debra have been residents of New Orleans since he completed his fellowship at Duke. Their son Justin (pictured) recently graduated from the United States Military Academy at West Point with a major in mechanical engineering. They also have two daughters. Kendall is a junior

at Smith College in Northampton, Mass., and Tyler was a three-time girl's soccer MVP at Newman High School and will join the women's soccer team at Sewanee University this fall.



▲ Chung-Ping Hsu, MD, HS'93-'94, was promoted to chair of the Surgical Department Taichung Veterans General Hospital in January 2013. Hsu, professor of surgery at National Yang-Ming University School of Medicine in Taipei, Taiwan, served seven years as chief of thoracic surgery at the same hospital. He and his wife Flora live in Taichung, Taiwan and have three children: Langer, Thomas, and Sharon.



▲ Jennifer Cohen Takagishi, HS'93-'96, was promoted to professor in the Department of Pediatrics at the University of South Florida Morsani College of Medicine in August 2013. She is a member of the General Pediatrics Division and medical director for HealthPark Pediatrics, the outpatient pediatric clinic at Tampa General Hospital. She also serves as medical director for the county Medical Foster Care Program and assistant director for the county Children's Medical Services program, which provides nurse care coordination and clinics for children with special health care needs. She and her husband Curtis, PhD, live in Tampa and have two daughters: Alexandra, 12, and Sabrina, 10.

Full obituaries can be found on the Medical Alumni Association web site at [medalumni.duke.edu](http://medalumni.duke.edu). Please click on the magazine cover, then click on obituaries.

Steven H. Boswell, MD, HS'70-'73, of San Antonio, Texas, died July 8, 2013. He was 70. Boswell served in the U.S. Navy, stationed at Bethesda Naval Hospital in Maryland. In 1976, he moved to San Antonio, where he worked as a radiologist for many years.

Charles L. Brock, MD'54, of Daytona Beach, Fla., died July 12, 2013. He practiced ophthalmology in Daytona Beach for 42 years. His undergraduate studies at Duke were interrupted for active duty service as an officer in the United States Navy during World War II, serving on anti-submarine warfare duty in the Atlantic Ocean. Dr. Brock served on the staff of Halifax Medical Center for many years, including serving as chief of ophthalmology. He was the Florida State Medical Advisor of the National Society for the Prevention of Blindness, an Eagle Scout, and a lifelong volunteer with the Boy Scouts of America.

John L. Capps, MD'85, died March 11, 2013, at his home in Gastonia, N.C. He was 53. Capps served the Gaston County community for more than 20 years in the practice of internal medicine and more recently, in bariatric medicine in Rock Hill, S.C. He served on the boards for Gaston County Department of Social Services and House of Mercy in Belmont.

William C. Collins, HS'69, died of complications from pneumonia on February 25, 2013, at his home in Sandy Springs, Ga. He was 75. Collins opened his orthopaedic practice, Northside Orthopedic Clinic, in Sandy Springs in 1970, becoming one of the first orthopaedists in Sandy Springs and at Northside Hospital. He held leadership positions in numerous organizations, including serving as president of the Medical Association of Georgia. He also was involved in the formation and growth of MAG Mutual Insurance Company.

Thomas M. Constantine, T'50, MD'54, an internal medicine and hematology physician in Jacksonville, Fla., died March 12, 2013, at age 84. Dr. Constantine's undergraduate degree at Duke was in chemistry. He practiced in Jacksonville at the Riverside Clinic for many years.

John S. Davis, MD'81, of Akron, Ohio, an ophthalmologist who specialized in adult and pediatric strabismus, died April 17, 2013. He was 58. After earning a medical degree at Duke, he completed residency and fellowship training at Baylor University in pediatric ophthalmology. He served as a board certification examiner on the American Board of Ophthalmology.

Bruce W. Fischberg, MD'59, a psychiatrist from West Newton, Mass., died May 25, 2013. He was 82. Fischberg served as assistant clinical professor at Harvard Medical School, and over the course of his career, he held hospital appointments at McLean, Massachusetts General, and others. He had a private psychiatry practice from 1964-2011.

Thomas B. Ferguson, T'47, MD'47, HS'47-'50, a pioneer in heart surgery and professor emeritus of cardiothoracic surgery at Washington University School of Medicine in St. Louis, died May 26, 2013, at the age of 90. He played an important role in bringing the first heart-lung machine to St. Louis in the late 1950s, and in 1958, he and

his colleagues performed Washington University's first open-heart surgery. He was a founding member of the Society of Thoracic Surgeons and served as president of that organization as well as the American Association for Thoracic Surgery. In 2009, he received the Lifetime Achievement Award from the American Association for Thoracic Surgery.

David B. Hill, MD'57, died February 26, 2013, at his home in Lynchburg, Va. He was 85. Hill practiced general, thoracic, and vascular surgery in Lynchburg for 42 years before retiring in 2004. He was instrumental in developing the intensive care unit at Virginia Baptist Hospital and in bringing laparoscopic surgery to Lynchburg. His involvement with the Lynchburg Academy of Medicine included serving on the organization's board and various committees and as vice president and president.

Edwin R. Hudson, MD, HS'92-'94, died of trauma sustained in a bicycling accident in Columbia, S.C., on June 11, 2013. He was 61. Dr. Hudson lived in Columbia for 15 years and was on staff at Palmetto Richland Hospital from 1997-2006 and Lexington Medical Center from 2006 until the time of his death.

Dennis E. Ose, PhD'78, MD'79, a pathologist and former Wake County medical examiner, died June 26, 2013, at his home in Cary. He was 64. He previously was in practice in Georgia and Pennsylvania.

Ernest T. Poole, MD'61, of Wilmington, N.C., died July 8, 2013. He was 77. Born in Nashville, N.C., and raised in Raleigh, he earned an undergraduate degree at North Carolina State University. After earning a medical degree at Duke he was a physician in the U.S. Army, and then established an ophthalmology practice in Wilmington.

Shaler S. Roberts, MD, HS'58, of Killen, Ala., died March 7, 2013, at Eliza Coffee Memorial Hospital in Florence, Ala. He was 85. Dr. Roberts was a board-certified ophthalmologist at the Florence Clinic from 1959 until his retirement in 1993. He also served on the First National Bank of Florence Board of Directors and the Florence Housing Authority Board of Commissioners and as ECM Hospital chief of staff.

Stephen G. Romeo, MD, HS'67-'70, died at his Tolland, Conn., home on March 13, 2013. He was 76. Before training at Duke, Dr. Romeo served in the U.S. Air Force from 1965-1967 at RAF Alconbury Base in England. In 1970, he opened a dermatology practice in Manchester, Conn., where he practiced until retiring in 2000. His career also included mentoring family practice residents at the University of Connecticut School of Medicine. He was a member of several dermatology societies, including the American Academy of Dermatology and had served as president of the Dermatology Section of the Connecticut State Medical Society.

**Edgar J. Sanford, T'62, MD'65, HS'69-'72, DC**, of Tampa, Fla., died June 26, 2013. He was 72. After serving an internship and one year of training in general surgery at the New York Hospital Cornell Weill Medical Center, he entered the U.S. Navy and served from 1967-1969. He completed residency training at Duke in his surgical specialty of urology. He served on the faculty of Penn State University's Hershey Medical Center from 1972-1979, then entered into private urology practice in Elmira, N.Y. He later returned to academic medicine at the University of South Florida Medical Center at Tampa until he retired.

**Leonard H. Schuyler, MD'50, DC-Charter**, of Poughkeepsie, N.Y., an attending physician at New York Presbyterian Hospital in New York City for over 50 years, died May 10, 2013. He was 96. Dr. Schuyler served in the U.S. Army-Duke 65th General Hospital during World War II.

**Trudy Small, MD, HS'80-'81**, a pediatric hematologist at Memorial Sloan-Kettering Cancer Center in New York, died June 14, 2013. Dr. Small made important contributions in the development of improved transplantation approaches for the treatment of patients with advanced leukemia and children with life-threatening genetic disorders of the immune system. She first joined Memorial Sloan-Kettering in 1987, and among her many accomplishments, her work provided evidence critical to the development of the National Centers for Disease Control and Prevention guidelines for vaccination of immune-compromised transplant recipients.

**Richard C. Stone, T'58, MD'62, HS'62-'66**, of Las Vegas, died May 7, 2013. He was 79. At Duke, he was a member of the Alpha Omega Alpha Medical Honors Society and won many scholastic awards for achievement. He served in the U.S. Army for four years and served an additional four years in the Army Reserves. In 1965, he joined the Dallas Medical & Surgical Clinic, where he practiced gastroenterology for 26 years before moving to Las Vegas.

**Kim M. Walsh, MD'87, HS'88-'91**, of Chapel Hill, died April 23, 2013. She was 53. Dr. Walsh served as medical director of Alamance and then Durham County Health Departments between 1991 and 2001. Most recently, she served as medical director at Blue Cross-Blue Shield of North Carolina in Chapel Hill. She earned degrees at Dartmouth College, Duke University School of Medicine, and the University of North Carolina School of Public Health.

**Antronette 'Toni' Yancey, MD'83, HS'83-'84**, who devoted her career to improving health and fitness and eliminating health disparities, especially for vulnerable populations, died April 23, 2013, following a battle with lung cancer. She was 55. She was a professor at the University of California-Los Angeles Fielding School of Public Health, and was widely known for creating "Instant Recess," a unique program dedicated to "making America healthier 10 minutes at a time." She earned numerous awards, including the 2012 Pioneering Innovation Award from the U.S. Centers for Disease Control and Prevention, and was one of a handful of national thought leaders asked to serve on the board of directors of the Partnership for a Healthier America, the non-profit that guided first lady Michelle Obama's "Let's Move" campaign.

**Barbara Clark Ziko, MD'80**, of Raleigh, who practiced emergency medicine at several Triangle hospitals, then became a staff physician with North Carolina State University Student Health, where she worked for 19 years, died July 5, 2013. She was 60. In high school in Dearborn, Mich., she was one of two Michigan Presidential Scholars. Dr. Ziko earned an undergraduate degree in molecular biophysics and biochemistry at Yale University, and a medical degree at Duke. She completed an internship in internal medicine at Maine Medical Center.



PLANNED GIVING

# Putting Primary Care First

**Richard Frost, MD' 73**, has learned to avoid certain topics with his wife Marty, an alumna of the University of Kentucky, when basketball season rolls around. ["I still can't say Christian Laettner's name around here without causing trouble,"](#) says Frost, who recently retired after practicing medicine for nearly 40 years in Plattsburgh, N.Y. But if they have their differences on the hardwood, the Frosts are in wholehearted agreement about their support for the Duke University School of Medicine.

"Duke is well known, of course, for producing top-flight specialists, researchers, and academic leaders, and we're very proud of that," Frost said. "But nationally there is a profound need for primary care physicians. When we learned that Duke was making a commitment to primary care, we decided to put our support behind that effort."

The Frosts are giving back to Duke with a flexible gift annuity that pays them income throughout their lifetimes, with the balance going to Duke after they pass. Duke offers several plans that give you the opportunity to combine lifetime income, tax benefits, and philanthropy that makes a difference.

**PLANNED GIVING**

To learn more, please contact:  
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## 2013 LARGEST EVER MEDICAL CLASS

**113** size of the Fall 2013  
entering medical class

**34** # of states represented

**28** # of Duke undergraduates

**23%** underrepresented  
minority groups

**7** in Primary Care  
Leadership Track

**8** MD/PhD candidates

The incoming class of 2013  
celebrates after receiving their  
white coats.