DukeMed
AlumniNews

SPRING 2015

This man has helped restore hearing for nearly half a million people

BLAKE WILSON'S JOURNEY TO DEVELOP THE COCHLEAR IMPLANT.

THIS SPRING, DUKE UNIVERSITY SCHOOL OF MEDICINE was once again ranked among the top 10 schools in the nation. While I can't say this ranking isn't important to us, what I can say is that it is not what distinguishes Duke from our peers. What sets us apart is our community of strong leaders and bright and accomplished faculty, staff, and students.

In particular, I want to acknowledge the leadership of our chairs, center and institute directors, and vice and associate deans who bring incredible vision and commitment to the school. During the past year, we have welcomed many new leaders to the school and the health system, including five new department chairs, a new vice dean, and our new chancellor who joined Duke on April 1.

While change can be unsettling, I see this period of transition as a tremendous opportunity. As we all know, it's easy to fall back on the "we've always done it this way" or "we've already tried that; it won't work" mentality, but new leaders bring energy and vision, and I welcome that.

Our faculty, staff, and students make Duke special, but what draws them here and what makes them stay? I believe it's the vibrant academic community in which we all work, study, and train.

A few of this year's initiatives include:

- Implementing new programs to support our faculty, including the Flex Voucher Program to provide academic support services for junior faculty members facing work/life balance challenges, and forming an Academy of Mentors to help junior faculty members launch their research careers;
- Opening a new Student Inter-Professional Clinic for a student-oriented practice experience that brings together teams of physician assistant students, doctor of physical therapy students, nursing students and medical students;
- Creating an Inclusion Council that comprises a diverse group of individuals from across the school to help prioritize our diversity and inclusion goals and determine needs and strategies for inclusion.

As we look to the future, it's never been more apparent that our investment in people will continue to make the School of Medicine thrive. I am committed to working with our leaders to foster a diverse, supportive, and innovative environment in which all members of our community feel valued and are positioned for success.

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

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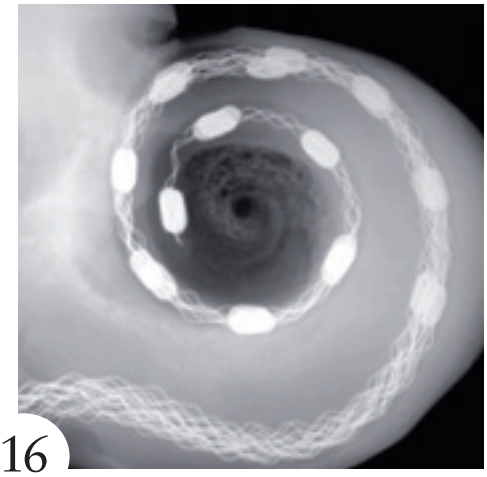
IN BRIEF



RESEARCH BRIEFS

ETC.

Duke Tumor Center on *60 Minutes*

Researchers, physicians, and patients from the Preston Robert Tisch Brain Tumor Center at Duke were featured in a segment on CBS's *60 Minutes* on March 29. Right, co-deputy director **Henry Friedman, MD, HS'81-'83,** talks with correspondent Scott Pelley.

The segment features an investigational therapy using a polio vaccine developed at Duke to treat aggressive brain cancer. The promising experimental treatment was given to 22 glioblastoma patients, two of whom are now cancer free.

The treatment took more than 10 years of research at Duke to develop.

learn more about this promising advance by visiting *60 Minutes* at **cbsnews.com/60-minutes** or the Tisch Brain Tumor Center at **cancer.duke.edu/btc**

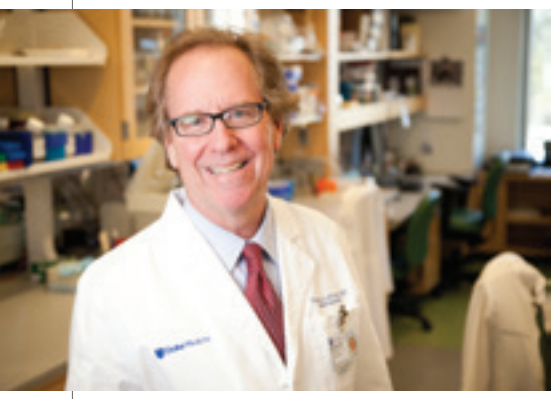
SHAWN ROCCO

AOA Names Duke Members

The *Alpha Omega Alpha* Medical Honor Society this spring elected three Duke medical residents and fellows and eight medical students as members.

Medical students selected are Jeffrey Scott Smith, Robert Darnell Sinyard, Katherine Price Pryor, Ashwin Agarwal, Lauren Sayres, Colin Thomas Penrose, Daniel Bowman Loriaux, and Daniel Joseph Cunningham.

Residents and fellows selected are **Ann Navar-Boggan, MD'09, HS-current**; **Judson Williams, MHS'11**, and Brad Perez.



Thomas Coffman

Coffman Named Duke-NUS Dean

Thomas Coffman, MD, has been named dean of Duke-National University of Singapore Graduate Medical School (Duke-NUS). Coffman previously served as executive vice dean of Duke-NUS. He succeeds Ranga Krishnan, MD, who officially steps down in June 2015.

Coffman is an accomplished clinician-scientist, holder of the James R. Clapp Professorship in Medicine, and chief of the Division of Nephrology at Duke.

Califf Named Deputy Commissioner for the FDA

After 33 years at Duke, **Robert M. Califf, T'73, MD'78, HS'78, '80-'83**, the Donald F. Fortin, MD, Professor of Cardiology and vice chancellor of clinical and translational research, has been named deputy commissioner for Medical Products and Tobacco at the Food and Drug Administration. Califf began his appointment at the end of February 2015.

Robert M. Califf

In this role Califf will provide executive leadership to the agency's Center for Drug Evaluation and Research, the Center for Biologics Evaluation and Research, the Center for Devices and Radiological Health, and the Center for Tobacco Products. He will also oversee the Office of Special Medical Programs in the Office of the Commissioner, playing a critical role in providing high-level advice and policy direction for the federal agency's medical product and tobacco priorities. He will also manage crosscutting clinical, scientific, and regulatory initiatives in several key areas, including orphan drugs, pediatric science, and the agency's advisory committee system.

Nicchitta Named Associate Dean

Christopher Nicchitta, PhD, has been named associate dean for research training for Duke University School of Medicine.

As associate dean for research training, Nicchitta will oversee the School of Medicine's biomedical PhD programs and develop new initiatives to broaden research training opportunities, improve the quality of the training programs, and prepare students for a changing employment landscape.

Christopher Nicchitta

New Biomedical Degree Launched

Duke University School of Medicine has launched a one-year professional master's degree program, the Master of Biomedical Sciences (MBS).

The program prepares students to be highly competitive candidates for medical schools, related health professions, and other biomedical careers. The curriculum integrates graduate-level human biological sciences with skill development in critical thinking, communication, and teamwork.

Buckley Named Chair of Ophthalmology

In March, **Edward Buckley, E'72, MD'77, HS'81**, was named chair of the Department of Ophthalmology after an extensive national search. Buckley had served as interim chair of the department since March of 2014 and led the department during a difficult transition after the death of former chair David Epstein, MD, and through the construction of the Hudson Building.

Edward Buckley

The Joseph A.C. Wadsworth Clinical Professor of Ophthalmology, Buckley is a highly respected administrator, educator, researcher, and renowned pediatric ophthalmologist. He will retain his position as vice dean for education.

Mathew to Lead Anesthesiology

Joseph P. Mathew, MD, MHSc, MBA, the Jerry Reves Professor of Anesthesiology, has been appointed chair of the Department of Anesthesiology. He has served as interim chair since April 2014, succeeding Mark Newman, MD, who is now president of the Duke Private Diagnostic Clinic.

Duke Med Student Wins Duke Start-Up Challenge Grant

Rajvi Mehta, MS2, won a $55,000 grant to fund her program called Let's Be Well Red (LBWR), which works to combat anemia in her home country of India.

LBWR makes nutritional bars accessible in India. Mehta and the team, which now includes 15 other Duke medical students, have produced more than 70,000 bars to date, available in retail stores, non-governmental organizations, and schools across India.

The Duke Start-Up Challenge, founded in 1999, is designed to help Duke's entrepreneurship community flourish.

Blazer Receives Walsh McDermott Medal

Dan G. Blazer, MD, PhD, the J.P. Gibbons Professor of Psychiatry *emeritus* at Duke University School of Medicine was recently honored by the Institute of Medicine.

He received the Walsh McDermott Medal for distinguished service. He has served on three IOM boards, chairing two. He currently chairs the Board on the Health of Select Populations and an *ad hoc* committee on the public health dimensions of cognitive aging. He has been a member of 16 study committees, six of which he chaired, and four advisory committees.

Klotman Elected New Member of IOM

Mary Klotman, T'76, MD'80, HS'80-'85, the R. J. Reynolds Professor and chair of the Department of Medicine, was elected as one of 70 new members to the prestigious Institute of Medicine in fall 2014.

Mary Klotman

"Election to the Institute of Medicine is considered one of the highest honors in medicine," said Nancy C. Andrews, MD, PhD, dean of Duke University School of Medicine. "Dr. Klotman's election is a notable achievement and recognition of her important contributions as a leader and as a physician-scientist focused on the molecular pathogenesis of HIV-1 infection."

See story on page **28**.

JILL TAY

Medical Students Stage Die-In

More than 70 Duke University medical students gathered last December in the Great Hall of the Mary Duke Biddle Trent Semans Center to take part in a nationwide demonstration to draw attention to racial issues, including the lack of diversity in the medical profession. Students at more than 40 medical schools across the country took part in the "White Coat Die-In" protests.

Wilson Wins Prestigious Prize

Blake S. Wilson, adjunct professor of biomedical engineering, electrical and computer engineering, and surgery and co-director of the Duke Hearing Center, has been awarded the 2015 Fritz J. and Dolores H. Russ Prize for "engineering cochlear implants that enable the deaf to hear."

Wilson shares the prize with four others who played instrumental roles in the development of the cochlear implant. The prize, established in 1999, is a $500,000 award given biennially to honor bioengineering achievements that significantly improve the human condition. It is considered the top prize in the world for bioengineering.

See story on page **16**.

MEGAN MENDENHALL

1965 | 2015

Celebrating 50 Years of PA Education at Duke

Celebrating 50 Years of a Profession

In October 2015, Duke will celebrate the 50th anniversary of physician assistant education.

The physician assistant profession originated at Duke in the mid-1960s, founded by Eugene A. Stead Jr., MD, then chairman of the Department of Medicine.

learn more

For more information about planned celebrations, email: **pa50thanniversary@duke.edu**

Duke Hospitals Earn High Marks

Duke University Hospital, Duke Regional Hospital, and Duke Raleigh Hospital have earned top recognition for outstanding patient care in 2013 from The Joint Commission.

Each of the three hospitals has been named a "Top Performer on Key Quality Measures" in the areas of heart attack, heart failure, pneumonia, and surgical care. The three hospitals are among just 314 hospitals to be recognized for three consecutive years.

In addition, all three Duke hospitals have earned top scores for hospital safety from the Leapfrog Group, an independent national nonprofit organization run by employers and other large purchasers of health benefits. The three hospitals have all earned and maintained the highest score since fall 2012.

Faculty Named AAAS fellows

Three School of Medicine faculty have been recognized for distinguished scientific and societal efforts by the American Association for the Advancement of Science.

The Duke faculty are:

Christopher M. Counter, professor of pharmacology and associate professor of radiation oncology, for discoveries of how cancer cells become immortal by telomerase and are transformed by the RAS oncogene.

Bruce Alan Sullenger, the Joseph W. and Dorothy W. Beard Professor of Experimental Surgery, for contributions to the field of translational medicine and research, including the development of RNA aptamers as controllable ways to prevent blood clotting.

Fan Wang, associate professor of neurobiology, for contributions to the field of somatosensory perception, particularly for the development of genetic engineering technologies to solve intractable problems.

Christopher M. Counter

Bruce Alan Sullenger

Fan Wang

Lisanby Joins National Institute of Mental Health

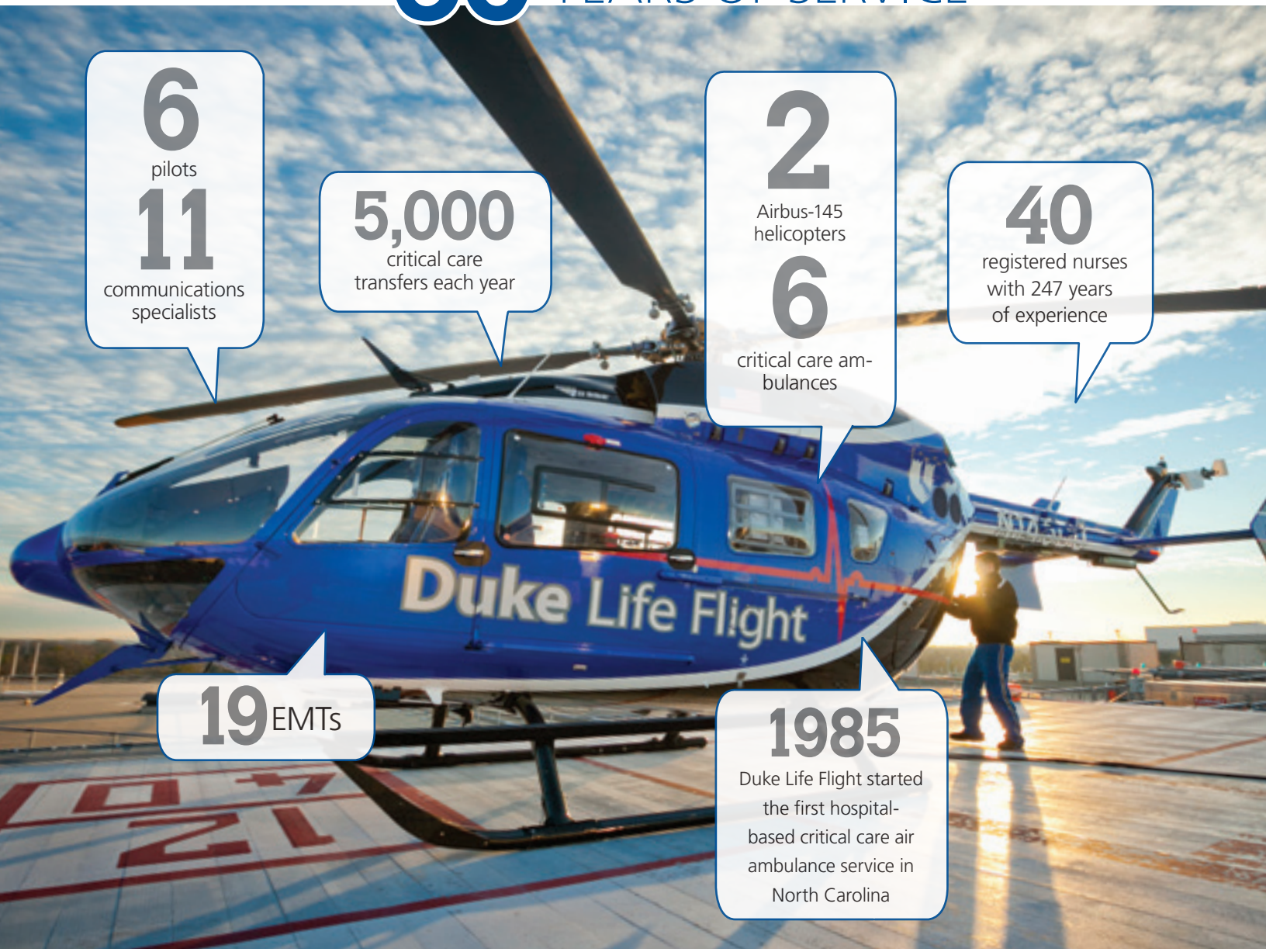
Holly Lisanby, T'87, MD'91, HS'91-'95, the chair of the Department of Psychiatry and Behavioral Sciences, has been named director of the Division of Translational Research for the National Institute of Mental Health. She will take a leave of absence from Duke in fall 2015.

Holly Lisanby

Lisanby is an expert in translational research in the field of brain stimulation and has received professional accolades for her leading role in pioneering a novel depression treatment called magnetic seizure therapy.

JARED LAZARUS

30 YEARS OF SERVICE



Tetanus Shot Improves Brain Tumor Patient Survival

A brain tumor study conducted by Duke Medicine has shown that a vaccine therapy for lethal brain tumors dramatically improves patient survival.

Duke researchers treated glioblastoma brain tumor patients with a tetanus booster to stimulate the body's immune system to attack tumors.

"Patients with glioblastoma usually survive for little more than one year. However, in patients who received the immunotherapy, most lived nearly five years or longer, so the findings are promising and significant," said senior author **John Sampson, MD, HS'91, '95, '98, PhD'96, MHS'07, MBA'11**, the Dr. Robert H. Wilkins and Gloria Wilkins Professor and chief of the Division of Neurosurgery at Duke.

The researchers built the study on earlier findings that glioblastoma tumors harbor a strain of cytomegalovirus (CMV) that is not present in the surrounding brain tissue, creating a natural target for an immune therapy.

In a small human study, they enrolled 12 brain tumor patients, with half randomly assigned to receive a tetanus booster and the other half a placebo injection. Patients randomized to get a tetanus shot showed a significant increase in survival compared to patients receiving dendritic cell therapy, with half living from 57 to 100 months, compared to 11.6 months for the comparison group. One patient from the tetanus group continues to have no tumor growth and is still alive eight years after the treatment.

A Win in the War Against Cancer Drug Resistance

By mapping the pathways that cancer cells use to resist drugs, Duke researchers have found better targets for blocking those pathways and keeping current therapies effective.

"Clinical resistance to anti-cancer therapies is a major problem," said Kris Wood, PhD, assistant professor of pharmacology and cancer biology at Duke Cancer Institute. "The most logical way to solve the problem is to understand why tumor cells become resistant to drugs, and develop strategies to thwart these processes."

Wood and colleagues conducted a broad survey of the known cell-signaling pathways that, when activated, have the potential to trigger resistance to drugs. They corroborated the results of earlier studies, while finding new pathways that had not previously been described.

The findings are a step toward improving the ability to group patients into those more and less likely to respond to therapy, and in designing drug combinations more effective.

Duke to Test New Anti-Infection Drugs

The Duke Clinical Research Institute (DCRI) will become one of three national sites to run early clinical trials of anti-infection therapies under a contract from the National Institutes of Health. The DCRI is the only academic medical center to be awarded this contract.

The DCRI could launch and manage up to four early-phase clinical trials a year and could potentially receive $90 million over the life of the 10-year contract. The trials will be first-in-human studies, with the goal of identifying appropriate doses prior to continuing the drug development process. They will start later in 2015.

Duke Evaluates Uterine Fibroid Treatment

A five-year, $20 million project will evaluate the effectiveness of different treatment strategies for women with uterine fibroids. The project will be led by the Duke Clinical Research Institute (DCRI) and **Evan Myers, MD, MPH, HS'88-'92**, the Walter L. Thomas Professor of Obstetrics and Gynecology.

The project is a collaboration between the Patient-Centered Outcomes Research Institute (PCORI) and the Agency for Healthcare Research and Quality (AHRQ).

There is little evidence about the effectiveness of current uterine fibroid therapies or their outcomes, including reoccurrence or the impact on women's ability to have children.

Women who have had uterine fibroids are directly involved in determining the direction of the research and are active members of the research team.

Duke Brain Disorder Projects Among First in Presidential Initiative

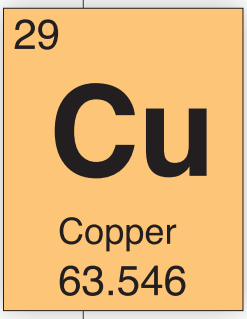
Two projects at the Brain Imaging and Analysis Center at Duke University School of Medicine are among the first funded by President Barack Obama's new BRAIN initiative that aims to advance knowledge and treatments of brain disorders.

The Duke researchers are among more than 100 investigators in 15 states and several countries selected to develop new tools and technologies to understand neural circuit function and capture a dynamic view of the brain in action. The resulting deeper understanding will ultimately speed development of new treatments and cures for devastating brain disorders and diseases that are estimated by the World Health Organization to affect more than one billion people worldwide.

Researchers Find Essential Element in Prostate Cancer Treatment

Duke researchers have found a way to kill prostate cancer cells by targeting a mineral the cancer cells collect—copper.

The therapy uses two drugs already used for other conditions—including disulfiram, used to treat alcoholism—and could soon be tested in trials among patients with late-stage prostate cancer.



"This proclivity for copper uptake is something we have known could be an Achilles' heel in prostate cancer tumors as well as other cancers," said Donald McDonnell, PhD, the Glaxo Wellcome Professor of Molecular Cancer Biology and chair of the Department of Pharmacology and Cancer Biology and senior author of the study.

Disulfiram had at one time been a candidate for treating prostate cancer—it homes in on the copper in prostate cancer cells—but it showed disappointing results in clinical trials among patients with advanced disease. The Duke team found that the amount of copper cancer cells naturally collect is not enough to make the cells sensitive to the drug. But when they added copper along with disulfiram, the combination resulted in dramatic reductions in prostate tumor growth in animals with advanced disease.

The combinations of disulfiram and copper could be good news for men with cancer that has not responded to hormone therapies.

Duke's STEMI Response Now Widely Adopted and Saving Lives

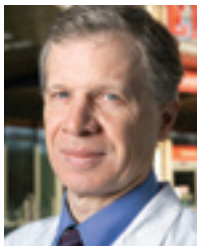
A Duke Medicine model of cardiac emergency response has been applied to more than 23,000 heart attack patients across the nation and it appears to have saved lives.

Duke Medicine and other North Carolina

leaders joined the American Heart Association in leading the broad-reaching national demonstration project, which was called Mission: Lifeline STEMI ACCELERATOR. The project is an outgrowth of a smaller effort that began at Duke 12 years ago called RACE (Regional Approach to Cardiac Emergencies), which has been used as a national model for improving care of heart attack patients regionally.

The STEMI ACCELERATOR study represents the largest-ever regional effort to improve the care of heart attack patients. The project covered 16 cities, representing about 10 percent of the U.S population.

Duke's **Christopher Granger, MD, HS'88-'90**, director of the coronary care unit, was senior author of a study about the Mission: Lifeline effort, which established standard treatment protocols, a centralized data system, and ongoing measurement and feedback to rapidly diagnose and treat heart attack patients.



Christopher Granger

In the first 18 months of the project, modest and statistically significant improvements in treatment times were achieved for the entire intervention. The percentage of patients who were treated within 90 minutes of first medical contact increased to 59 percent from 54 percent.

High Cholesterol and Heart Disease

A Duke Clinical Research Institute study suggests that even slightly high cholesterol levels in otherwise healthy adults between the ages of 35 and 55 can have long-term impacts on their heart health, with every decade of high cholesterol increasing their chances of heart disease by 39 percent.

"The number of years with elevated cholesterol, or 'lipid years,' can affect you in a similar way to the number of 'pack years' you have had as a smoker," said Duke's **Ann Marie Navar-Boggan, MD'09, PhD, HS'-current**. "It shows that what we're doing to our blood vessels in our 20s, 30s, and 40s is laying the foundation for disease that will present itself later in our lives. If we wait until our 50s or 60s to think about cardiovascular disease prevention, the cat's already out of the bag."

Ann Marie Navar-Boggan

Navar-Boggan and colleagues at Duke, Boston University, and McGill University examined data on 1,478 adults who were free of heart disease at age 55 who were part of the Framingham Heart Study, which began in 1948. The results suggest that otherwise healthy adults from age 35 to 55 may be a group of people who should consider cholesterol control sooner, Navar-Boggan said.

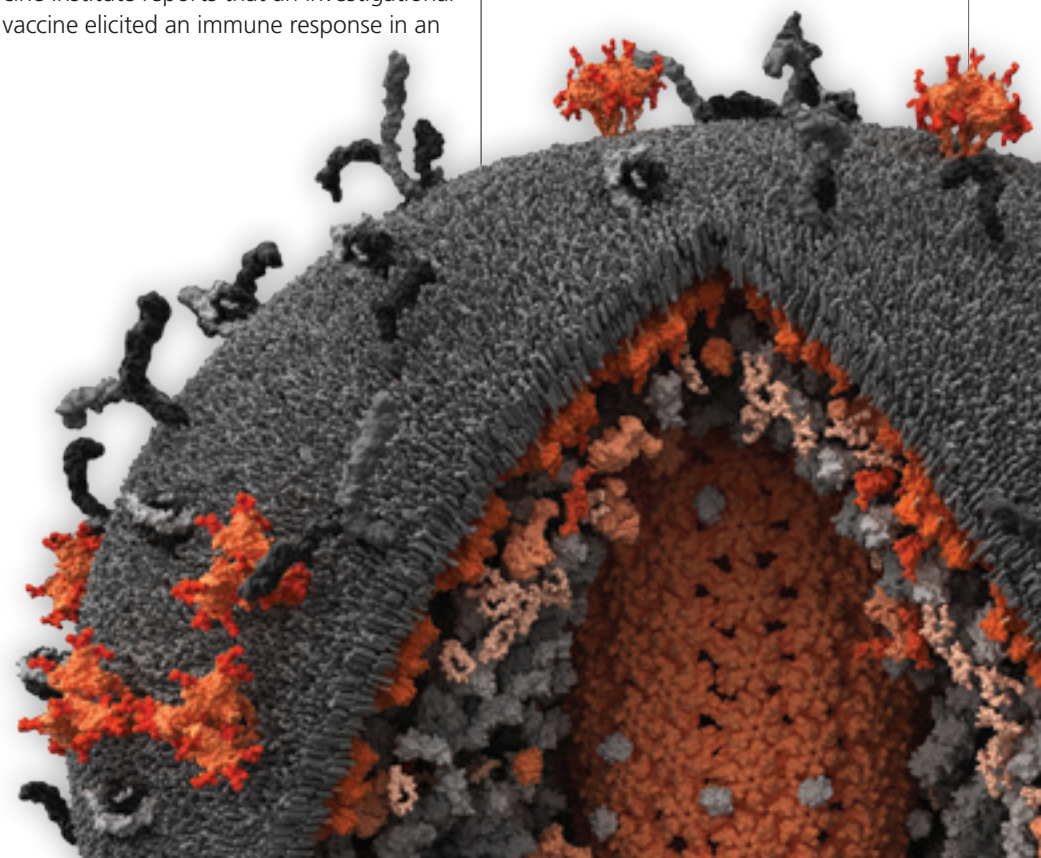
Human Response to HIV Treatment Has Persisted Through Evolution

A recent study led by the Duke Human Vaccine Institute reports that an investigational vaccine elicited an immune response in an estimated 31 percent of participants because of a particular antibody gene motif that is shared with rhesus macaques.

The finding helps further the understanding of how the vaccine, tested in Thailand in a trial known as RV144, triggered an immune response.

The researchers tracked the immune response in rhesus macaques that were immunized with a vaccine regimen similar to that used in the RV144 human trial in Thailand. The monkeys' immune response was similar to what was seen in humans and was actually the dominant response. That the response has persisted over the diversification between rhesus macaques and humans suggests an evolutionary advantage of this antibody recognition mode.

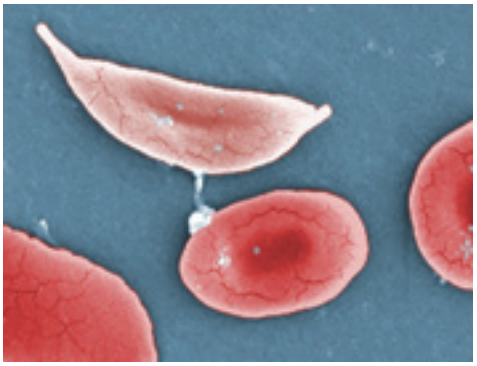
Duke researchers have played a key role in an international collaboration that has discovered many important clues into why RV144 worked and what it will take to develop a more efficacious HIV vaccine.



Self-Healing Muscle Grown in Laboratory

Duke scientists have grown muscle with the ability to heal itself both in the lab and in an animal. The study could lead to lab-grown muscle being used to treat injury.

"The muscle we have made represents an important advance for the field," said Nenad Bursac, PhD, associate professor of biomedical engineering at Duke. "It's the first time engineered muscle has been created that contracts as strongly as native neonatal skeletal muscle."



Attacking the Cause of Sickle Cell Pain

Current treatments for painful episodes of blood vessel obstruction in sickle cell anemia are limited to controlling pain, but Duke researchers are testing a therapy that might interfere with the underlying cause.

In a small, multi-center patient study led by **Marilyn J. Telen, MD, HS'80-'83**, Wellcome Professor of Medicine in the Division of Hematology at Duke, patients who received an investigational drug had quicker resolution of the pain episode, although the difference compared to a control group did not rise to statistical significance. A larger, international study is planned to begin later this year to provide greater clarity.

Patients who received the investigational drug also used far less pain medication, which was self-administered. Those findings were statistically significant.

"We have not had good therapies for people with this disease," Telen said. "But this approach shows more promise than anything else I've seen in 34 years of treating sickle cell disease."

Duke Awarded Contract to Continue Work on Radiation Tests

Duke researchers are developing a blood test that can tell in just hours how much radiation a person has absorbed from a nuclear incident. During a large-scale emergency such as the meltdown at the Japanese Fukushima Daiichi reactors in 2011, faster testing could give doctors and patients clarity about the extent of exposures and which victims need medical care.

The Biomedical Advanced Research and Development Authority (BARDA), a division of the U.S. Department of Health and Human Services, awarded Duke an additional $10.4 million contract to continue the program through early 2016, bringing total funding since 2009 to more than $43 million.

Exercise Shown to Slow Tumor Growth

Researchers led by Duke Cancer Institute scientists studied the impact of exercise in models of breast cancer in mice. They found that exercise stimulated significant improvements in the number and function of blood vessels around the tumors, improving oxygen flow to the cancer site. When treated with chemotherapy—designed to seek out well-oxygenated tissue—the tumors shrank much more than they did in sedentary animals.

"We set about to see whether exercise would affect the tumor perfusion, and could not have guessed that it would be as effective as it was," said co-senior author Mark W. Dewhirst, DVM, PhD, the Gustavo S. Montana Professor of Radiation Oncology. "I have spent the better part of the last 30 years trying to figure out how to eliminate hypoxia in tumors, and have looked at a lot of different approaches—drugs, hyperthermia, and metabolic manipulations. None has worked very well, and in some cases made things worse. So these findings with exercise are quite encouraging."

Dewhirst said future research would examine the effect of exercise on slower-growing tumors that are more typical of human breast cancers, and move to other animal models. Ultimately, however, the team is optimistic that exercise will become an important component of cancer therapy in the clinic.

Making the **Duke Experience** Possible for Others

Kenneth Fischer, BS'67, MD'71, calls his years at Duke a "tremendous intellectual experience," and one that he never would have had without substantial financial support.

"Because of the largesse of other people, I am today a much better physician than I would have been had I gone anywhere else," he says. Fischer believes his medical education at Duke was superior because of, as he puts it, higher expectations.

"I would like to help those who would otherwise not be able to go to Duke."

It was Fischer's late wife, Maxine, who instigated his desire for planned giving. "I was never very charitable, but my wife was. She and I felt it was appropriate to give back to Duke in the same way she gave to her *alma mater*. I would like to help those who would otherwise not be able to go to Duke."

Planned Giving

To learn more, please contact:
Joseph W. Tynan, JD
Executive Director of Gift and Endowment Planning
919-385-3114 or
joseph.tynan.dm.duke.edu

Duke University School of Medicine

A Washington Appointed Chancellor for Health Affairs

A. EUGENE WASHINGTON, MD, MSc, an internationally renowned clinical investigator and health-policy scholar, has been appointed chancellor for health affairs for Duke University and president and CEO of Duke University Health System, Duke University President Richard H. Brodhead announced in January.

Washington, 64, officially started on April 1. Since 2010, he has been the vice chancellor for health sciences, dean of the David Geffen School of Medicine, and CEO of the UCLA Health system, where he was also a distinguished professor of gynecology and health policy and held the Gerald S. Levey, MD, Endowed Chair. He will succeed Victor J. Dzau, MD, who stepped down as the university's senior medical officer on June 30 to become president of the Institute of Medicine (IOM) of the National Academy of Sciences.

> "In the world of health, this is a particularly promising time..."

Washington has been a national leader in assessing medical technologies, translating research into health policy, and shaping health care practice. He helped spearhead efforts to change clinical practice and policy guidelines for prenatal genetics, cervical cancer screening and prevention, and reproduction-related infections. He also has been a national thought leader in calling for academic health systems to reconfigure broadly and to assume the lead in creating new models for research, education, clinical care, and community engagement.

In November, he received the David E. Rogers Award from the Association of American Medical Colleges and the Robert Wood Johnson Foundation Award for his "major contributions to improving the health and health care of the American people." His work also has been recognized with the Outstanding Service Medal from the U.S. Public Health Service and election to the IOM and the American Academy of Arts and Sciences.

"Gene Washington has a track record of outstanding leadership in every aspect of the work of an academic medical center—research, education, and patient care," said Brodhead. "A gifted communicator, he has special skills at getting people to work together in support of the larger mission. He has been at the forefront of the national effort to make patient outcomes the focus of health care. And he is a champion of community health who will bring that commitment to Durham. I'm delighted to have him join the Duke team."

Washington was selected following a national search by a 15-member Duke committee. His appointment was approved by the Duke University Board of Trustees and the Duke University Health System Board of Directors.

"This was a comprehensive, thoughtful, and inclusive search process that gave us a chance to review and meet with many outstanding candidates," said G. Richard Wagoner Jr., immediate past chair of the Duke University Board of Trustees, who chaired the search committee. "With his deep clinical and research experi-

PHOTOGRAPH BY JARED LAZARUS

ence, commitment to education, and demonstrated success as the head of a top-tier academic medical center, Gene Washington will lead Duke to a new level of excellence and service."

Washington will oversee one of the world's leading academic and health care systems at Duke, including the School of Medicine, School of Nursing, and extensive programs for patient care, biomedical research, and community service.

"In the world of health, this is a particularly promising time," Washington said. "And without question, Duke is uniquely positioned among the very top health sciences institutions to take advantage of the opportunities available, given its extraordinarily accomplished people, exemplary programs across mission areas, and enormously supportive partners. I feel honored and privileged to assume this key leadership role, and I look forward to working with my new colleagues to realize our full potential. Together, we will continue to build the future of science, education, and health—to the benefit of the communities and populations we serve."

Prior to joining UCLA in February 2010, Washington served as executive vice chancellor and provost at the University of California, San Francisco (UCSF), where he was actively engaged in the training of medical students, residents, fellows, and junior faculty, oversaw the research enterprise, and steered strategic planning. He co-founded a research center that studied medical effectiveness for diverse populations and co-founded the UCSF-Stanford Evidence-based Practice Center. He also led the implementation of a UCSF diversity initiative and promoted campus-wide programs to enhance the quality of life for faculty, staff, and students. Earlier at UCSF, he chaired the Department of Obstetrics, Gynecology, and Reproductive Sciences for eight years. Prior to joining the UCSF faculty, Washington worked at the U.S. Centers for Disease Control and Prevention in Atlanta.

"I was impressed with Gene Washington's extensive experience leading successful clinical, education, and research enterprises at a health system level, and his strong commitment to excellence in all of Duke's missions of research, education, and clinical care," said Barton F. Haynes, MD, the Frederic M. Hanes Professor of Medicine, Immunology, and Global Health and director of the Duke Human Vaccine Institute, who served as vice chair of the search committee. "His proven record for bringing everyone in the health system to work together will allow Duke Medicine to move to the next level of excellence and prepare well for the future."

"Gene Washington has a track record of outstanding leadership in every aspect of the work of an academic medical center—research, education, and patient care."

Duke University President Richard H. Brodhead

Washington, a native of Houston, Texas, said his values stem from a childhood growing up as the youngest of five children of a minister father and a mother who was a homemaker. "Growing up in Houston, I benefited from a tremendously nurturing and supportive community and family who instilled in me the core values of excellence, integrity, and service—and these values have remained my life-long drivers," said Washington.

A 1976 graduate of the UCSF School of Medicine, he completed undergraduate study at Howard University, graduate studies at both the UC Berkeley and Harvard schools of public health, and residency training at Stanford University.

"Gene Washington understands the challenges and opportunities that lie ahead for health and health care," said Thomas Gorrie, chair of the Duke University Health System's Board of Directors. "His experience, knowledge, and proven leadership make him the ideal person to oversee Duke Medicine at a time of great change and innovation."

Washington has served on numerous professional and government boards and committees, including the board of trustees of the Robert Wood Johnson Foundation, the scientific management review board of the National Institutes of Health, the board of directors of the California HealthCare

UCLA POSITION: Vice chancellor for health sciences, Dean of the David Geffen School of Medicine, and Chief Executive officer of the UCLA Health system.

He was also a distinguished professor of gynecology and health policy and holds the Gerald S. Levey, MD, Endowed Chair at the UCLA Heath System.

Before joining UCLA he was the executive vice chancellor and provost at the University of California, San Francisco (UCSF).

EDUCATION: Howard University undergraduate degree; UCSF School of Medicine; graduate studies at UC Berkeley and Harvard schools of public health; residency at Stanford University.

RECOGNITION AND AWARDS: David E. Rogers Award from the Association of American Medical Colleges and the Robert Wood Johnson Foundation; Outstanding Service Medal from the U.S. Public Health Service; and election to the Institute of Medicine and the American Academy of Arts and Sciences.

AGE: 64

Foundation, the editorial board of *The Journal of the American Medical Association*, and the board of directors of The California Wellness Foundation, which he currently chairs.

He is the founding chair of the board of governors of the Patient-Centered Outcomes Research Institute (PCORI), a national organization authorized by the landmark 2010 Patient Protection and Affordable Care Act to advance clinical effectiveness research. PCORI recognized his significant contributions as founding chair by establishing the Eugene Washington Engagement Award, which supports active integration of patient, stakeholder, and research communities during the research process.

Washington's colleagues at UCLA praised his engagement and collaboration across the university.

"Dr. Washington has admirably served UCLA since his arrival in 2010, helping to elevate our medical enterprise to world-class status," said UCLA Chancellor Gene Block. "He has proven himself an exceptional leader, dedicated to improving the health of citizens across the Los Angeles region and far beyond. As difficult as it is to see him go, I congratulate Dr. Washington on this tremendous new opportunity and wish him great success in his new ventures."

"Gene's wise and extraordinarily innovative contributions to intellectual life at the Geffen School of Medicine will reverberate for years to come," said Kelsey Martin, MD, professor and chair of biological chemistry at UCLA and chair of UCLA Neuroscience. "He is a deep and tireless optimist who can wrestle the silver lining out of even the darkest cloud. Gene has proven that the strongest leaders combine a deep moral conviction and an unwavering commitment to excellence with genuine human warmth, compassion, and humor. Duke is more than lucky to have him as their incoming chancellor."

Added Judy Olian, dean of the UCLA Anderson School of Management, "Gene Washington has been a remarkable leader and a totally engaged partner across the entire university. It's evident that his vision for the health sciences' research and clinical enterprise is rooted in his fierce desire to improve the well-being of every life on this planet. The substantial advances of the health sciences under Gene have been a source of pride to all of us at UCLA."

"His experience, knowledge, and proven leadership make him the ideal person to oversee Duke Medicine at a time of great change and innovation."

Thomas Gorrie, DUHS Board of Directors

Washington and his wife Marie, who has retired from a career in finance and is active on the boards of several nonprofit organizations, have been married for 32 years. They have three young adult children: a son, Brooks, and two daughters, Caroline and Erin.

"Marie and I are delighted to be joining the Durham and larger North Carolina communities, and we look forward with excitement to fostering partnerships to work to improve life across the region," Washington said.

Marie and Eugene Washington greeted faculty and staff at a welcome reception in January.

JARED LAZARUS

Chancellor Washington chats with Duke Nobel *laureate* Bob Lefkowitz, MD.

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EVENTS

THURSDAY

- Medical Alumni Awards Dinner

FRIDAY

- 2nd Annual Women in Medicine Luncheon featuring:
  Amy Groff, T'91, MD'95, HS'95-'99
  Mary Klotman, T'76, MD'80, HS'80-'85
  Claire Spain-Remy, MD'85
- Reunion CME Program featuring:
  (CME credit approval pending)
  Ebony Boulware, MD'95
  C. Thomas Caskey, MD'62, HS'63-'65
  Eugenie Kleinerman, MD'75, HS'74-'75
- All Alumni and Davison Club Welcome Reception
- Followed by Duke Medicine Orchestra performance

SATURDAY

- Brunch with Dean Nancy C. Andrews, MD, PhD, with special guest Chancellor A. Eugene Washington, MD, MSc
- Tailgate Party and Duke vs. Pittsburgh football game

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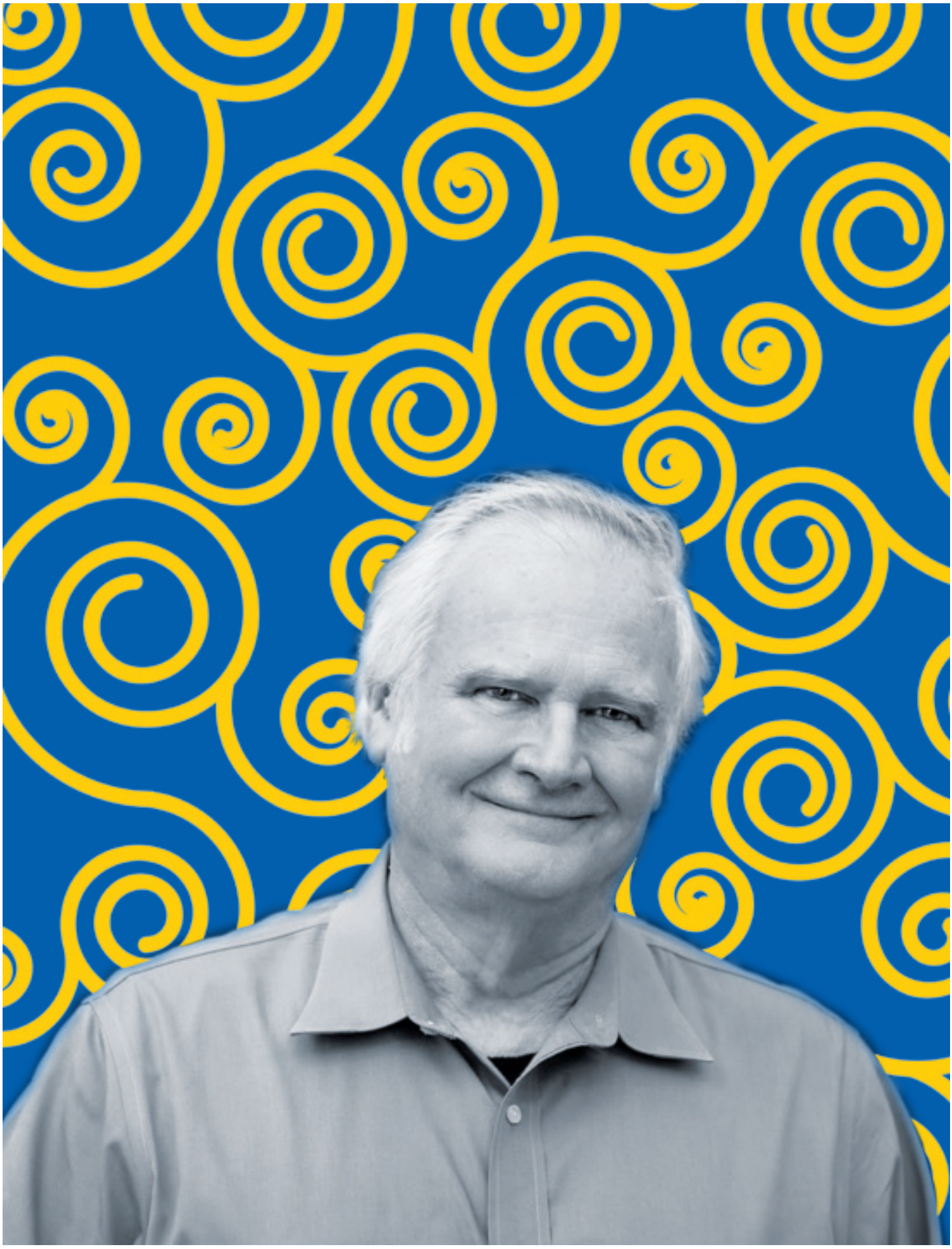


NATIONAL ACADEMY OF ENGINEERING

Sound Man

Blake Wilson's advances in cochlear implants have helped restore the world of hearing to hundreds of thousands of people worldwide

BY DAVE HART

OF THE MANY PATHS THAT **BLAKE WILSON, E'74**, DSc, DEng, Dr.med.*hc*, Dr.sci.*hc*, could have chosen after he graduated from Duke with an engineering degree in the mid-1970s, the one seeking to restore hearing in deaf patients through electrical stimulation of their auditory nerves seemed to be just about the least promising.

A tiny handful of researchers working in labs scattered around the world had developed rudimentary devices that could present such stimuli, but the instruments were crude and the results unpromising.

"According to many experts at the time, reinstatement or provision of useful hearing with a cochlear implant was a fool's dream," says Wilson, who became interested in speech and hearing as an undergraduate. "There was tremendous skepticism. How could anyone have the hubris to think that one could replace the exquisite machinery of the inner ear by delivering crude and pervasive electrical stimuli to the auditory nerve? I had a wonderful engineering degree from Duke, and I received a lot of career advice, such as 'Try not to be stupid; do something else.'"

Wilson ignored the advice. He dedicated his career to the pursuit of that quixotic dream. And in the end—thanks to a paradigm-shifting breakthrough, the contributions of collaborators in myriad fields, and the miraculous adaptability of the human brain—he caught it.

The current generation of cochlear implants that Wilson played a central role in developing has achieved what was widely considered impossible when he set out. Cochlear implants have restored highly useful hearing for hundreds of thousands of people who previously were totally or nearly totally deaf. Some people with deafness consider it merely a difference, not a disability, and take great pride and personal fulfillment in deaf culture. But cochlear implants have allowed many to emerge from a world of silence into one alive with sound, opening up the whole gamut of social interactions, career possibilities, and personal and professional connections that people with normal hearing take for granted.

"That was totally unimaginable thirty years ago," says Wilson, adjunct professor of surgery, biomedical engineering, and electrical and computer engineering. "In a generation we've gone from having no treatment for deafness and severe hearing loss to having a spectacularly effective treatment. Cochlear implants are not perfect, but they are spectacularly effective."

He smiles and shakes his head in wonder.

"Can you imagine the trip from total deafness to being able to call up a work associate or a friend on your cell phone and conversing on multiple and unpredictable topics?" he asks. "That's a long trip."

'A HUGE GAMBLE'

Wilson's interest in electronics and engineering began in his family's basement in New Jersey. His father, an engineer and a Duke graduate, set up an electronics shop for the teenaged Wilson in the basement. Down there, Wilson came to know the challenge and satisfaction of restoring systems to working order.

"I fixed the neighbors' broken radios and TVs," Wilson says. "It was a great learning opportunity and great fun."

After graduation from Duke he accepted a position at the Research Triangle Institute (RTI), and in 1978 he won a professional development award to visit three of the four centers in the USA exploring cochlear implants at the time, including the House Ear Institute in Los Angeles; Stanford University in Palo Alto; and the University of California at San Francisco (UCSF).

"I knew I would learn something, and I hoped I might be able to help one or more of the teams on the speech analysis side," Wilson says. "I was just a pup. The people I visited were wonderful, and one in particular, Mike Merzenich at UCSF, took me under his broad wings and asked me to become a speech analysis consultant for the team there."

Several years later, Wilson won his first of many National Institutes of Health projects to study cochlear implants, and UCSF kindly agreed to serve as the clinical partner for the first project. Hardware and software were developed at the RTI in North Carolina, and tests with patients using the hardware and software were conducted in San Francisco. Wilson and his coworkers shuttled back and forth between the east and west coasts during that first project.

In 1984, **Joseph Farmer Jr., T'59, MD'62, HS'63-'70**, then an otologic surgeon and later the chief of the Division of Otolaryngology-Head and Neck Surgery, called Wilson and asked him whether he would like to move his tests with patients "a little closer to home." By that, Farmer meant that Duke would be willing to initiate a clinical program for providing cochlear implants and to supply research subjects for the tests, assuming of course that patients implanted at Duke would be willing to serve as subjects.

Wilson was thrilled by the offer. He happily agreed to move at least most of the testing to Duke while still continuing the close partnership with UCSF.

"Initiating a cochlear implant program was a huge gamble," Wilson says. "There was still intense and vociferous skepticism. But Dr. Farmer wanted to investigate carefully any possible treatments for his deaf patients, and he recognized the potential of the cochlear implant."

There remained one supremely important vote to earn. Final approval for the long-shot program rested with David Sabiston Jr., MD, the brilliant chair of the Department of Surgery.

"In a meeting with me and Drs. Farmer, Hudson, and Kenan, Dr. Sabiston looked at Dr. Farmer and asked, 'Joe, on a scale of 1 to 10, where do you think we are on this thing?'" says Wilson. "Without any hesitation, Joe said, 'Two.' And Dr. Sabiston said, 'Well, let's ratchet that up.'"

That was the beginning of the cochlear implant program at Duke, which was created in late 1984 and was one of the first of its kind worldwide.

Dr. Sabiston not only approved the clinical application of cochlear implants at Duke, but also provided laboratory space in the Baker House for the tests with implant subjects. In retropect, many important discoveries were made in that small laboratory, which contributed strongly to the development of the modern cochlear implant.

"Initiating a cochlear implant program was a huge gamble. There was still intense and vociferous skepticism. But Dr. Farmer wanted to investigate carefully any possible treatments for his deaf patients, and he recognized the potential of the cochlear implant."

Blake Wilson

Blake Wilson (middle) in 1986 with Charles Finley (left) and Dewey Lawson (right). They, along with Kathrinn Fitzpatrick and their Duke colleagues, were members of the Duke/RTI team.

TRIAL AND ERROR

When the program began, people with deafness or severe hearing loss still had no practical options for reversal of the conditions.

Deafness and other losses in hearing usually result from damage to or destruction of the sensory hair cells in the cochlea, or inner ear, which normally transduce the mechanical vibrations of sound into chemical signals that stimulate neurons in the auditory nerve. Researchers including Graeme Clark of Australia and Ingeborg Hochmair of Austria had

LES TODD

Blake Wilson discusses the development of the cochlear implant during Duke Engineering's 75th anniversary lecture in Baldwin Auditorium.

successfully implanted electrodes along the cochlear spiral that effectively bypassed the damaged areas. By stimulating electrodes at various locations in the cochlea, neurons were excited directly (without the intervening hair cells) and different pitches could be perceived by the subject according to the different sites of stimulation.

But although subjects using such devices in the lab could hear *something*, they couldn't hear much—certainly not enough to allow them to carry on a verbal conversation without additional aids such as lipreading.

"The gains had been modest," says Wilson. "There was an awareness of environmental sounds, but very little ability to distinguish between sounds. Those early devices were a helpful adjunct to lipreading, but not much more than that."

Wilson and his team set to work to try to increase the transmission of sound information with cochlear implants. That work involved an enormous amount of trial and error, as well as the generous and humanitarian participation of many research subjects willing to place their trust in the investigators.

"Those were exciting times," says Wilson. "We were right on the frontier. No one knew whether this darn thing could be made to work well enough for a user to understand conversational speech with hearing alone."

'GOOSEBUMPS TIME'

Initially Wilson and his coworkers developed algorithms to identify and extract important features from speech signals and then to represent only those features in the stimuli for the implant. That proved to be the wrong path. What he and the team failed to recognize, he says, was that the most powerful and sensitive information-processing machine had been right in front of them all along, and it could do a far better job than any of the algorithms.

"We didn't appreciate the immense power of the brain," Wilson says. "Once we stepped aside and simply presented in the clearest possible way most or all of the information that could be perceived with electrical stimulation of the auditory nerve, the brain could take over and do the rest. And by the rest, I mean 99 percent of the job." All of the pre-processing, it turned out, was unnecessary and indeed limited the amount of information that could be transmitted to the brain.

With the new approach, the team began making huge strides. "We finally followed the cardinal rule of good engineering, the KISS principle," says Wilson. "That's the acronym for 'Keep It Simple, Stupid.'"

The biggest stride by far was a strategy called Continuous Interleaved Sampling. ("Initially we called it the Super Sampler," says Wilson, "but some of our colleagues thought that name sounded superficial.") It involves presenting stimuli in a rapid sequence across the multiple electrodes rather than simultaneously to the electrodes. Wilson likens the effect to the way a television screen broadcasts information as a sequential series of individual scan lines. The brain interprets that series of lines as a single, coherent picture.

"With a cochlear implant, if the stimuli are presented rapidly enough across the electrodes, and the cycle is repeated continuously, the perception fuses into a single sound without graininess or interruptions," Wilson says. "Non-simultaneous signaling greatly reduces 'cross-talk' among the electrodes and clarifies the signal."

When he and his coworkers tested subjects using the new strategy, the results were breathtaking. Across the board, in test after test, the results showed an immediate, dramatic improvement in speech reception and comprehension.

"That was goosebumps time," Wilson says. "The fact that each and every subject showed immediate and highly significant improvements in all of the tests was astonishing. Nothing like that has happened since. Gains have been made, but not the huge jump up in performance we saw then. That was the big one."

EXPONENTIAL LEAPS

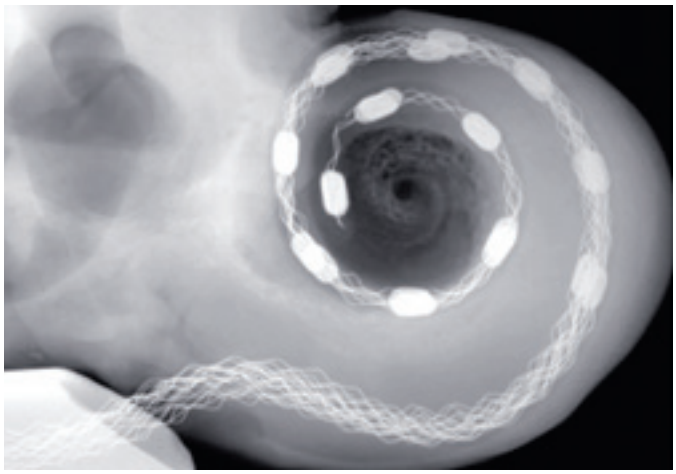
The new strategy made cochlear implants vastly more effective than earlier prototypes. After devices using the strategy were introduced into clinical practice in the early 1990s, the number of people worldwide using cochlear implants leaped exponentially—from fewer than 10,000 just prior to the introductions to more than 450,000 today. The need is great: the World Health Organization estimates that some 360 million people worldwide have disabling hearing loss, and among those, other estimates suggest that 25 million or more could benefit from a cochlear implant. Thus, Wilson says, less than 2 percent of the persons who could benefit have benefited.

Most users of cochlear implants now can converse normally in many situations without the use of lipreading; they talk on telephones, perform jobs that require hearing, and otherwise live pretty much like persons with normal hearing.

"It's often a very emotional thing when someone perceives sound for the first time, or for the first time since losing their hearing," says Debara Tucci, MD, MBA, MS, professor of surgery and director of the Duke Cochlear Implant Program. "It's especially dramatic for people who suddenly lose their hearing later in life. It's very gratifying to be able to do this for people."

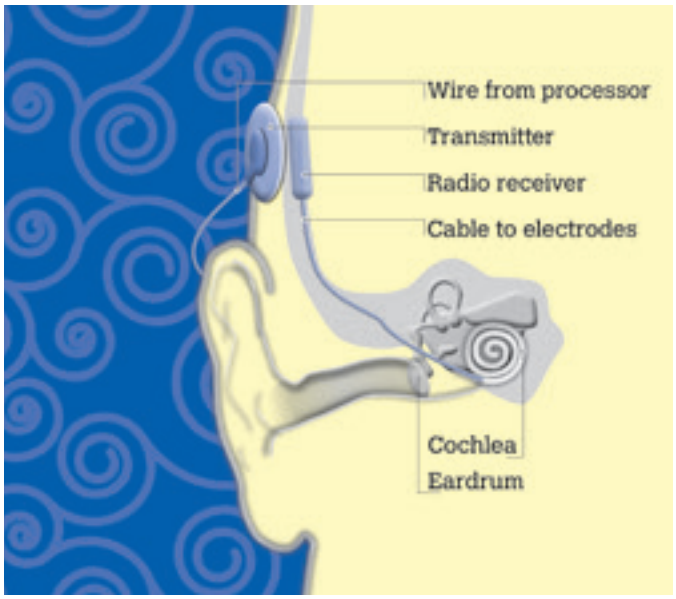
The Duke Cochlear Implant Program performs implant procedures in children and adults. The program also continues to develop and test new approaches to the design and application of hearing prostheses, including cochlear implants.

"In the early days, a patient had to be totally deaf or suffer from very severe hearing loss to be eligible for a cochlear implant," says Tucci, who co-directs the Duke Hearing Center with Wilson. "But as implants have improved, the criteria for candidacy have been relaxed, and now we're doing more hybrid implants—a combination of cochlear implants and auditory hearing aids—and more implants for people with unilateral deafness and other less severe



OTOLOGY & NEUROTOLOGY, WOLTERS KLUWER HEALTH, INC.

Modern cochlear implants have multiple electrodes that stimulate separate populations of surviving neurons within the spiral-shaped cochlea.



JARED LAZARUS

The external portion of the implant includes a microphone and sound processor worn behind the ear and a transmitter held in place by a magnet.

> *"It's often a very emotional thing when someone perceives sound for the first time, or for the first time since losing their hearing."*
>
> Debara Tucci

forms of hearing loss. The broadened indications have allowed many more people to benefit from this marvelous technology."

A USER'S PERSPECTIVE

Johanna Pätzold is one such person. She was 23 years old, a musicology student in Germany, when meningitis left her entirely deaf in her right ear. She couldn't determine where sounds were coming from, had trouble hearing in class, lost her ability to distinguish the nuances of music, and felt socially isolated.

"You can't participate in a conversation like this," she said, sitting in a Durham coffee shop amid people conversing, music playing, and espresso machines and blenders whirring and churning. "Eventually it was easier to just stop going out."

She received her cochlear implant in Würzburg, Germany, and met Wilson at a symposium in 2009. He invited her to come to his present laboratory in the Research Triangle Park as a research participant, because—with an implant on one side and normal hearing on the other side, along with her musical training—she is exceptionally skilled at describing in precise terms what she hears through her implant and in comparing her hearing from the two sides.

"When I only had the use of one ear, it was like seeing in black and white; I could hear, but it lacked richness and complexity," she says. "It also greatly affected how I could hear music—and I've spent my life preparing for a career in music, so that was very difficult."

With the implant, she has regained her sense of directionality and her ability to fully hear and perform music.

"It has made such a difference," she says. "I no longer feel isolated, and the wonderfully rich world of sound is open to me in all its dimensions. I can perform as a musician again. And I most certainly could not have done that without the implant."

A MEMORABLE JOURNEY

Wilson likes to recall Joe Farmer's estimate that, when the Duke Cochlear Implant Program began, progress stood at about 2 on a 10-point scale.

"Where are we now? I think Joe would say 8," says Wilson. "We've come a long way. But there's still some distance to go."

Several challenges remain. One is the wide range of effectiveness among implant patients. The great majority of patients respond very well, but Wilson says that about 10 percent report less satisfactory results. Most of those, he says, are teenagers or adults who have been deaf their entire lives or who received their implants after about age 5, and whose brains may have difficulty in utilizing the input from a cochlear implant. For such patients, training regimens and adjunctive drug treatments might be able to help the brain learn how to handle the input better.

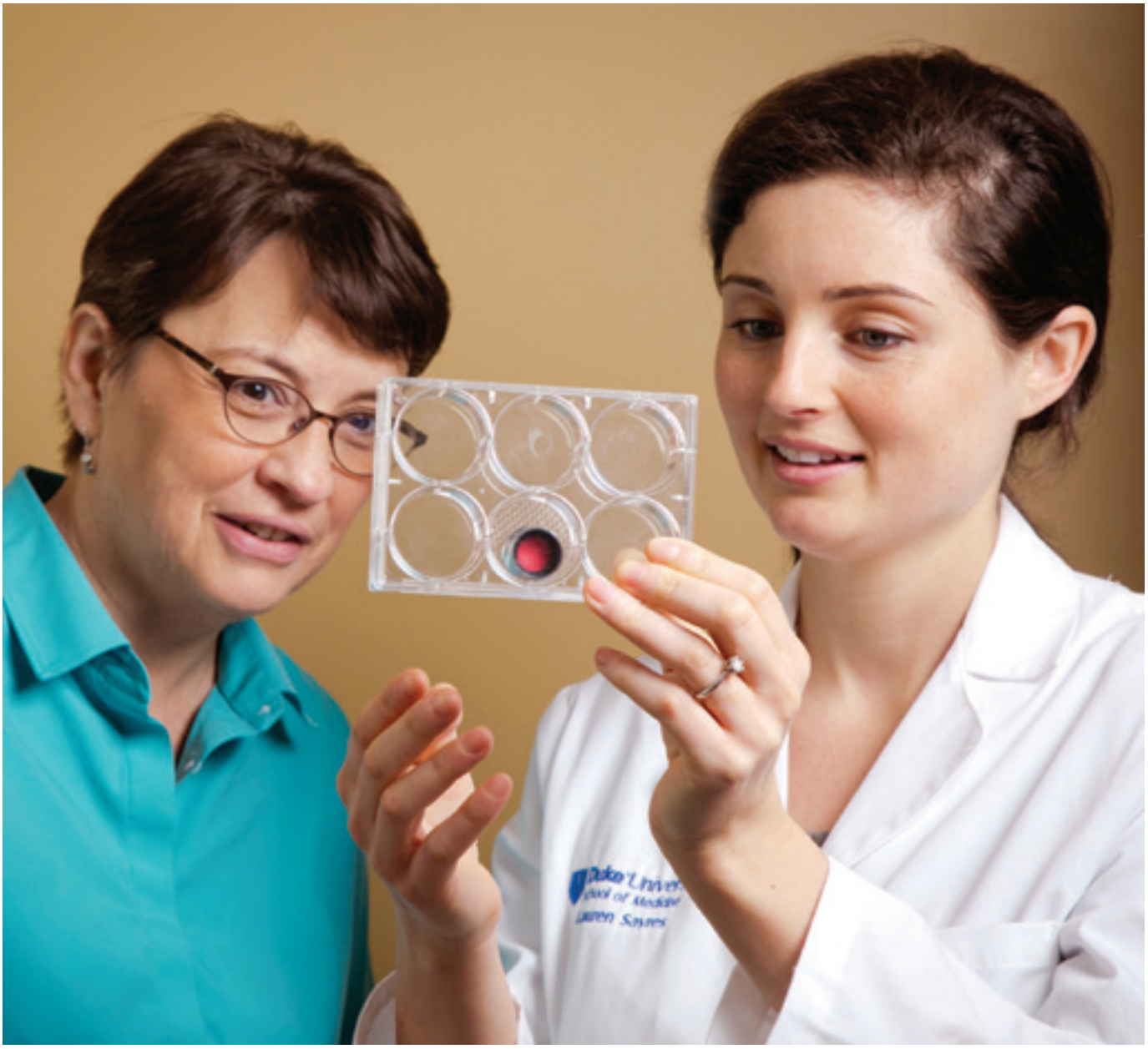
Another challenge is improving speech recognition in especially noisy or reverberant environments, such as loud restaurants. Still another is improving reception of non-speech sounds, such as music, which are often much more complex than speech.

Finally, there remains the enormous challenge of making cochlear implants available to millions of people in low- and mid-income countries, where nearly 90 percent of persons with severe or complete losses in hearing live. In areas with few resources or without health insurance, implants currently are out of reach for most patients.

"So there's a lot to do," Wilson says. "Dr. Tucci, I, and many others around the world are working to improve implants and to extend access to the present devices to more people. But we're working from a wonderful place, where the vast majority of implant users can communicate with ease in most situations. It's not an environment like the one we started in, loaded with skepticism and tiny resources and so much resistance that had to be overcome."

Wilson, along with Graeme Clark and Ingeborg Hochmair, received the highly prestigious 2013 Lasker-DeBakey Clinical Medical Research Award for their work on cochlear implants. Earlier this year the same trio, plus Erwin Hochmair and Wilson's early mentor Michael Merzenich, were awarded the 2015 Fritz J. and Dolores H. Russ Prize by the National Academy of Engineering for "engineering cochlear implants that enable the deaf to hear." The Lasker Awards are popularly known as "America's Nobel Prizes," and the Russ Prize is the world's top honor in bioengineering and is popularly known as one of the three "Nobel Prizes for Engineering."

"It's been a remarkable process," Wilson says. "It was blind luck that led me into this field, and I've been incredibly fortunate to work with so many spectacular people here at Duke and elsewhere. I feel so very grateful to have been a part of this journey."



JARED LAZARUS

Using hardware-store parts, medical student Lauren Sayres (right) has engineered a better way to study fetal membranes. She's using this device to study a particular bacterium that Amy Murtha (left) suspects may play a role in preterm birth.

MURTHA'S MISSION:

Understand Preterm Birth

THIRD-YEAR MEDICAL STUDENT LAUREN SAYRES has an engineering problem. She is working to help Amy Murtha, MD, figure out how certain bacteria contribute to preterm birth. To do that, Sayres wants to conduct experiments with placental membranes. But they're thin, fragile, and slippery. She tried using a method detailed in one of the few previous studies that have looked at this question. But it involves securing the membrane to a tiny thimble-like device with a rubber band. Sayres is concerned that by handling the membrane so much, she is distressing the cells—causing a cascade of cell signaling that could lead to cell death.

Amy Murtha examines an expectant mom at Duke Perinatal Clinic as medical student Lauren Sayres looks on. Murtha is trying to develop better interventions to prevent preterm birth.

Sayre's dilemma indicates how little preterm birth has been studied. Only a handful of researchers in the United States focus on exactly what happens to the fetal membranes during pregnancy. There are more trying to understand preterm birth in general. "The funding for understanding why moms deliver preterm is really limited," says Murtha, professor and vice chair for research in the Duke Department of OB/GYN and Pediatrics. "But if we can reduce the number of preterm births, then we can reduce the number of babies that end up with the consequences of prematurity, which can be lifelong."

When Murtha was a medical resident, she took care of pregnant moms who had been ordered to stay on bed rest because their water bags had broken early, which usually means premature labor will follow. "It was heart-wrenching to watch these moms sit in a hospital room for weeks," Murtha says. "They didn't feel sick. They felt fine. But they needed to be there, because if something was going to happen, we needed to be able to intervene quickly. They were putting their whole worlds on hold for their pregnancies."

Murtha tried to help these moms pass the time while they waited. "I would bring them seek-a-word puzzle books and decks of cards, and I'd teach them how to play solitaire if they didn't know how," she says. And she asked them to help her with her research, in which she was trying to develop a blood test to identify which of these women were most at risk for infection. "They would allow me to come stick them for blood every day of their hospital stay. Nobody does that," Murtha says. "But I heard them say time and time again, 'I need to figure out why this happened. Not just for me, but for other moms.'"

That experience helped motivate Murtha to try to understand and prevent preterm birth. "We don't really know

BY ANGELA SPIVEY

why moms deliver preterm," she says. "There are a few things we can do to take better care of moms at risk, but we are not all that skilled at preventing preterm birth."

Prematurity is the most common cause of infant death. Premature babies are at high risk for respiratory problems, intellectual disabilities, cerebral palsy, visual problems, hearing loss, and feeding and digestive problems. Knowing all that, it doesn't make sense to wait to intervene until a baby is already born, Murtha says. But it's difficult to take action when there are no clues that a problem exists. Right now, the main thing that she can do to prevent preterm births is give pregnant moms progesterone. But deciding whom to give it to, and when, is little better than a shot in the dark. Obstetrician-gynecologists will likely prescribe progesterone if a pregnant mom had a preterm birth in a prior pregnancy, or if her cervix is getting short during pregnancy. But to Murtha, that's not good enough. "If it's your first pregnancy, we really have no good way of knowing if you will need progesterone or not unless the cervix is getting short, which is not very common." Murtha says. "And once the cervix starts to shorten, something bad is already happening. So it's kind of late in the game to be initiating a therapy."

Murtha aims to understand why some women deliver early and find a biomarker that can signal when a baby is at risk of being born too early, before outward signs appear. To start, she wants to understand how the hormone progesterone works during normal pregnancies to keep the uterus quiet and suppress inflammatory immune responses in the placental membranes. Some scientists believe that immune suppression plays a role in helping the body maintain a pregnancy. "When you have a fetus in your body, you have basically an organ system that's different from mom, and so mom has to be immune suppressed to a degree so that her body doesn't reject the fetus," Murtha says.

One of the body's receptors for progesterone has intrigued Murtha—PGRMC1. Her team has found that this receptor is present in the mom's white blood cells, particularly in monocytes, and that its levels correlate with levels of a different protein that is a marker of cell death. "We think that progesterone causes white blood cells to die," Murtha says. "This makes sense if progesterone's role is to be anti-inflammatory." In fetal membrane cells in culture, if she eliminates PGRMC1, progesterone no longer does its job of reducing inflammation. Maybe, PGRMC1 is the biomarker that Murtha has been looking for. In a small study, her team measured PGRMC1 levels in the white blood cells of five pregnant moms. In the first trimester, one woman's PGRMC1 levels were almost twice as high as the other women's. As it turns out, that mom went on to deliver pre-term. "That suggests to me that maybe there was something going on in this patient early in pregnancy that is different," Murtha says. "It's only one patient, so we can't say." But she wants to study this further, in a larger number of patients. "This might be a way to identify patients that we should worry about," she says.

> *"...if we can reduce the number of preterm births, then we can reduce the number of babies that end up with the consequences of prematurity, which can be lifelong."*
>
> **Amy Murtha**

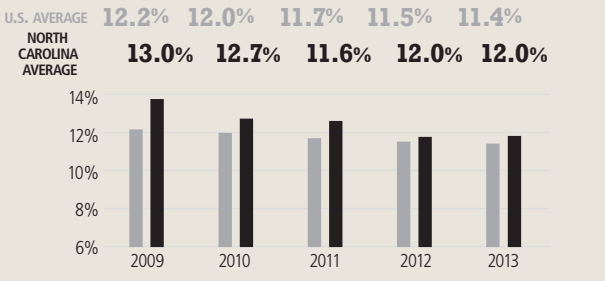
In addition, Murtha's team is exploring the microbiome of the fetal membranes—the whole population of bacteria that reside in the membranes that nurture the fetus during pregnancy. Working with Patrick Seed, MD, PhD, associate professor of pediatrics, Murtha has found that the microbiome is less diverse in the gestational tissues of women who go on to have their water break early (preterm premature onset of rupture of membranes, or PPROM). "In patients who carry their babies to term, we see that it's very diverse; it's a whole mix of bacteria. But in women who have preterm labor or PPROM, there are some dominant organisms that we see—ureaplasma and mycoplasma," Murtha says.

That work leads us to Sayres' engineering problem. After trying unsuccessfully to modify the existing device

PREVENTING PRETERM BIRTHS NOW

While Amy Murtha, professor and vice chair for research in the Duke Department of OB/GYN and Pediatrics, tries to find the causes of preterm birth, she and colleagues have started a specialized clinic to use what they already know to help prevent complications today. The premature birth rate nationwide and in North Carolina—about 12 percent of births—is too high, Murtha says.

With support from the March of Dimes, Murtha and Geeta Swamy, MD, associate professor of obstetrics and gynecology, have launched the Duke Prematurity Prevention Program, which they codirect. The program provides a clinic two afternoons a week focused on screening, risk assessment, and prevention of preterm birth for women who are pregnant, as well as postpartum care for women who have had a premature baby. Each patient receives a personalized plan that includes recommendations for screening and treatment. Included is counseling on breastfeeding, nutrition and exercise, and stopping smoking. "Being able to provide specialized care to these moms is really critical," Murtha says. "We make all our resources available to them—education, social workers, dieticians. And it also allows us to identify and recruit patients for studies we think might benefit everybody someday."



SOURCE: March of Dimes

used to study placental membranes, she began scouring hardware stores for a better solution. "What I found are these low-flow faucet aerators, in the plumbing section. When I saw it, I knew it would be perfect," she says. Then Sayres found that every store seemed to carry a different brand. "I've been to every hardware store in Durham at this point," she says. "I spent some time researching the different types of materials to make sure they wouldn't influence the experiments." To make the final device, she discarded the filter that aerates the water, leaving behind a round metal ring with two washers in the middle. She can cut a piece of the placental membrane that she wants to study and sandwich it between the two washers, then place that inside the metal ring. "It creates two different chambers, a maternal chamber and a fetal chamber, one on top and one on bottom," Sayres explains. The amnion (the part of the membrane that faces the fetus) is in one chamber, and the chorion (the part that faces the maternal surface of the placenta) is in another. She can apply a bacterium to each chamber and be confident it won't leak from one to the other. So, she can study the effects on each area of the membrane separately and also observe whether the bacterium or its products pass through the membrane easily. Her first experiment is now under way, applying *Ureaplasma* to each chamber to find out whether it affects the production of a particular enzyme that may contribute to early rupture of membranes.

"Fetal membranes are the largest surface area between mom and baby. So understanding what's happening between the mom's side of the membranes and the baby's side, and what happens that might compromise that barrier, is really important to understanding preterm birth," Murtha says. "There's a lot of experiments we can do just because of Lauren's development of this system, that can help us better understand any one of these organisms that we might find to be pathogenic."

Sayres says she was surprised that a better way to work with these membranes hadn't been devised before. But an advantage of the field being so little studied is that there is room to make advances. Murtha hopes to speed up the progress. Because all those pregnant moms are out there waiting.

JARED LAZARUS

Thomas M. Bashore, MD, HS'75-'77

Distinguished Faculty Award

With a career spanning more than three decades and marked by a passion for teaching and patient care, Thomas Bashore is regarded as one of the leading cardiovascular educators and clinicians in the country.

He first came to Duke as a cardiology fellow in 1975 and went on to serve in many leadership positions within Duke's Division of Cardiology, including director of the Diagnostic Cardiac Catheterization Laboratories, associate director of the Duke Heart Center, and cardiology vice chief for clinical operations and education. A founding member of the Duke Heart Center, he initiated the Duke Mobile Cardiac Catheterization Laboratory Program and established both the Percutaneous Valve Program and the Adult Congenital Heart Disease Program.

Perhaps his most influential position was serving as director of the Cardiology Fellowship Program for 12 years. His ability to connect with trainees and instill intellectual curiosity and empathy for patient care was held in high esteem, as evidenced by his earning multiple teaching honors. He received the Eugene A. Stead House Staff Teaching Award twice and won the Cardiology Fellow Teaching Award so often that his fellows chose to rename the award in his honor. He also received the School of Medicine's Master Clinician/Teacher Award and the Leonard Palumbo Faculty Achievement Award.

Bashore has developed a national reputation for his educational efforts. He has been a speaker at the major American College of Cardiology (ACC) board review courses for more than 15 years and currently serves on multiple ACC educational committees and editorial boards.

With diverse research interests that have included electrophysiology, cardiovascular nuclear medicine, digital angiography, cardiovascular hemodynamics, and valvular heart disease, Bashore has also served on numerous editorial boards for major cardiovascular journals, including *Circulation* and the *Journal of the American College of Cardiology*.

Bashore's interests outside of cardiology include collecting medical antiques. Among the many antiques displayed in his office suite are quack electrical devices, bloodletting instruments, radiation therapeutic items, cure bottles, antique stethoscopes, blood pressure devices, and electrocardiography machines. He is also responsible for a permanent display of pictures and graphics on the history of cardiovascular disease at Duke.

Education: Miami University, Ohio State University
Training: N.C. Memorial Hospital, Duke University Hospital and Health System
Current Titles: Professor of Medicine; Senior Vice Chief, Duke Division of Cardiology

MEGAN MENDENHALL

Y. T. Chen, MD, PhD, HS'78-'79

Distinguished Faculty Award

Y.T. Chen has made significant contributions to the field of genetics, improving lives and offering hope to numerous children and adults devastated by inherited metabolic diseases and adverse drug reactions.

Most notable is his pioneering work in the development of the first FDA-approved treatment for Pompe disease, a once-fatal genetic disorder in which the body lacks the ability to break down glycogen (sugar) and convert it into energy. Previously, infants born with the disease usually would die in the first year of life; however after the FDA approved the use of the drug Myozyme in 2006 based on Duke's research, those with Pompe disease were given their first fighting chance at life.

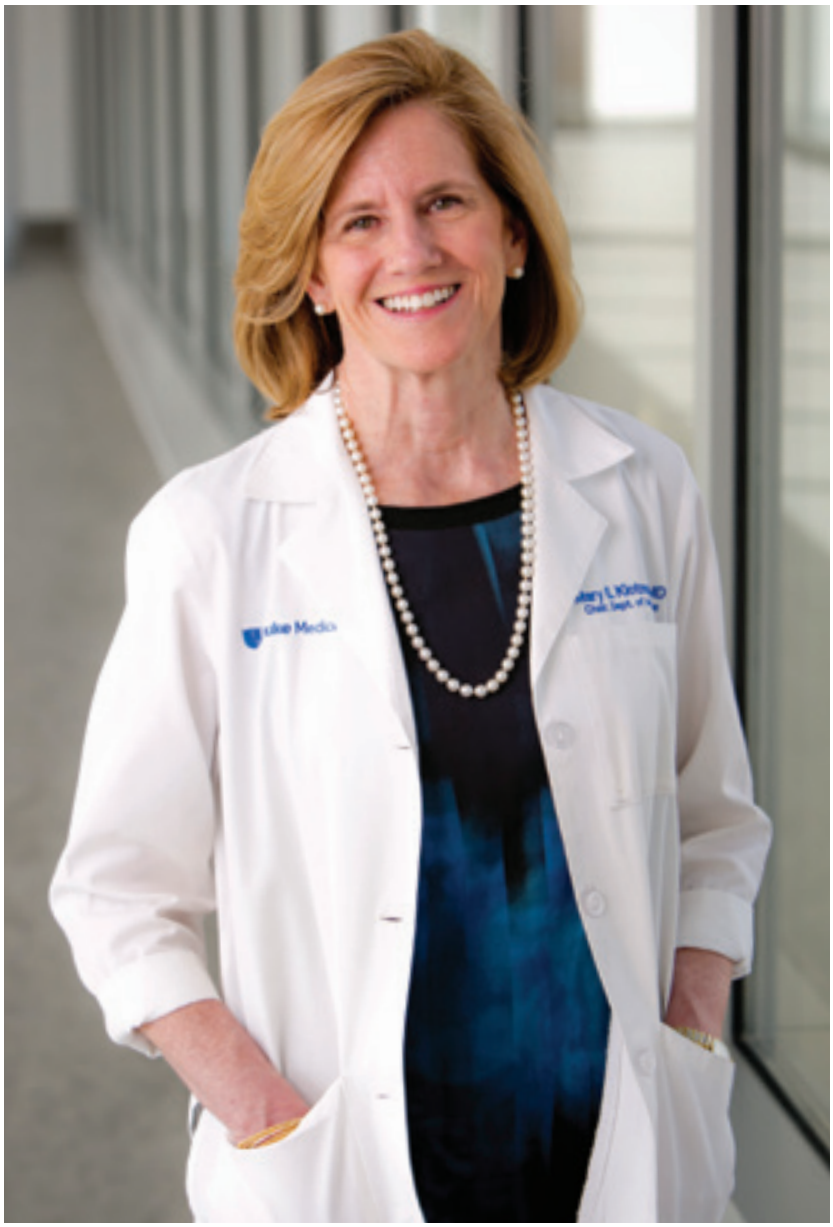
In 2009, Chen and his wife Alice made a gift to the Department of Pediatrics to establish the Alice and Y.T. Chen Center for Genetics and Genomics at Duke with the goal of replicating for other genetic diseases the bench-to-bedside approach that generated Myozyme.

Chen is also renowned for developing a simple and effective cornstarch therapy for severe hypoglycemia in glycogen storage diseases. Specifically, he developed cornstarch therapy as a means to prevent hypoglycemia and manage patients with type I glycogen storage disease, an inherited disorder that affects metabolism.

An elected member of the Academia Sinica and the World Academy of Sciences, Chen has also identified the genetic basis of and developed DNA-based diagnoses for several major heritable diseases. His most recent research, which focuses on the pharmacogenetics of adverse drug reactions and drug efficacy, has led to safer and more effective use of drugs. This seminal work was published in *Nature* and *The New England Journal of Medicine*.

Leadership roles at Duke included serving as chief of the Division of Medical Genetics, which saw significant growth during his tenure. In 2001, Chen was recruited to Taiwan to serve as director of the Institute of Biomedical Sciences Academia Sinica in Taipei, where he currently is a distinguished research fellow.

Education: National Taiwan University College of Medicine, Columbia University
Training: National Taiwan University Hospital, Columbia University, Duke University Hospital and Health System
Current Titles: Professor of Pediatrics, Duke University; Distinguished Research Fellow, Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan



JARED LAZARUS

Distinguished Alumna Award

Mary E. Klotman, T'76, MD'80, HS'80-'85

When Mary Klotman was named chair of the Department of Medicine at Duke in 2010, she became the first woman to hold the position. While that was a noteworthy distinction, her accomplishments as an HIV researcher and leader of the largest department within Duke University School of Medicine are those for which her colleagues believe she will be best remembered.

Since taking on the role of chair, Klotman has made it a priority to encourage collaboration among faculty across disciplines in order to strengthen Duke's research capabilities. She also has worked to bridge research efforts within the School of Medicine with the clinical care work of the health system.

Highly respected for her commitment to the success of investigators at Duke, Klotman has supported new interdisciplinary research awards and faculty development programs, including the Department of Medicine Faculty Development Academy and Research Development Council. Both initiatives provide junior faculty members with mentors who offer grant preparation assistance and career guidance

An expert in infectious diseases and HIV, Klotman focuses her research on the molecular pathogenesis of HIV-1 infection. Among the many noteworthy contributions she has made to this field, Klotman and her team demonstrated that HIV resides in and evolves separately in kidney cells, a critical step in HIV-associated kidney disease.

Klotman's early career included serving as an assistant professor of medicine for five years at Duke before moving on to the National Institutes of Health, where she was a member of the Public Health Service. Prior to returning to Duke in 2010, Klotman had served as chief of the Division of Infectious Diseases at Mount Sinai School of Medicine for 13 years.

She was elected to membership in the Institute of Medicine in 2014 and to the Association of American Physicians in 2005. Klotman is a councilor of the Association of American Physicians and president-elect of the Association of Professors of Medicine.

Education: Duke University, Duke University School of Medicine
Training: Duke University Hospital and Health System
Current Titles: Chair, Department of Medicine; R.J. Reynolds Professor of Medicine; Professor of Pathology; Professor in Molecular Genetics and Microbiology, Duke University

JARED LAZARUS

Distinguished Alumna Award

Janice M. Massey, MD, HS'79-'83

Janice Massey is recognized nationally and internationally as an expert in neuromuscular diseases, particularly in the areas of myasthenia gravis, specialized electromyography (EMG), and EMG-guided chemodenervation in focal dystonias.

A Duke faculty member since 1983, Massey has made seminal contributions to the clinical diagnosis and treatment of patients with myasthenia gravis, a chronic autoimmune neuromuscular disorder that is characterized by weakness and rapid fatigue of the voluntary muscles in the body.

She is also a pioneer in the use of botulinum toxin to treat cervical dystonia, currently treating patients with this rare, often painful condition that causes the neck muscles to contract involuntarily. A major component of her research in this area involves monitoring the long-term side effects of therapeutic botulinum toxin injections and exploring new treatments.

Because of her work with these and other neuromuscular diseases, numerous professional organizations have sought her leadership in the care and treatment of patients with these illnesses. She served as vice chair of the American Board of Psychiatry and Neurology (ABPN) and has played an active role in the American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM) for many years, serving as president in 2005. She was instrumental in the recognition of neuromuscular medicine as a subspecialty and continues to chair the ABPN Neuromuscular subspecialty examination committee.

She is a member of the board of directors for the American Academy of Neurology (AAN). Serving in a similar role as a councilor of the executive board of the AAN from 1991 to 1995, she initiated and chaired a task force on women in neurology. While representing the AAN on the American Medical Association National Advisory Committee on Family Violence, she introduced the topic of domestic violence in neurologic practice into the AAN annual education program.

In 2013, she was honored as Distinguished Physician of the Year by the AANEM and as Doctor of the Year by the Myasthenia Gravis Foundation of America.

Massey's commitment to education and mentorship is reflected in her long-term involvement in academic training programs within her department. She previously was director of the Duke Neurology Residency Training Program and led the Neuromuscular and EMG Fellowship Program for 17 years.

Education: Abilene Christian University, Georgetown University School of Medicine
Training: Georgetown University, Duke University Hospital and Health System
Current Titles: Professor of Neurology; Director, Neuromuscular Service; Director, Duke Electromyography Laboratory; Co-director, Myasthenia Gravis Clinic

JACK LIU

Paul W. Jones, MD'63

Humanitarian Award

After spending a number of years in a traditional medical career, Paul Jones went on to devote two decades of his life offering medical care and hope to thousands suffering in some of the world's most dangerous regions.

Jones served in the U.S. Army for three years and worked in private practice as a neurologist in Eugene, Oregon, for 18 years before embarking on overseas mission work with his wife Jan, primarily through humanitarian organizations, such as Samaritan's Purse.

Their work began in 1989 in a United Nations Cambodian refugee camp, where they trained Cambodian medics and nurses to care for the camp's 40,000 refugees. The couple remained there for more than three years, leaving after the refugees were repatriated.

In 1993, Jones served with a Samaritan's Purse medical team in Mogadishu and Bardara, Somalia, while the country was in the midst of civil war and anarchy. That year he also led a team into Southern Sudan to investigate reports of a deadly epidemic. The team gathered blood samples and discovered the epidemic had been caused by relapsing fever, a lice-born infection. In addition to using an antibiotic to treat the disease, garden dusters were used to dust 25,000 people with non-toxic pyrethrum, thus eradicating the lice and wiping out the epidemic.

While living in harsh conditions and treating patients in Sudan, the Joneses and their team also put their own lives at risk, at one point finding themselves caught for two days in a gunfight between two warring tribes, and another time they were captured briefly by a rebel group.

The Joneses then joined relief efforts in Rwanda, working there from 1993 to 1997, a time period marked by civil war and the horrific 1994 Rwandan Genocide. The couple's work while in the country included treating patients in a clinic located near a refugee camp and later helping to reopen the country's major hospital in Kigali, which had been abandoned and severely damaged by war.

Jones went on help Frontier Labourers for Christ establish its Barefoot Doctor Program in Myanmar. He developed a more comprehensive and effective curriculum for the program, which trains community health workers to provide care in areas where no medical care is available.

Education: Lewis & Clark College, University of Oregon Medical School, Duke University School of Medicine
Training: University of Oregon Medical School Hospital and Veterans Affairs Hospital
Current Title: Retired

JARED LAZARUS

Honorary Alumnus Award

William J. Fulkerson, MD, MBA'02

Having served Duke in clinical leadership roles for more than 30 years, William Fulkerson has played a significant role in helping the academic medical center rise to its current status as a national leader in quality patient care.

Fulkerson first came to Duke in 1983 as an assistant professor of medicine and one year later was named director of the Medical Intensive Care Unit and a medical control officer for Life Flight Medical Transport Service. He continued to rise through the ranks, holding various appointments including chief of pulmonary and critical care medicine in the Department of Medicine, director of critical care services for Duke University Hospital, and executive medical director of the Private Diagnostic Clinic.

After completing a master of business administration degree from the Duke Fuqua School of Business in 2002, Fulkerson became CEO of Duke University Hospital and vice president of Duke University Health System.

Currently executive vice president of the health system, Fulkerson and his team have overseen numerous initiatives at Duke, including the opening of the Duke Cancer Center and Duke Medicine Pavilion, the integration of Duke Raleigh and Duke Regional hospitals, and the system-wide rollout of an electronic medical record system.

Committed to patient care, Fulkerson has worked with other leaders, physicians, nurses, and staff to build a culture that promotes safety. These efforts have resulted in improvements in the patient experience and hospital performance and earned Duke a number of top honors, including the 2014 Healthgrades Outstanding Patient Experience Award, the Governor's Award of Performance Excellence in Healthcare, and Magnet designation for nursing excellence for all three hospitals by the American Nurses' Credentialing Center.

A pulmonologist, Fulkerson is active in clinical practice and teaching. Having trained dozens of pulmonary fellows, he received the Eugene A. Stead Award for Excellence in Teaching at Duke in 1985 and 1996.

Education: University of North Carolina at Chapel Hill, Duke University's Fuqua School of Business
Training: Vanderbilt University Medical Center
Current Titles: Executive Vice President, Duke University Health System; Professor of Medicine, Duke University School of Medicine

JASON MICZEK

Dale Shaw, T'69, MD'73, HS'73-'77

In the nearly four decades since earning two degrees from and completing medical training at Duke, Dale Shaw has consistently served his *alma mater* in a wide range of capacities.

In addition to being a current member of the Duke Medical Alumni Council, Shaw has held a number of leadership roles in service to his fellow medical school alumni. He served as president of both the Duke Medical Alumni Association and the Davison Club. He was a member of the alumni council's executive committee, a medical class agent, and a School of Medicine representative on the Duke Charlotte Regional Alumni Board. He also served on the steering committee that helped rally support from alumni and friends for the construction of the School of Medicine's much-needed new home, the Mary Duke Biddle Trent Semans Center for Health Education, which opened in 2013.

Distinguished Service Award

Shaw has served the wider Duke community in positions that included Duke Alumni Association vice president, board member, class chair, annual fund executive committee member, and reunion committee member. In 1986, the Duke Alumni Association honored him with the Charles A. Dukes Award for excellence in volunteer leadership and service.

In private practice in Charlotte, North Carolina, Shaw is a partner with Charlotte Radiology. He has previously held clinical teaching appointments at both Duke and the University of North Carolina at Chapel Hill.

He is an active member of the American College of Radiology (ACR), having served in numerous positions, including past president of the North Carolina chapter and as an executive committee member for 27 years. Shaw has been in charge of the continuing education activities of the North Carolina chapter for the past 20 years, chairing more than 40 radiology refresher courses attended by thousands and winning several national awards from the ACR. In 2009, he received the chapter's highest honor, the Silver Medal Award.

Shaw's service to the North Carolina Medical Society included serving on the society's executive council, as chief of the Section on Radiology and Nuclear Medicine, and as a chair of the Coordinating Council of Medical Specialists. He is also past president of the Mecklenburg Medical Society.

Education: Duke University, Duke University School of Medicine
Training: Duke University Hospital and Health System
Current Title: Partner, Charlotte Radiology

BILLY SMITH II

William G. Anlyan, MD, Lifetime Achievement Award

C. Thomas Caskey, MD'62, HS'63-'65

C. Thomas Caskey is a worldwide leader in molecular human genetics whose landmark research has had enormous impact on understanding and treating genetic diseases.

Among his many scientific accomplishments was helping to discover the universality of the genetic code. The discovery was made while working under Nobel Prize winner Marshall Nirenberg, PhD, at the National Institutes of Health's National Heart and Lung Institute (now the National Heart, Lung, and Blood Institute) from 1965 to 1971.

After leaving the NIH, Caskey went on to spend more than 20 years at Baylor College of Medicine, where he continued his groundbreaking work. Caskey identified the genetic basis of 10 major inheritable diseases and opened up the understanding of triplet repeat diseases, including Fragile X, myotonic dystrophy, and others. He developed and patented a personal identification system that was initially used by the U.S. military for casualty identification during the first Gulf War and is now the accepted method for forensic analysis in crime investigations worldwide. He also was the first to use genome sequencing to identify disease risk before pathology in adults.

His numerous appointments at Baylor included serving as director of the Robert J. Kleberg Center for Human Genetics, director of the Medical Scientist Training Program, director and professor of Molecular Genetics at the Institute for Molecular Genetics, and Howard Hughes Medical Institute investigator.

Caskey's career also included spending time outside academic medicine. He was a senior vice president of research for Merck Research Laboratories and founding director and CEO of Cogene Biotech Ventures.

He was director and CEO of the Brown Foundation Institute of Molecular Medicine at the University of Texas Health Science Center in Houston before returning to Baylor in 2011. His current research focuses on the genetic basis of schizophrenia. In 2014, he was appointed senior vice president for medical science and diagnostics for NextCODE Health, a genomic analysis and bioinformatics company.

The recipient of numerous academic and industry honors, Caskey is a member of the National Academy of Sciences, the Institute of Medicine, and the Royal Society of Canada.

Education: University of South Carolina, Duke University School of Medicine
Training: Duke University Hospital and Health System
Current Title: Professor of Molecular and Human Genetics, Baylor College of Medicine; Senior Vice President for Medical Science and Diagnostics, NextCODE Health

1950s

Margaret P. Sullivan, MD'50, is a past president of the American Medical Women's Association, which this year is marking its centennial. The AMWA will commemorate the achievements of women physicians and their advancement as leaders in medicine at its Centennial meeting in Chicago this April. Sullivan lives in Houston.

Alan Solomon, MD'57, is professor *emeritus* at the University of Tennessee Graduate School of Medicine. He recently developed an anti-amyloid monoclonal antibody for the treatment of patients with systemic amyloidosis that is currently in a Phase 1 trial at Columbia University Medical Center in New York. He and his wife, Andrea Cartwright, live in Knoxville, Tennessee. He has two sons, David and Joe; two stepsons, Woody and Michael; five grandchildren; and two step-grandchildren.

Edward H. Laughlin, MD'58, retired in 2014 from general surgery-oncology and as professor of surgery at the University of Alabama-Huntsville School of Medicine, where he taught for 39 years.

Donald Tucker, MD'58, BSM'59, HS'58-'62, DC, was honored recently by having a street named after him near the central office of Physicians East, the private practice he founded in Greenville, North Carolina, and led for 33 years before retiring in 1998. Dr. Donald Tucker Way leads to the practice, which he opened under the name Quadrangle Internal Medicine in 1965. Prior to that, he served as lieutenant commander in the U.S. Naval Reserve and was director of the Cardiology Unit and Cardiac Catheterization Laboratory at the U.S. Naval Hospital in Portsmouth, Virginia. He was a clinical associate professor of medicine at the East Carolina University School of Medicine and served in many capacities at Pitt County Memorial Hospital, as well as the Pitt County Medical Society, the Coastal Plain Heart Association, and numerous other institutions and community organizations. He served for six years on Duke Hospital's Advisory Board and is a charter member of the Davison Club. He and his wife **Barbara Tucker, WC'54**, live in Greenville. Their four children all earned degrees at Duke: **Donald Tucker Jr., T'81**; the late **Barbara Lynn Tucker Grogan, T'81**; **Susan Tucker Weaver, T'83, MD'87**; and **Michael Arden Tucker, T'85**. They have 10 grandchildren.

1960s

John L. Opdyke Jr., MD'60, retired from family practice in 2004. He enjoys a daily trip to the gym and playing bridge. He and his wife Suzanne live in Santa Monica, California. They enjoy visiting their three grown children: a son in Boston, a daughter in Walnut Creek, California, and a son in Westwood, California. They also have two granddaughters.

Lawrence H. Parrott, MD'60, recently completely 30 years of teaching in the pathology department at the University of South Carolina. He also won the super senior championship at the Camden Country Club for the third time in September 2014. He and his wife **Joy, BSN'60**, live in Camden, South Carolina, and have three children and six grandchildren.

Richard Reece, T'56, MD'60, has published four books, which can be found on Amazon.com. The latest, an e-book published in December, is called, *The Road to Hell is Paved with Good Intentions: the Story of ObamaCare, the First of a Tetrology.* The next three books in the series will be: *There is No Such Thing as a Free Launch*; *The Party's Over*; and *Alive, Kicking, and Reborn.* Reece lives in Old Saybrook, Connecticut, with his wife Loretta. They have two sons. Carter works with Brooks Brothers. Spencer, an Episcopal priest in Madrid, Spain, wrote a book, *The Road to Emmaus*, which was selected by the National Book Awards Committee as one of the top five poetry books in the U.S.

John H. Sadler, MD'60, DC, is "almost completely retired," but still serves as CEO of Independent Dialysis Foundation, an organization that has six facilities and three hospitals programs. His first wife Joan died of breast cancer in 2011 after 54 years of marriage. In 2012 he married again, and he and his wife Dawn have a combined 13 grandchildren between the ages of 10 and 25. They live in Reisterstown, Maryland.

C. James Dellinger, T'58, MD'61, and his wife Bertha recently moved to Asheville, North Carolina, to be near their son and grandchildren.

William 'Bill' Waddell, MD'62, HS'62-'64, has published a book titled, *An Old Fart's Guide To Almost Everything…That Matters.* He says it's filled with a lot of stuff that we all have known but didn't appreciate until we entered the hallowed halls of Old Farthood ourselves. The book is available on Amazon.com. Waddell and his wife Emily live on Bald Head Island, North Carolina.

Pascal J. Imperato, MD'63, is retired from medicine and is writing novels under the pen name John Pascal. His latest book is titled *Prisoner 1171*, and is described thus: "Framed for a murder she didn't commit, Esther must choose: continue with the Lord's work and protect the man she loves, or let him risk death to free her from prison, and hope for a new life together." The book is available on Amazon.com and **John-Pascal.com**. Imperato lives in Fallbrook, California.

James Salz, MD'65, completed his third eye surgery mission with Liga, Flying Doctors of Mercy last March and will leave for another mission in March 2015. Surgeons and staff fly to the clinic in the small rural colonial town of El Fuerte, Mexico, on small private planes with volunteer pilots. The clinic has three operating tables with Zeiss microscopes, and the surgeons perform more than 100 cataract and pterygium procedures over the weekend on Friday and Saturday and fly home on Sunday. To learn more about the clinic and see photos, visit **ligainternational.org**. Salz and his wife Judith live in Los Angeles.

1970s

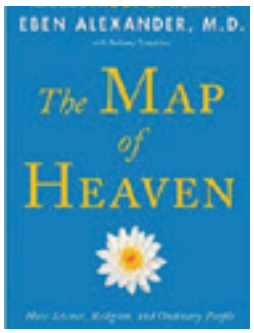
Allen R. Dyer, MD'72, PhD'80, was presented an award and recognition from the Iraqi Medical Sciences Association for his humanitarian efforts for the Iraqi people. He has been working with Iraqi citizens, physicians, educators, and government officials since 2001, both in the U.S. and in Iraq, to improve medical education and health services. He lives in Washington, D.C.

Jerome A. Paulson, MD '74, FAAP, recently received the Healthy Schools Hero Award from the Healthy Schools Network. He was also elected as a Fellow of the Collegium Ramazzini, an international honorary society consisting of 180 individuals from around the world recognized for their contributions to environmental and occupational health. He lives in Alexandria, Virginia, with his wife Gwen.

Thomas R. White T'76, MD'80, was installed in December 2014 as president of the North Carolina Academy of Family Physicians. The NCAFP is North Carolina's largest state-based specialty medical association, representing more than 3,700 family physicians, physicians-in-training, and medical students across the state. White and his wife, Diana, reside in Cherryville, North Carolina, and have two adult children, Whitney and Daniel.

R. Marshall Austin, MD'77, PhD'76, has received the 2014 Papanicolaou Award from the American Society of Cytopathology. The society's highest honor, the award is given in recognition of meritorious contributions to or achievements in the field of cytopathology. Austin lives in Cheswick, Pennsylvania, and is professor of pathology and director of Cytopathology at Magee-Womens Hospital of University of Pittsburgh Medical Center.

1980s



Eben Alexander, MD'80, HS'80-'87, DC, of Lynchburg, Virginia, writes he was "heartened by the global response" to his October 2012 book, *Proof of Heaven: A Neurosurgeon's Journey into the Afterlife*, and has since published a sequel. *Map of Heaven: How Science, Religion, and Ordinary People are Proving the Afterlife* (Simon & Schuster 2014), expands on the original book, addressing the changing scientific views of consciousness and the nature of reality and the coming demise of pure scientific materialism.

James H. Segars, T'77, MD'81, has been named the inaugural professor and director of Reproductive Science and Women's Health Research, a newly established division of the Department of Gynecology and Obstetrics at Johns Hopkins University School of Medicine. Previously, he was head of the Unit on Reproductive Endocrinology and Infertility at the National Institute of Child Health and Human Development, a branch of the National Institutes of Health. Segars is an internationally recognized leader in reproductive endocrinology and infertility. His research focuses on identifying proteins that modify, mediate, and augment estrogen action in reproductive tissues and on clarifying clinical disorders contributing to infertility in women. His national leadership roles include director of the Division of Reproductive Endocrinology and Infertility at the American Board of Obstetrics and Gynecology, president of the Society of Reproductive Endocrinology and Infertility, council member for the Society for Gynecologic Investigation, and editorial board member of seven peer-reviewed journals. Segars also has mentored numerous students, postdoctoral fellows and clinical fellows, many of whom are now internationally recognized leaders in reproductive research. He and his wife, **Susan Nelson Segars, BSN'78**, live in Potomac, Maryland. They have four children: Laura, Michael, James, and Jonathan.

Robert P. Fleischer T'75, MD'83, HS'85-'89, has been elected president of the 2015 medical staff at St. Elizabeth Medical Center. Fleischer is board certified in urology and is a Fellow of the American College of Surgeons. He and his wife, Jo-Ann, reside in New Hartford, New York, and have four children.

Bill Mallon T'73, MD'84, HS'84-'86, HS'86-'90, is the new president of the American Shoulder and Elbow Surgeons Association. Now retired from clinical practice, he remains active in the field as a consultant and has served for the past six years as editor-in-chief of the *Journal of Shoulder and Elbow Surgery*. A member of the Duke golf team as an undergraduate and a former PGA Tour professional, he served as medical advisor at the Olympic Games and was awarded the Olympic Order. He and his wife Karen live in Sandwich, New Hampshire.

1990s

Holly L. Hedrick, MD '91, has been named to the Louise Schnaufer Endowed Chair in Pediatric Surgery at the Children's Hospital of Philadelphia (CHOP) . She is the inaugural chair holder. Hedrick is a pediatric surgeon well known for her work within CHOP's Center for Fetal Diagnosis and Treatment and for her own experience separating conjoined twins. She was trained by Dr. Schnaufer while completing her fellowship at CHOP. Hedrick is the surgical director of the Extracorporeal Membrane Oxygenation (ECMO) Program, co-director of the Neonatal Surgery Team, and director of the Pulmonary Hypoplasia Program, as well as an investigator in CHOP's Center for Fetal Research and an associate professor of surgery at the Perelman School of Medicine at the University of Pennsylvania. She lives in Devon, Pennsylvania.

Thomas G. Catena, MD'92, has received the Gold Medal from the National Football Foundation College Football Hall of Fame (NFF). It is the organization's highest honor. Catena was an All-American defensive back during his undergraduate days at Brown University. Catena was honored last fall by the Duke Medical Alumni Association with a Distinguished Humanitarian Award. He is the medical director and only physician at a 400-bed rustic hospital in the Nuba Mountains of war-torn Sudan. Said NFF Chairman Archie Manning: "Tom Catena stands as an inspiration to us all, having created a powerful path for making a difference in one of the bleakest places on earth." To watch a Duke-produced video about Catena, visit **youtu.be/OmpClZjhMpc**

2000s

Fatua M. Forna, MD'00, co-founded an organization called The Mama-Pikin Foundation that works to improve the health of women, children, and families in Sierra Leone. The foundation supports the main maternity and pediatric hospital and four clinics in rural areas, and it conducts an annual medical mission trip to Sierra Leone. The foundation website is **mamapikinfoundation.org/**. Forna also has written a book for teen girls and young women titled, *From Your Doctor To You – What Every Teenage Girl Should Know About Her Body, Sex, STDs, and Contraception*. It is available on Amazon.com. Forna lives in Duluth, Georgia.

Rakesh K. Singh, MD'02, in 2014 became assistant clinical professor of pediatrics at the University of California at San Diego and medical director of the Pediatric Heart Failure, Mechanical Circulatory Support & Transplantation Program at Rady Children's Hospital San Diego, with the task of building the first pediatric heart transplant program in San Diego. He writes, "We successfully performed our first pediatric heart transplant on January 14, 2015. The ability to perform pediatric heart transplants in San Diego now allows us to provide comprehensive care for all children with any form of heart disease. Children and their families will no longer have to relocate to other cities for a heart transplant and can stay close to home." Previously, Singh completed an internal medicine-pediatric residency at Yale-New Haven Hospital in 2006 and a pediatric cardiology fellowship at Morgan Stanley Children's Hospital-NYP in 2009. He served as an assistant professor of pediatrics at Columbia University and as a pediatric transplant cardiologist before joining UC San Diego.

Daniel J. Vreeman, DPT'03, MS, was selected by the *Indianapolis Business Journal* for its 2015 Forty Under 40 list, which honors high-achieving professionals. He is an associate research professor of medicine at Indiana University and an investigator at the Regenstrief Institute. He directs development of a medical vocabulary standard called LOINC (Logical Observation Identifiers Names and Codes) that enables the exchange and aggregation of clinical results using universal codes. He lives in Fishers, Indiana.

Misha Mutizwa, T'05, MD'09, has been appointed assistant professor of dermatology at Temple University School of Medicine and director of HIV dermatology at Temple University Hospital. He will also serve as associate director of the Dermatology Residency Program. Temple's new subspecialty HIV Dermatology Clinic recently launched under Mutizwa's direction as well. Prior to joining Temple, Mutizwa was assistant clinical professor of dermatology at the University of California, San Francisco.

Thank You Alumni HOSTs!

Thank you to all of the alumni who volunteered for the Helping Our Students Travel (HOST) Program!

We currently have 140 alumni hosts and received 48 requests for a host from current fourth-year students. Some of the requests went unfulfilled because we are missing hosts in some areas. We hope to continue growing the program, so please volunteer if you can!

About the HOST Program

The Helping Our Students Travel (HOST) program matches fourth-year medical students with alumni volunteers during residency interviews around the country. Alumni volunteers provide lodging for medical students in their homes during interview travels and/or offer advice to the students about life after medical school and the community in which they are interviewing. The program is a great way for alumni to reconnect with the School of Medicine and hear firsthand what it is like to be a medical student today. We're currently growing our list of alumni volunteers and encourage you to join us. Most hosting opportunities will be between November and January. If you would like to be a host or need more information visit: **medalumni.duke.edu** or contact Karen Bernier at **karen.bernier@dm.duke.edu**.

1950s

Herbert Kaplan, HS'55-'57, in 2012 received the Presidential Gold Medal, the highest award given annually by the American College of Rheumatology. It is given in recognition of outstanding achievements in rheumatology over an entire career and honors important contributions in multiple areas such as clinical medicine, research, and education. Kaplan trained with Eugene Stead, MD, at Duke and served at Yale Hospital, as assistant chief of medicine at the U.S. Army Hospital in Munich, Germany, and for many years in Denver. He co-founded the Denver Arthritis Clinic and was a voluntary faculty member at the University of Colorado Health Sciences Center. He received the Clinical Faculty Teaching Award and was the Colorado Internist of the Year in 1992 and the First Distinguished Clinical Professor of Medicine in 1998. He retired from the Denver Arthritis Clinic in 2000 and now lives with his wife Bea in South Hadley, Massachusetts. They have three daughters—Susan, Laura, and Janet—along with eight grandchildren and two great-grandchildren.

1970s

Russel E. Kaufman, MD, HS'73-'78, FACP, FCPP, stepped down from his position as president and CEO of the Wistar Institute in March 2015. Kaufman now holds the position of president *emeritus* of Wistar, an international leader in biomedical research with special expertise in cancer research and vaccine development. Kaufman joined Wistar in 2002 after serving at Duke University School of Medicine as vice dean for education and academic affairs and chancellor for academic affairs for Duke University Health System. Kaufman and his wife Diana live in Philadelphia.

1980s

Robert E. Schaaf, MD, HS'76-'81, FACR, radiologist and former president of Wake Radiology, was inaugurated in October 2014 as the 161st president of the North Carolina Medical Society (NCMS) at the society's annual meeting in Greensboro. He is board certified in diagnostic radiology and is a Fellow of the American College of Radiology. He became a member of the NCMS in 1981 and has been a member of the Board of Directors since 2004. Over the years he has participated on numerous NCMS committees including finance and the legislative cabinet. Schaaf received his medical degree from Tufts University Medical School in Boston. He completed a combined internship/residency at Duke and served as chief resident in his final year of residency. He was a clinical assistant professor of radiology at Duke and at the University of North Carolina-Chapel Hill for a combined 15 years. Since 2005, he has been a governor-appointed member of the N.C. Medical Care Commission, which oversees regulation of North Carolina's hospitals and health care facilities. He also has served as vice chairman of the Board of Directors of the North Carolina Medical Mutual Insurance Company. Schaaf also is on the Board of Visitors for the Wake Forest University School of Law. He and his wife, **Diane Gwinn Schaaf, MEd'67, PhD'71**, live in Raleigh.

Richard M. Dasheiff, MD, HS'77-'82, has self-published a book titled *Government Healthcare Exposed*, which he is offering for free on his website **50.87.144.51/~p3w3c3ag/magnesium/book.htm**. He says the book is "a personal synthesis of adult medicine over four decades at Veterans Administration and university hospitals and clinics, and within the private sector." He lives in Dallas, Texas.

Deborah German, MD, HS'80-'82, is vice president for medical affairs and dean of the College of Medicine at the University of Central Florida. She received the 2014 Alma Dea Morani, M.D., Renaissance Woman Award from the Foundation for the History of Women in Medicine. The award, which is given annually, honors an outstanding woman physician or scientist in North America "who has furthered the practice and understanding of medicine in our lifetime and who challenges the status quo with a passion for learning." She lives in Orlando, Florida.

William O. Reed, MD, HS'79-'83, has joined the Laser Spine Institute's new ambulatory surgery center in St. Louis, Missouri. Certified by the American Board of Orthopaedic Surgery, he is a pioneer in expanding the use of minimally invasive spine surgical techniques. Prior to joining Laser Spine Institute, he practiced in Kansas City, Missouri, and served as a flight surgeon and orthopaedic surgeon for the U.S. Air Force. Reed introduced the benefits of arthroscopic surgery to the Rapid Deployment Force based at Fort Bragg in North Carolina in the early 1980s. He and his wife Elizabeth live in Leawood, Kansas. They have two children: Andrea and Patrick.

Jeffrey G. Wong, MD, HS'85-'88, has been named associate dean for medical education at the University Park Regional Campus of Penn State College of Medicine. Wong will provide leadership and oversight for medical student and resident teaching activities in State College, including clinical rotations for medical students, innovations in the educational program, student assessments, and faculty recruitment. He joins Penn State from the Medical University of South Carolina in Charleston, where he was senior associate dean for medical education *emeritus* and professor of medicine.

2000s

Johnathan M. Lancaster, MD, PhD, HS'00, has joined Myriad Genetics, Inc., in Salt Lake City, Utah, as vice president of medical affairs for oncology. In this role, he will provide medical and scientific leadership across Myriad's expanding portfolio of molecular and companion diagnostic products and services for oncology. Prior to joining Myriad, he held leadership positions at Moffitt Cancer Center in Florida, and before that he was medical director of the Gynecologic Dysplasia Clinic at Duke.

Michael Washo, T'97, MD, HS'04-'07, is now medical director of Fellowship Hall, a not-for-profit alcohol and drug treatment center located in Greensboro, North Carolina. In addition to managing medical care for the center's patients, Washo will assist the leadership team's ongoing efforts to educate the community about alcoholism and addiction, build awareness about Fellowship Hall, and expand the geographical area the center serves. Founded in 1971, Fellowship Hall was the first licensed addiction treatment hospital in North Carolina.

Alexandra (Floyd) Bentley T'00, HS '06-'09, and **Andrew Bentley T'00, MBA'08** and are proud to announce the birth of a baby girl, Ingrid Alexandra Bentley, born June 18, 2014. The family lives in Raleigh.

Full obituaries can be found on the Medical Alumni Association web site at ***medalumni.duke.edu****. Please click on the magazine cover, then click on obituaries.*

Charles R. Ayers, MD'63, HS'63-'69, of Visalia, California, passed away on Oct. 10, 2014 at age 78. Ayers was Board Certified in pediatric cardiology and emergency medicine. Always a technophile, he put together his own personal computer, an IMSAI 8080, before most people knew what a personal computer was. He established the specialty of Emergency Medicine at Kaweah Delta Healthcare District based in Visalia where he was the original CEP Emergency Department medical director.

Jorge E. Baez-Garcia, MD'62, died October 3, 2014 in Lexington, Kentucky. He was 76. He was an accomplished doctor with practices in Puerto Rico, North Carolina, Massachusetts and Kentucky. Baez-Garcia also served as a Captain in the U.S. Air Force during the Vietnam War. He was a former active member of the Opera de Puerto Rico, a board member of the Lexington Opera Society, and was appointed a Kentucky Colonel in 2009.

Eugene E. Bleck, MD, HS'48-'49, '52-'55, of San Mateo, California, died Sept. 14, 2014 at age 91. In 1972 he joined Stanford University as an associate professor of orthopaedic surgery. At the Children's Hospital at Stanford he was a founder and chief of pediatric orthopaedic surgery. In 1982 he was promoted to professor of orthopaedic surgery and was head of the Division of Orthopaedic Surgery until 1988. In 1989, he became professor *emeritus* of orthopaedic surgery.

David K. Buckley, MD'71, passed away on Dec. 12, 2014, in Fort Lauderdale, Florida. He was 69. After medical school and training, he opened a private psychiatric practice in Fort Lauderdale in the mid-1970s. Always eager for an adventure, he travelled about the world with charm and was always ready to capture a moment with his camera.

Lubin F. Bullard, Jr., MD'53, HS'62-'65, of Wilmington, North Carolina, died at his home on Sept. 2, 2014. He was 86. He was a graduate of the University of North Carolina at Chapel Hill and Duke University School of Medicine. After internship at Rex Hospital in Raleigh, Bullard served for two years as a medical officer in the U.S. Navy assigned to the Second Marine Division at Camp Lejeune. He then practiced general medicine in Shallotte for five years before returning to Duke for specialty training in ophthalmology. He practiced ophthalmology in Wilmington for 30 years before retiring in 1994.

Robert R. Burch, MD, HS'52-'53, died from leukemia on Dec. 18, 2014, at his home in Dallas, Texas, at the age of 90. He entered Southwestern Louisiana Institute (now The University of Louisiana at Lafayette) on a football scholarship. He enlisted in the U.S. Army Air Corps and was a B-17 pilot during World War II in the 15th Air Force. After the war, he completed college at Tulane University and subsequently the Tulane University School of Medicine. He completed an internship at Philadelphia General Hospital, a residency at Duke University Hospital, and a cardiology fellowship at Tulane. Burch was a long-time resident of New Orleans where he practiced internal medicine for 57.

Henry A. Callaway, Jr., MD, HS'55-'60, died Aug. 14, 2014 in Maryville, Tennesee, following a brief illness. After medical school and training, he returned to Maryville and joined Callaway and Callaway, MD, founded by his father Henry Callaway and his uncle Lea Callaway. He practiced general, thoracic, and vascular surgery for 34 years. Callaway and his brother helped start the vascular lab at Blount Memorial Hospital.

John R. Clark Jr. M'42, of Martinsville, Virginia, died Feb. 4, 2015. He was 97. He was a urologist whose research was published in *The Journal of the American Medical Association* in conjunction with Dr. Austin I. Dodson. He retired in 1994 after 47 years of private practice in Martinsville. He was a member of the Board of Directors of the First National Bank of Stuart and Piedmont Bank Group, the County Medical Society of Patrick and Henry Counties, the Virginia Urological Society and the Mid-Atlantic Urological Society, and many other organizations.

Berryman E. Coggeshall Jr., T'48, MD'52, of Cheraw, South Carolina, died Dec. 27, 2014 at the age of 85. He earned bachelor's and medical degrees from Duke, where he was *Phi Beta Kappa* and *Alpha Omega Alpha.* He interned at Philadelphia General Hospital and was president of the Blockley Medical Society. He performed a surgical residency at Tulane University. Among many other activities, Coggeshall was a member, deacon, and elder at First Presbyterian Church, Cheraw; a past member of the Board of Directors of Chesterfield General Hospital; past Board of Trustees member at Francis Marion University; and board member at Mercy in Me Free Medical Clinic.

George J. D'Angelo, MD, HS'58, died Nov. 23, 2014, at the age of 91, in North Andover, Massachusetts. He led the team that performed the first open heart surgery in northwestern Pennsylvania at Hamot. He was an eminent thoracic and cardiovascular surgeon, who for 40 years, tirelessly sought out the very best for his patients and the community. He served in the U.S. Navy from 1943 to 1946, and participated in the invasion of Okinawa. D'Angelo was the recipient of a John A. Hartford grant to develop a laboratory for the diagnosis of cardiovascular disease at what is now the University of Pennsylvania Medical Center Hamot.

Michael J. Davidson, MD, HS'96-'01, a renowned heart surgeon and director of cardiac surgery at the Brigham and Women's Hospital in Boston, and assistant professor of surgery at Harvard Medical School was killed by gunfire on Jan. 20, 2015 while attending patients in the hospital. He was a visionary physician who bridged two disciplines—interventional cardiology and cardiac surgery—to pioneer a new form of surgery.

Dr. William M. Douglas, HS'56-'58, of Orlando, Florida, died Feb. 5, 2015. He was a lifetime Florida resident where he was born, raised, and opened a medical practice. He attended Emory University in Atlanta for pre-med studies and medical school and volunteered to serve in the U.S. Navy. Upon completing a plastic surgery residency at Duke, he returned to Florida, where he established his practice in Orlando.

Ben I. Friedman, MD, H'53, of St. Petersburg, Florida, died Dec. 23, 2014 at age 88. He graduated from the University of Cincinnati Medical School at age 21 in 1948. He served as a Captain in the U.S. Air Force from 1950-52, was a medical resident at both the University of Cincinnati and Duke University, and served on the medical faculty of both the University of Cincinnati (1953-68) and the University of Tennessee (1968-77). Moving to Clearwater, Florida in 1977, he served on the staff of Morton Plant Hospital from 1977 until his retirement in 1991.

C. Richard Gill, MD, HS'56, of Lexington, Kentucky, passed away Jan. 4, 2015. He was 83. He excelled in academics, graduating with honors from Western High in Washington, District of Columbia and completing pre-med at Lafayette College in Easton, Pennsylvania, and medical school at George Washington. He interned at Duke University and followed up with a fellowship at Mayo Clinic in Rochester, Minnesota. He served in the U.S. Army Medical Corps and was honorably discharged as a Major. His sub-specialty was rheumatology and he was a member of the various organizations affiliated with arthritis. He retired after 35 years at The Lexington Clinic and St. Joseph Hospital.

Hillel J. Gitelman, MD, HS'60-'63, of Chapel Hill, a widely recognized nephrologist whose research is identified with the name of Gitelman's syndrome, died Jan. 12, 2015. He was 82. He received a scholarship to Princeton University, and then attended the University of Rochester Medical School. He then moved south, completing a residency in Internal Medicine at Duke University, followed by a research fellowship at the National Institutes of Health. He then pursued a nephrology fellowship at the University of North Carolina School of Medicine in Chapel Hill, and subsequently joined the faculty, where he spent his entire 30-year career.

Golden S. Hinton Jr., HS'56, of Athens, Georgia, passed away Dec. 20, 2014. He was 87. Hinton graduated from the University of Georgia Medical College and completed his general internship at the University of Pennsylvania, and his residency at Duke University. After practicing in Johnson City, Tennessee for two years, he returned to Athens and practiced ophthalmology until his retirement in 1997.

Stanley Karansky, MD'41, DC, died peacefully on Nov. 9, 2014 in San Ramon, California, at the age of 98. He served in the U.S. Army and landed at Normandy with an engineering battalion, building bridges across Europe to assist in the war effort. He practiced in anesthesia, sports medicine, and cardiac rehabilitation during his career as a physician. He was invited to practice at the Mayo Clinic in Rochester, Minnesota.

Julian Katz, MD, HS'65, DC, of Gladwyne, Pennsylvania, died Nov. 5, 2014 of respiratory failure at the Hospital of the University of Pennsylvania. He was 77. Katz was a leading gastroenterologist, author, and educator. He performed some of the early work to define the condition now known as lactose intolerance, which interferes with digestion in some people. He also was one of the first gastroenterologists to perform endoscopies in the Mid-Atlantic region. He was a clinical professor at the Medical College of Pennsylvania and, later, Drexel University.

Leon Lack, MD, HS'55, of Durham, Professor *Emeritus* in the Department of Pharmacology at Duke, died October 19, 2014 at the age of 92. His achievements included research in pharmacology of cholesterol and lipids, pharmacology of intestinal bile salt transport, and enzyme inhibitors relevant to prostatic cancer. Lack taught in the Duke University School of Medicine and served as chief biochemist for clinical research in the Duke Clinical Research Unit.

Patrick J. Logue, MD'62, HS'63, DC, of Belleair, Florida, passed away Dec. 17, 2014. He was 82. He attended the University of Pittsburgh on a pole vaulting scholarship. He completed his medical education at Duke and residency in orthopedic surgery at Harvard. In 1968, he came to Clearwater, joining the staff of Morton Plant Hospital where he enjoyed practicing for 35 years. He was a member of the Founders Society and president of the Davidson Club for medical alumni.

Glenn E. McCormick Jr., MD, HS'59, of Aiken, South Carolina, passed away Sept. 2, 2014. He proudly served his country in the U.S. Air Force. He did both undergraduate and medical studies at Emory University where he graduated in 1956. McCormick operated his own dermatology practice from 1963 until 1996 in Decatur, Georgia. After retiring from private practice, he moved to Beaufort, South Carolina and made Aiken his home.

Hugh McCulloch, Jr., MD'45, of Bay Head, New Jersey, died Feb. 24, 2015. At the end of World War II, he served as chief of U.S. Air Force Dispensation on Guam, and afterwards in a residency at Johns Hopkins, were he was chief of Dermatology at Valley Forge Army Hospital. He then had a private patient-centered medical practice in Plainfield and Bay Head until his retirement.

David E. Miller, G'71, MD'73, of Youngsville, North Carolina, died Jan. 17, 2015. He was 75. He earned a bachelor of science degree in electrical engineering from North Carolina State University, and a master of science, doctor of philosophy in electrical engineering, and medical degrees from Duke University. At Duke he specialized in obstetrics and gynecology. He also earned a doctor of medicine degree in psychiatry from the University of North Carolina at Chapel Hill. Miller worked as a physician for over 40 years.

Frank T Moran, MD'42, HS'43, '48, of Syracuse, New York, died Nov. 3, 2014. He was 98. He was a radiologist and chief of the radiology department at Auburn Memorial Hospital in Auburn, New York for more than 30 years. Moran enlisted in the U.S. Army during World War II. He served as a Captain in the 76th Infantry Division, the Third Battalion, and the 417th Infantry Regiment, serving nine months in England, France, Belgium, Luxembourg, and Germany. He served during the Battle of the Bulge and was awarded the Bronze Star while in Luxembourg. He was honored by the Medical Society of the State of New York for 50 years of service.

Amos T. Pagter Jr., T'51 MD'55, of Tryon, North Carolina, died Feb. 2, 2015. He was 85. Pagter was born in Washington, District of Columbia, and received both a bachelor's and medical degrees at Duke University and performed an internship at Strong Memorial Hospital in Rochester, New York. He enlisted in the U.S. Navy and was stationed at May Navy Dispensary in Washington, D.C., where he attended to notable persons, one of whom was President John F. Kennedy. Pagter moved to Tryon where he had a successful practice of Internal Medicine for 53 years.

Ran L. Phillips, Jr., MD'58, of Monroe, Louisiana, died Sept. 24, 2014, at his residence at the age of 81. He was a U.S. Army veteran and attended The U.S. Air Force School of Aviation Medicine at Brooke Air Force Base, Texas; U.S. Army School of Aviation Medicine at Fort Rucker, Alabama; and the U.S. Army Infantry Center Airborne School; and U.S. Army Infantry Center Ranger School at Fort Benning, Georgia. Phillips served as a Regular Army Medical Officer for 12 years. He retired from the Army as a Brigadier General, then served as a U.S. Reserve Army medical officer for 32 years.

W. J. Kenneth Rockwell, MD'60, of Durham, died peacefully in his sleep with his children by his side on Nov. 24, 2014. He was 83. He attended Washington and Lee University in the Naval ROTC program and earned a bachelor's degree in French and sociology in 1952. He then served as a Lieutenant in the U.S. Navy for 2 years. After earning a medical degree from Duke he began a residency in psychiatry at the Cleveland Clinic, and completed it at St. Elizabeth's Hospital in Washington, D.C., in 1965. In 1968, he joined the Department of Psychiatry at Duke. While at Duke, he specialized in helping those with eating disorders and was instrumental in building the student mental health program—Counseling and Psychological Services (CAPS).

Edwin R. Ruskin T'45 MD'45, of Boca Raton, Florida, died Feb. 9, 2015 at the age of 92. At Duke, he was a prolific illustrator and cartoonist for the *Duke 'N' Duchess* and other campus magazines. While completing his medical internship at Bellevue Hospital in New York, Ruskin was one of the first doctors on the scene of the Empire State Building B-25 bomber crash in July 1945. He was a prolific writer, having penned "My Son, the Doctor," a teleplay that sold to ABC's Kraft Television Theatre, and aired Nov 18, 1954. He wrote and produced eight full-length original comedies with many close friends.

Hugh M. Shingleton, T'54, MD'57, of Decatur, Georgia, died Oct. 12, 2014 after a brief illness. He was 83. A native of eastern North Carolina, He spent 25 years as a professor of medicine at the University of Alabama at Birmingham, pioneering the treatment of gynecologic cancers. In 1994, he retired to Decatur, where he spent the remaining 20 years of his life.

Sheldon H. Steiner, MD'56, of San Diego, died Aug. 16th, 2014 at the age of 83. He was Board Certified in internal medicine and cardiology. While in Indianapolis, he worked as a clinical investigator at the Veteran's Affairs hospital and established an early computer program to code complex cardiac diagnosis. Working with Tele-med, he participated in the development of the EKG machine. In 1965, he moved to Chicago to accept two positions at Northwestern University School of Medicine—associate professor and director of the cardiac lab. He went on to establish a successful cardiology practice affiliated with St. Francis Hospital in Evanston, Illinois. In 1968, he opened their cardiac lab for coronary angiography, and in 1974, started the cardiac rehab program. Steiner was a Captain in the U.S. Air Force and helped develop the selection protocol for astronauts by studying the cardiopulmonary effect of acceleration during flight.

Harold Simon, T'52 M'55, of Palm Beach, Florida, and Chestnut Hill, Massachusetts, died at his home in Palm Beach on Jan. 8, 2015 at the age of 84. He was a pioneer in the field of radiology, purchasing the first remote-controlled equipment in Massachusetts—prototypes that began the massive evolution in this field. Having served as a U.S. Navy doctor in Newport, Rhode Island, Simon cared for Navy frogmen for two years. He trained at the Massachusetts General Hospital, was a graduate of Duke University School of Medicine, and received a fellowship in the American College of Radiology. He was chief of radiology at the Newton-Wellesley Hospital. Simon served as an assistant professor at Tufts Medical School where he taught for many years.

Donald H. Stewart, Jr., HS'61-'62, of Falls Church, Virginia, died Oct. 1, 2014 after a long struggle with Inclusion Body Myositis, a degenerative muscular disease. He was 79. He met **Anne Donnelly, N'63**, his wife of 52 years, at Duke University where he was an intern and she was a student in the School of Nursing. He was a resident at University Hospital, University of North Carolina at Chapel Hill and did neurosurgical training at the State University of New York Upstate Medical Center. He was a Major in the U.S. Air Force and served as chief of neurosurgery at Wright-Patterson Air Force Base, Dayton, Ohio. Stewart then started a private medical practice, Lourie, Stewart, and Shende, MDs, in Syracuse, New York.

Col. (Ret) Harvey Grant Taylor, Jr., MD'72, DC, of Charlotte, died Oct. 4, 2014, after a battle with heart failure. He was 69. He lived briefly in Japan after World War II. He graduated from St. John's School in Houston in 1963 and received an appointment to attend the United States Military Academy at West Point. During his time at West Point, Grant marched in President John F. Kennedy's funeral and President Lyndon B. Johnson's inauguration. He successfully completed U.S. Army Ranger School in Fort Benning, Georgia. He retired from the Army in 1987 and moved to Memphis, Tennessee to become the director of the Van Vleet Cancer Center at the University of Tennessee Health Science Center. In 1991, Grant moved to Lubbock, Texas and was a much-loved hematologist/oncologist for seven years

Allen Taylor, T'43 MD'47, HS'51-'53, of Greenville, North Carolina, died Dec. 27, 2014 at age 93. In 1954 Taylor begin his long and distinguished 40-year medical career. He founded Eastern Radiologists as the first board-certified radiologist to practice in eastern North Carolina. Taylor was a leader and visionary in the Greenville medical community and recognized its potential to become a regional hub. He was instrumental in rallying legislative support to have the East Carolina medical school established in Greenville in 1977. He served as the first chairman of the Department of Radiology at the East Carolina University School of Medicine, where he held the rank of clinical professor of radiology. He was honored with *emeritus* status upon his retirement from the ECU School of Medicine in 1994.

Charles E. Whitcher, HS'56, professor *emeritus* of anesthesia at Stanford University School of Medicine and a pioneer in developing technology for patient monitoring in the operating room, died of a stroke Oct. 13, 2014. He was 91. He worked as a clinician, educator and researcher, and was a key contributor to the development of anesthesia as a modern specialty of medicine. He often provided anesthesia for patients during the early days of heart transplantation at Stanford. In 1978, he received the first Anesthesia Residents' Teacher of the Year Award.

Hubert Oliver Williamson, MD, HS'62, of Mount Pleasant, South Carolina, died Nov. 3, 2014. He was 86. Williamson was an Eagle Scout. He served on active duty in the U.S. Navy and was discharged as a Coxswain. He received his medical degree from the Medical College of South Carolina (MUSC) in 1956. He trained in pathology and completed his residency at MUSC in obstetrics and gynecology in 1961. He served a fellowship in gynecologic endocrinology and infertility at Duke University in 1962. He served a fellowship in reproductive endocrinology in Stockholm at the Karolinska Institute 1969-1970. He was appointed to the faculty of the Department of Obstetrics and Gynecology at MUSC in 1962, where he rose to full professor and served as director of the Division of Reproductive Endocrinology and Infertility and the fellowship program from its inception until 1993. He was named the first H.L. and J.M. Maas Professor of Reproductive Endocrinology in 1991. He was awarded *Emeritus* status in 1993.

Tending the Roots

Mary Harward, MD'80, and Timothy Harward, T'75, MD'79, during a recent visit to Duke to witness their son defend his dissertation.

Mary and Tim Harward have Duke roots that are deep and wide. Both graduated from Duke University School of Medicine. Two sons also hold Duke degrees, the eldest a freshly minted PhD. Tim's father, Stephen C. Harward, served as treasurer of the University, and both of his parents are Duke alumni.

To keep this connection alive and well, the Harwards are members of the Davison Club. "Giving back helps us maintain our connection," says Mary. "To really feel a part of Duke today."

Duke University School of Medicine

The North Carolina natives now live and practice in Orange, California — Tim in vascular surgery and Mary in geriatrics. But when they come home to Duke, they know they belong. "Of course I'd still feel a part of Duke if I didn't give," says Mary, "but when I walk on the Duke campus, I never feel out of place."

Gifts to the Davison Club provide critical unrestricted support for medical education at Duke.

Davison Club Levels

$25,000	Chancellor's Circle
$10,000	Leadership Council
$5,000	Dean's Circle
$2,500	Davison Fellow
$1,500	Family Membership
$1,000	Davison Club Member
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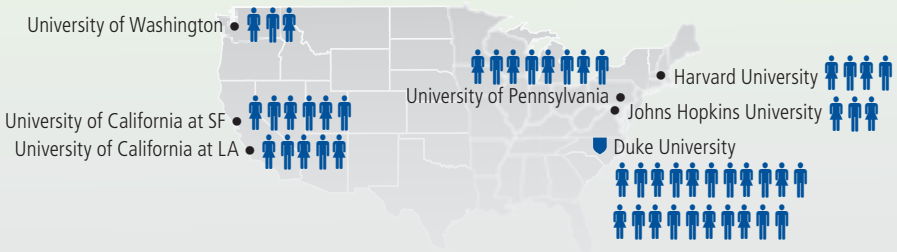
Match Day 2015

LES TODD

Fatu Bangura gets a hug after opening her envelopes that revealed where she is going.

Where they are going



National Champs!

Duke Beats Wisconsin for 5th Title

Led by Tyus Jones, Grayson Allen and Jahlil Okafor, Duke's team played like salty old pros down the stretch, outscoring Wisconsin by 14 points over the final 13 minutes in the season's final NCAA Division I game to gut out a 68-63 victory for Duke's fifth national title.