

# DukeMed AlumniNews



SUMMER 2017

## Exploring the Brain's Hidden Landscapes

Scott Soderling Discovers  
Surprising Complexities in  
Synaptic Connections

[ message from the dean ]

I HAVE BEGUN, LITTLE BY LITTLE, to pack up my office and prepare to move just down the road to the Nanaline Duke Research Building. While I will step down as dean of the school at the end of June, I will spend much of my upcoming sabbatical year continuing to work at a national level on issues important for academic medicine, science, and higher education.

It's amazing to think of all that we have achieved together since 2007, when I first arrived. Duke is a unique place. We are a young medical school, compared to most of our peers. We are a complex organization, sometimes difficult to maneuver. And yet, we are fertile ground for those who have bold visions and big dreams. Duke is a place where one can accomplish great things.

I've described some of our major milestones in previous letters, so I won't list them again. What I will do is express my sincere appreciation for your friendship and support, and for the tireless commitment to excellence from each one of you – members of the school's remarkable community of alumni, faculty, staff, students and friends.

I have been fortunate to have worked with amazing leaders by my side, sharing their ideas and helping to guide and navigate often challenging waters. Each day, I continue to be inspired by the people around me. I am grateful for this time we have had together and am very confident that Mary Klotman will do a wonderful job of shaping the next chapter in our history.

Thank you for a great ten years.

With warm wishes,



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



Dean Andrews, at the Hippocratic Oath Ceremony in May 2017.

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**Cover photograph**  
Duke researcher Scott Soderling with a projected image of neurons.  
Photograph by Les Todd

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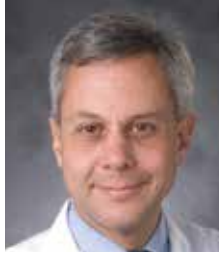
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Donald McDonnell



Robert Califf

## Baker to Lead Trent Center

**Jeffrey Baker, T'80, MD'84, G'91, HS'91, PhD'93**, was named chair of the Trent Center for Bioethics, Humanities, and History of Medicine in August 2016. Founded in 1999 as the Center for the Study of Medical Ethics and Humanities, the center brings together scholars and students for research, study, and service. In 2006, the center was named to honor **Josiah Charles Trent, T'34, MD**, a noted surgeon and medical historian. Baker is a professor of history and medicine who has served as director of the Trent Center's program in the History of Medicine since 2006.

## Barber Named Chair of OB-GYN

**Matthew D. Barber, MD, MHS, HS'94-'95, '02**, has been named chair of the Department of Obstetrics and Gynecology, effective May 1. Barber previously was professor of surgery at the Cleveland Clinic Lerner College of Medicine at Case Western Reserve University and vice chair for research in the Obstetrics, Gynecology, and Women's Health Institute at the Cleveland Clinic. He is a nationally recognized educator, researcher, and surgeon specializing in urogynecology and pelvic reconstructive surgery.

## Bagnat Selected as HHMI Scholar

Michael Bagnat, PhD, an associate professor of cell biology, has been named a Howard Hughes Medical Institute Scholar by the HHMI, the Simons Foundation, and the Bill and Melinda Gates Foundation. Bagnat, who studies how forces within cells can help determine the shape and size of organs, is one of 84 early-career scientists selected in 2016.

## Three Faculty Members Named AAAS Fellows

Three faculty members have been named fellows of the American Association for the Advancement of Science. They are: Jane Pendergast, PhD, a professor of biostatistics and bioinformatics, for advancing biostatistics within public health; John Rawls, PhD, an associate professor of molecular genetics and microbiology, for his contributions to the field of symbiosis; and Joe Brice Weinberg, MD, a professor of medicine and immunology and associate professor in obstetrics and gynecology, for contributions to the field of immunology and hematology/oncology.

## Martinez Receives ASM Watkins Research Fellowship

David Martinez, a fellow in the Department of Molecular Genetics and Microbiology, has been selected as a 2016-2019 award recipient of the ASM Robert D. Watkins Graduate Research Fellowship. The fellowship seeks to increase the number of graduate students from underrepresented groups completing doctoral degrees in the microbiological sciences. Martinez works with Sallie Permar, PhD, in a project to identify key determinants of IgG transplacental transfer from HIV-infected mothers to their fetus.

## Three Leaders Honored by National Academy of Medicine

Three Duke medical faculty members have received one of the highest honors for health care professionals and

biomedical scientists—membership in the National Academy of Medicine. **Allan Kirk, MD'87, PhD'92, HS'95**, the David C. Sabiston Professor and chair of the Department of Surgery; Donald McDonnell, PhD, the Glaxo Wellcome Professor of Molecular Cancer Biology and chair of the Department of Pharmacology and Cancer Biology; and **Robert Califf, T'73, MD'78, HS'78, 80-'93**, the Donald Fortin, MD, Professor of Cardiology and former commissioner of the U.S. Food and Drug Administration.

## David Listed as One of 10 New Scientists to Watch

Lawrence David, PhD, an assistant professor of molecular genetics and microbiology, has been named one of "10 Scientists to Watch" by *Science News* because of his extensive research of the microbiome. His lab works to understand, predict, and manipulate how human microbiota behave over time.

## Varghese Will Join Duke As First MEDx Investigator

Shyni Varghese, PhD, will join Duke this summer with a triple appointment in the departments of biomedical engineering, mechanical engineering and materials science, and orthopaedic surgery. She will be the first investigator with MEDx, a new initiative of the Pratt School of Engineering and the School of Medicine. MEDx seeks to enhance and form new collaborations between doctors and engineers. Varghese is a

David Martinez



Lawrence David



Shyni Varghese





Moira Rynn



Kathryn Andolsek



Blake Wilson



Kafui Dzirasa

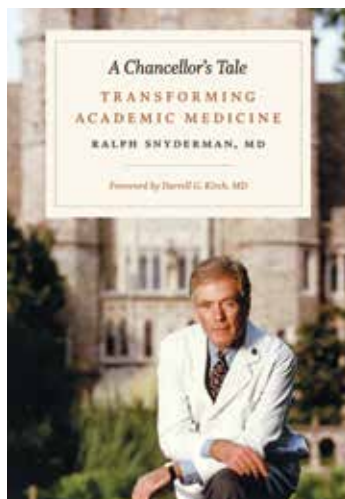
leader in the field of biomaterials and stem cells and will continue her work at Duke in three major areas—musculoskeletal tissue repair, disease biophysics, and organ-on-a-chip technology. Currently, Varghese is an associate professor of bioengineering at the University of California San Diego.

## Rynn Named Chair of Psychiatry and Behavioral Sciences

Moira Rynn, MD, has been named chair of the Department of Psychiatry and Behavioral Sciences, effective July 1. Rynn is a professor of psychiatry at Columbia University College of Physicians and Surgeons and at the New York State Psychiatric Institute. She also serves as director of the Child and Adolescent Psychiatry Division in the Department of Psychiatry and as medical director of the Columbia University Center for Anxiety and Related Disorders and director of the Children's Research Day Unit in the New York State Psychiatric Institute.

## Snyderman Publishes Memoir of His Years as Chancellor

Chancellor emeritus **Ralph Snyderman, MD, HS'65-'67**, has published a memoir, *A Chancellor's Tale: Transforming Academic Medicine*, on his 15-year role in creating new paradigms for academic medicine while guiding Duke University Medical Center through periods of challenge and transformation. Under his leadership, the medical center became internationally known for its innovations in medicine, including the creation of Duke University Health System, which became a model for integrated health care delivery, and the development of personalized health care based on a rational and compassionate model of



care. Published by Duke University Press, the book is available from Amazon, Apple, Barnes & Noble, and other major booksellers.

## Andolsek Elected Chair of AAMC Group on Resident Affairs

**Kathryn Andolsek, MD, MPH, HS'76-'79**, professor of community and family medicine, was elected chair of the Association of American Medical Colleges Group on Resident Affairs (GRA) at the annual meeting in November. The GRA promotes exemplary leadership for high-quality graduate medical education and is the authoritative source on GME principles and practices nationally. Andolsek's term will last one year, during which she leads a national steering committee.

## Five Faculty Members Elected to ASCI

Five faculty members have been elected to the American Society for Clinical Investigation (ASCI) Class of 2017. Membership recognizes excellence and outstanding achievement for physician-scientists representing

a diverse range of disciplines and specialties. They are: Nicole Calakos, MD, PhD, associate professor of neurology; **Manesh Patel, MD, HS'97-'01, '02-'06**, associate professor of medicine; **John Sampson, MD, HS'91-'95, '97-'98, PhD'96, G'07, G'11**, professor and chair, Department of Neurosurgery; Stefanie Sarantopoulos, MD, PhD, associate professor of medicine; and Dorothy Sipkins, MD, PhD, associate professor of medicine.

## Wilson Elected to National Academy of Engineering

Cochlear implant developer **Blake Wilson, E'74, PhD'15**, an adjunct professor of biomedical engineering, electrical and computer engineering, and surgery and co-director of the Duke Hearing Center, was elected to the National Academy of Engineering in February. He was cited for engineering the development of the cochlear implant that bestows hearing to individuals with profound deafness, for which he and colleagues received the 2015 NAE Fritz J. and Dolores H. Russ Prize, considered the top prize in the world for bioengineering.

## Dzirasa Featured in Latest "Black Men, White Coats" Video

**Kafui Dzirasa, PhD'07, MD'09**, an assistant professor in the departments of psychiatry and behavioral sciences and neurobiology and a member of the Duke Institute for Brain Sciences, is featured in a new video that is part of the "Black Men in White Coats" video series. The series is the result of a collabora-

*continued on page 6*





SCOTT SOBERLING

## 04.22.2017 March for Science WASHINGTON, D.C.

More than 75 faculty, staff, and students from Duke University took a bus to join the March for Science in April. There were enough people interested on campus that a second bus was added to accommodate marchers from the College of Arts & Sciences. Vice Dean for Basic Science Raphael Valdivia, PhD, said it was clear the marchers were not used to demonstrating. He said the chants were "awkward and a little funny, but the group felt invigorated by the high level of support and diversity of people who came to the march. Many felt it was very important to deliver the message that fact-based decision making and support for the sciences is critical for the proper functioning of our society."









Raphael Valdivia Alejandro Aballay Joseph Rogers

*continued from page 3*

tion between the School of Medicine and DiverseMedicine Inc. Two other videos, featuring **Kevin Thomas, MD, HS'99-'03, '04-'07**, associate professor of medicine, and **Kwadwo Owusu-Akyaw, T'10, MD'14**, an orthopaedic surgery resident, were released last summer. The aim of the series is to inspire more underrepresented minority students to consider the field of medicine. Although the number of black men graduating from college continues to increase, the number of black men applying to medical school has dropped during the last four decades. Today just under 4 percent of practicing physicians in the U.S. are black, according to a study published in *JAMA Internal Medicine* in 2015. The videos are available on Facebook.

## Two Faculty Members Elected to American Academy of Microbiology

Two Duke professors of molecular genetics and microbiology—Raphael Valdivia, PhD, vice dean for basic science; and Alejandro Aballay, PhD, director of the Center for Host-Microbial Interactions—were among 73 scientists elected fellows in the American Academy of Microbiology in March. Election recognizes a member's scientific achievements and original contributions that have advanced microbiology.

## Three Medical Students Named NC Schweitzer Fellows

Three Duke medical students were among 23 graduate students from across the state selected for the 2017-2018 class of North Carolina Albert

Schweitzer Fellows. They will spend the next year developing leadership skills and learning to effectively address the social factors that impact health. The students are Cierra Hong and Kristin Rhodin, for work in the Duke Cancer Institute to provide support to surgical cancer patients from low socio-economic backgrounds to help them achieve a complication-free recovery; and Aarti Thakkar, for work with the Duke Outpatient Clinic and Lincoln Community Health Center to expand the Duke Hotspotting Initiative, part of a national effort to identify the highest utilizers of healthcare and intervene using a targeted, multidisciplinary care management team.

## Duke Medical Students Awarded HHMI Medical Research Fellowships

The Howard Hughes Medical Institute has awarded fellowships to two Duke medical students and a renewal to a third. Starting this summer, each fellow will spend a year pursuing basic, translational, or applied biomedical research at one of 32 academic or nonprofit research institutions across the U.S. Each student receives \$43,000 in grant support and is eligible to apply for a second year. The students are Kelly Buchanan and Justin Zhou as well as Gabriel Neves, who received the renewal.

### more information

To read more about these and other news stories go to: [corporate.dukehealth.org/newsmedia](http://corporate.dukehealth.org/newsmedia).

## Rogers Named Interim Chair of Department of Medicine

Joseph Rogers, MD, will serve as interim chair of the Department of Medicine beginning July 1. Rogers will succeed **Mary Klotman, T'76, MD'80, HS'80-'85**, who will leave her role as chair on July 1 to serve as dean of the School of Medicine. (See story on page 8.) Rogers is a professor in the Department of Medicine, Division of Cardiology. He is a physician-scientist specializing in clinical cardiac transplantation and caring for patients with heart failure. He is currently serving as senior vice chair of the Department of Medicine and associate chief medical officer of the Private Diagnostic Clinic, where he is helping lead the PDC clinical growth over the next five years.

## Seven Receive New Strong Start Awards Funded by The Duke Endowment

Seven School of Medicine faculty members have been selected to receive inaugural Physician-Scientist Strong Start Awards. The awards were created by the School of Medicine with a gift from The Duke Endowment to support promising new physician-scientists as they develop an independent research program. Each recipient will receive \$70,000 over one year. All assistant professors, they are: **Mehreen Arshad**,





Damon Tweedy

**MBBS, HS'08-'15**, Department of Pediatrics; **Phuong Doan, MD, HS'10**, **Katherine Garman, MD'02, HA'02-06, '09, G'12**, **Christopher Holley, T'95, PhD'03, MD'04**, and **Ravi Karra, MD, HS'12**, all from the Department of Medicine; **Amanda MacLeod, MD**, Department of Dermatology; and **Jonathah Riboh, MD, HS'09-'14**, Department of Orthopaedic Surgery.

## Tweedy Receives Soloman Carter Fuller Award

**Damon Tweedy, MD'00, HS'07**, an assistant professor in the Department of Psychiatry and Behavioral Sciences, has received the Soloman Carter Fuller Award for his pioneering work in addressing disparities in the medical profession. Tweedy is the *New York Times* bestselling author of the book *Black Man in a White Coat: A Doctor's Reflections on Race and Medicine*. In addition to his Duke degrees, he holds a degree from Yale Law School. The Soloman Carter Fuller Award from the American Psychiatric Association is presented each year to a black citizen who is a pioneer in an area that has significantly improved the quality of life for black people.

## Liver Transplant Program Shows Nation's Best Results

Duke University Hospital has the nation's best outcomes for adult liver transplants from deceased donors, according to data from 2016. Duke's transplant center was the first in North Carolina to provide liver transplants and today is among the nation's most efficient centers. It moves patients from the waiting list to transplant more than 2.5 times faster than the national average. Survival rates at Duke are also among the nation's best. Duke has been a pioneer in solid organ transplantation since establishing one of the nation's first kidney transplant programs in 1965. It now provides heart, lung, and small bowel transplants in addition to liver and kidney. Last year, it became one of a few institutions nationally to offer hand transplantation.

## Duke Health Professions Education Programs Rise in Rankings

The School of Nursing rose to No. 1 among graduate schools of nursing in the 2017 *U.S. News & World Report* rankings, and the School of Medicine rose one spot to No. 7. Nursing's Doctor of Nursing Practice was also named No. 1 nationally, and several specialty programs were in the top 10, including Nurse Practitioner-Pediatric and Primary Care at 2nd; Informatics and Doctor of Nursing Practice Anesthesia at 3rd; Nurse Practitioner-Family, tied for 4th; and Nurse Practitioner-Adult Gerontology, Acute Care at 5th. Several specialties in the School of Medicine were also ranked, including Internal Medicine at 5th; Geriatrics, tied for 5th; and Family Medicine at 9th. The Duke Physician Assistant

Program continued at No. 1, and the Doctor of Physical Therapy Program rose to 10th.

## U.S. News & World Report National Rankings

7

Duke University School of Medicine

1

Duke Physician Assistant Program

10

Doctor of Physical Therapy Program

1

Duke University School of Nursing, Graduate School

1

Duke University School of Nursing, Doctor of Nursing Practice

## Schools of Medicine and Nursing Rank High in NIH Research Funding

The School of Medicine ranked 8th nationally in funding from the National Institutes of Health in 2016, up from 13th in 2015. The

school received a total of \$337.7 million in funding. The School of Nursing ranked 4th among nursing schools with a total of \$6.5 million.

## Duke Children's Named One of Five National Leaders in Children's Surgery

In November 2016, Duke Children's Hospital became one of only five Level-1 children's surgical centers in the nation as certified by the American College of Surgeons. The certification recognizes Duke as capable of



providing the most complex care and services for children and their families. It follows more than a decade of reorganization and restructuring. The two-year certification process was led by Jeffrey Marcus, MD, the Paul H. Sherman, MD, Associate Professor of Surgery, chief of the Division of Plastic, Maxillofacial, and Oral Surgery, and chief of the Duke Center for Children's Surgery and **Alexander Allori, MD, HS'10-'13**, medical director of quality and safety at Duke Children's.



CHRIS HILDRETH

Vincent Price

## Vincent Price Elected 10th Duke University President

Vincent Price, PhD, provost of the University of Pennsylvania since 2009, has been elected Duke University's 10th president, David Rubenstein, chair of the university's Board of Trustees, announced in December.

In addition to being the chief academic officer at Penn, Price is the Steven H. Chaffee Professor of Communication in the Annenberg School of Communication and professor of political science in the School of Arts and Sciences.

Price will succeed Richard H. Brodhead, PhD, on July 1.

Price called Duke "a very special place where innovation is fueled by creativity and continually informed by rigorous and groundbreaking scholarship. Most important, it's a place deeply dedicated to improving our world through research, service, and education."

As the chief academic officer at Penn, Price oversees the university's 12 schools and colleges, centers and institutes, student affairs, athletics, and the arts. He has advanced initiatives to diversify the faculty, develop new forms of teaching and learning, enhance arts and culture on campus, and facilitate interdisciplinary research and teaching.

He led Penn's role as one of the first partners in Coursera, the online open learning platform, and served as founding chair of Coursera's University Advisory Board. He also serves as trustee of the Wistar Institute, a nonprofit biomedical research institute dedicated

to saving lives through science, and on the executive planning group for University of Pennsylvania Health System. Price has been the catalyst for Penn's global strategy, hiring the university's first vice provost for global initiatives and spearheading the creation of the Penn Wharton China Center in Beijing, which opened in 2015.

He is married to Annette Price, and they have two children, Sarah and Alexander.

## Klotman to Lead School of Medicine

**Mary Klotman, T'76, MD'80, HS'80-'85**, a nationally renowned physician-scientist and academic leader who has served as chair of the Department of Medicine for almost seven years, has been named dean of Duke University School of Medicine and vice chancellor for health affairs at Duke University. She will assume these roles July 1.

Klotman's appointment follows a six-month national search that was launched when Dean Nancy Andrews, MD, PhD, announced she planned to step down as dean. (See story on page 23.) Andrews was the first female dean



JARED LAZARUS



of a nationally acclaimed medical school, and leaves after a decade in the post on June 30.

Klotman has been a national leader in science and academic medicine through her roles in the Alliance for Academic Internal Medicine, where she is president of the Association of Professors of Medicine, and on the Council for the Association of American Physicians. She is also a member of the National Academy of Medicine.

## New Research Building Tops Out

In January, Chancellor Eugene Washington, MD, MSc, and Dean Nancy Andrews, MD, PhD, hosted a signing ceremony for the final beam of a new Medical Sciences Research Building (MSRB III). Construction of the \$103 million, 155,000-square-foot building began last summer and is anticipated to conclude in fall of 2018. Located on Research Drive, the building will exclusively house bench lab research. With six floors above ground and one below, it will significantly relieve the current shortage of research space in Duke University School of Medicine and foster collaboration and synergy among basic science researchers. MSRB III joins the 190,000-square-foot MSRB I, which opened in 1994, and the 165,000-square-foot MSRB II, which opened in 2006. The school also leases research space in downtown Durham's Innovation District, including the Carmichael Building on Duke Street and the Chesterfield, now being renovated on West Main Street.



KEN HUTH

William Kaelin spoke to students at the City of Medicine Academy while he was in Durham.

## Duke Hosts Precision Medicine World Conference in May

Duke Health and Duke University co-hosted the first-ever North Carolina meeting of the Precision Medicine World Conference in May. Hundreds attended from across the spectrum of health care, representing a variety of companies, technologies, researchers, and medical centers with leadership roles



in precision medicine. The theme of the conference, held annually since 2009 in California's Silicon Valley, is "Translating the Power of Precision Medicine Technologies into Better Health Care." Among the many conference topics were how data science can advance precision medicine, the importance of patient engagement, the impact of technology to drive genomics and medical practice, updates on data and regulatory policies, metabolomics in precision medicine, the emergence of single cell genomics, monitoring infectious diseases, and mobile health and how it is changing medicine. Speakers included Governor Roy Cooper; Francis Collins, MD, PhD, director of the National Institutes of Health; and co-hosts Geoffrey Ginsburg, MD, PhD, director of the Duke Center for Applied Genomics and Precision Medicine, and Chancellor emeritus **Ralph Snyderman, MD, HS'65-'67.**

Scott Gibson, executive vice dean for administration; Chancellor A. Eugene Washington; Dean Nancy Andrews; and Raphael Valdivia, PhD, vice dean for basic science, sign the last steel girder during a "topping out" event for the new Medical Sciences Research Building.

## Kaelin Gives Lasker Lecture at School of Medicine

**William Kaelin Jr., T'79, MD'83**, the 2016 recipient of the Albert Lasker Basic Medical Research Award, spoke in April at the Trent Semans Center for Health Education. A professor in the Department of Medicine at the Dana-Farber Cancer Institute and Harvard Medical School, Kaelin spoke on "The VHL Tumor Suppressor Protein: Insights into Oxygen Sensing, Cancer Metabolism, and Drugging the Undruggable." The research seeks to understand why tumor suppressing genes can lead to cancer. His study of VHL offered important information about the body's response to changes in oxygen levels. He also pushed students and faculty in attendance to stay focused on serving the greater good over the course of their careers. He is the second Lasker Award winner in four years with Duke ties. **Blake S. Wilson, E'74, 'PhD15**, known for his role in developing signal processing strategies for the cochlear implant, won in 2013. (See story on page 37.)

## New Insight into DNA Damage that Leads to Aging and Cancer

Duke Cancer Institute scientists have described a previously unknown series of steps that cells undergo when stressed, adding crucial information to the understanding of DNA damage that is at the heart of research into aging and cancer.

The finding is reported online in the journal *Cancer Discovery*.

“We found a whole new pathway that helps cells deal with DNA damage when they are exposed to radiation, chemicals, and perhaps oxidative stress,” said senior author Michael Kastan, MD, PhD, executive director of Duke Cancer Institute. “This insight helps explain how, after DNA damage, cells are programmed to live, die, mutate, or go into a state of senescence, in which they stop dividing.”

The findings from Kastan and colleagues arose from studies of the p53 gene, which is involved in the regulation of cell cycles and programmed cell death. When functioning properly, p53 works to stop the formation of tumors, and it is the most commonly mutated gene in human cancers. Kastan’s lab discovered its critical role in modulating cellular responses to DNA damage more than 25 years ago.

## Flame Retardants Implicated in Thyroid Cancer

Higher exposure to chemicals used to reduce the flammability of furniture, carpets, electronics, and other household items appears, to be associated with papillary thyroid cancer, according to a study conducted by Duke Cancer Institute and the Nicholas School of the Environment.

Reporting April 1 at the ENDO 2017 meeting in Orlando, the Duke research



JARED LAZARUS

Doctors and scientists are studying whether exposure to common chemicals contribute to thyroid cancer risk. Nicholas School of the Environment PhD student Stephanie Hammel and lab manager Amelia Lorenzo take dust samples from a home.

team found a significant association between higher levels of certain flame retardants in household dust and being a patient with papillary thyroid cancer, which is increasing at the fastest rate of any cancer in the United States.

“The incidence of papillary thyroid cancer has risen an average of 7 percent a year in the United States for the last two decades,” said co-senior author Julie Ann Sosa, MD, chief of endocrine surgery at Duke Cancer Institute. “At the same time, exposure to flame retardant chemicals has also increased.

“These chemicals are known as endocrine disruptors, and specifically they affect thyroid function,” Sosa said. “We know that some flame retardants share a similar chemical structure with thyroid hormones, and there has been quite a bit of interest around their impact on thyroid regulation and clinically significant thyroid disease. Our study was designed to explore whether there is an association between these chemicals and having thyroid cancer.”

Sosa and co-senior author Heather M. Stapleton, PhD, associate professor of environmental chemistry and exposure science at the Nicholas School of the Environment, led an interdisciplinary team that studied 140 patients with and without papillary thyroid cancer. The patients had lived in their homes for an average of 11 years, providing a population with long-term exposures in the home that could be characterized by analyzing home dust samples.

## BPA Helps Inflammatory Breast Cancer Survive and Grow

The chemical bisphenol A, or BPA, appears to aid the survival of inflammatory breast cancer cells, revealing a potential mechanism for how the disease grows, according to a study led by researchers in the Duke Department of Surgery and Duke Cancer Institute.

Inflammatory breast cancer (IBC) is the most lethal and fastest-growing form of breast cancer and quickly develops resistance to treatments.

Reporting in the March issue of the journal *Carcinogenesis*, senior author Gayathri Devi, PhD, associate professor of surgery at Duke, and co-investigators found that bisphenol A increased the cell signaling pathway known as mitogen-activated protein kinases, or MAPK, in inflammatory breast cancer cells.

“The study is the first to show that BPA increased signaling through receptors that communicate with the MAPK pathway and that the presence of BPA may lead to resistance to cancer drugs targeting this pathway,” Devi said. “In our cell models, more signaling led to increased growth of the cancer cells.”



## Transgender Students More Vulnerable to Alcohol's Effects

A survey of more than 422,000 college freshmen found that students who identified as transgender were more likely than their cisgender peers to experience negative consequences from drinking, including memory blackouts, academic problems, and conflicts such as arguments or physical fights.

The 989 students who identified as transgender were also more likely than their cisgender peers to cite stress reduction, relationship troubles, or the sedating effects of alcohol as motivation for drinking, according to an analysis of the survey published in March in the journal *Alcoholism: Clinical & Experimental Research*.

The results suggest transgender college students may be particularly vulnerable to alcohol abuse, which can negatively affect their academic standing and their physical health, said Scott Swartzwelder, PhD, senior author of the analysis and professor in the Department of Psychiatry and Behavioral Sciences at Duke.

"For people who work with this age group, it's important to understand that these students are drinking at levels that are quite dangerous," Swartzwelder said. "A blackout is a serious neurological event that occurs when you drink enough to impair the parts of your brain that encode new memory. The last thing you want to do as a college student is disrupt your memory."

## Closing Heart Wall Pouch Results in Fewer Strokes for A-Fib Patients

People with atrial fibrillation are prone to blood clots that form in the heart and travel to the brain, causing a stroke.

In about 90 percent of these thromboembolic strokes, clots originate in a small pouch on the heart wall called the left atrial appendage. Surgeons and cardiologists sometimes remove or close the appendage to eliminate this source of blood clots.

Although closure of the left atrial appendage has been shown to be safe, the procedure remains controversial, and evidence of its effectiveness has been inconclusive.

Now a team led by Duke Clinical Research Institute scientists has found that surgically sealing the pouch at the time of other cardiovascular surgeries is associated with fewer strokes from blood clots in older patients with atrial fibrillation.

"While our study was not a randomized trial, it does demonstrate strong support for the benefits of closing the left atrial appendage at the time of cardiac surgery in patients with atrial fibrillation," said Daniel J. Friedman, MD, a cardiology

research fellow at the Duke Clinical Research Institute and lead author of a study presented at the American College of Cardiology 66th Annual Scientific Session meeting.

## Novel Gene Mechanism May Increase Risk of Developing MS

A person carrying variants of two particular genes could be almost three times more likely to develop multiple sclerosis, according to the latest findings from scientists at Duke and The University of Texas Medical Branch at Galveston.

The finding, published online in March in the journal *Cell*, could open the way to the development of more accurate tests to identify those at greatest risk of MS and possibly other autoimmune disorders, the researchers said.

A disease in which the body's own immune system attacks nerve cells in the spinal cord and brain, MS is a major cause of neurological disease in younger adults between the ages of 20 and 50. It disproportionately affects women. While treatable, there is no cure for MS, which can lead to problems with vision, muscle control, balance, and basic body functions, among other symptoms, and can lead to disability.

Available treatments have adverse side effects.

"Our study identifies an interaction with a known MS risk gene to unlock a new MS candidate gene, and in doing so, opens up a novel mechanism that is associated with the risk of multiple sclerosis and other autoimmune diseases," said co-lead author Simon Gregory, PhD, director of genomics and epigenetics at the Duke Molecular Physiology Institute.



## Runny Nose Could Hold Key to Confirming Viral vs. Bacterial Infections

It may seem obvious, but the key to confirming whether someone is suffering from a cold or flu virus might lie at the misery's source—the inflamed passages of the nose and throat.

Duke scientists have identified a



group of proteins that, when detected in specific quantities in the mucous, are 86 percent accurate in confirming the infection is from a cold or flu virus, according to a small, proof-of-concept trial published online in the journal *EBioMedicine*.

The researchers hope their initial work identifying the protein signature could aid the development of a quick, noninvasive doctor's office test to determine the cause of upper respiratory illness and appropriate treatment.

"Every day, people are taking time off from work, going to emergency rooms, urgent care, or their primary

care doctors with symptoms of an upper respiratory infection," said Geoffrey S. Ginsburg, MD, a senior author of the paper and director of the Duke Center for Applied Genomics & Precision Medicine, which led the study. "Looking for these proteins could be a relatively easy and inexpensive way of learning if a person has a viral infection, and if not, whether the use of antibiotics is appropriate."

## Study Shows How Prostate Cancer Cells Hoard Cholesterol, Fueling Growth

Advanced prostate cancer and high blood cholesterol have long been known to be connected, but it has been a chicken-or-egg problem.

Now a team led by researchers at Duke Cancer Institute has identified a cellular process that cancer cells hijack to hoard cholesterol and fuel their growth. Identifying this process could inform the development of better ways to control cholesterol accumulation in tumors, potentially leading to improved survival for prostate cancer patients.

The findings were published online in February in the journal *Cancer Research*.

"Prostate cancer cells, as well as some other solid tumors, have been shown to contain higher cholesterol levels than normal cells," said senior author Donald McDonnell, PhD, chairman of the Department of Pharmacology and Cancer Biology at Duke. "All cells need cholesterol to grow, and too much of it can stimulate uncontrolled growth."

"Prostate cancer cells somehow bypass the cellular control switch that regulates the levels of cholesterol, allowing them to accumulate this fat," McDonnell said. "This process has not been well understood. In this study, we show how prostate cancer cells accomplish this."

## Gene Therapy May Lead to Better Treatment for Pompe Disease

After decades investigating a rare, life-threatening condition that cripples the muscles, Duke researchers have developed a gene therapy they hope could enhance or even replace the only FDA-approved treatment currently available to patients.

The gene therapy, demonstrated in mice, is described in a new study published online in the journal *Molecular Therapy—Methods & Clinical Development*. The therapy uses a modified virus to deliver a gene to the liver, where it produces glucosidase alpha acid (GAA), an enzyme missing in people with Pompe disease.

Study authors have received approval from the FDA to launch a Phase 1 clinical trial in humans and are currently working to secure funding.

Pompe disease is an inherited condition that affects approximately one in 20,000 babies and also can appear in adulthood. People with the condition lack the enzyme GAA, which means their bodies can't metabolize the sugar glycogen. As a result, glycogen builds up in the muscles. In babies, this leads to improper muscle development and, if undiagnosed and untreated, can lead to respiratory problems, heart failure, and death.

### more information

To read more about these and other news stories go to: [corporate.dukehealth.org/newsmedia](http://corporate.dukehealth.org/newsmedia).



## Even Before Conception, Second-Hand Smoke Appears to Impair Fetal Brain Development

Exposure to second-hand tobacco smoke—even before conception—appears to have a lingering impact that can later impair the brain development of a fetus, researchers at Duke report.

Using rats in experiments carefully designed to mimic the second-hand smoke exposures that humans encounter, the researchers found that the chemical components of tobacco smoke affect fetal brain development throughout pregnancy.

The smoke exposure damages regions of the brain involved in learning, memory, and emotional responses. Although the impact was most severe with exposures

occurring in late gestation, adverse effects on the fetuses' neuro-development occurred even when the mothers were only exposed prior to conception.

"This finding has important implications for public health, because it reinforces the need to avoid secondhand smoke exposure not only during pregnancy but also in the period prior to conception, or generally for women of childbearing age," said Theodore Slotkin, PhD, professor in Duke's Department of Pharmacology and Cancer Biology.

Slotkin and colleagues, publishing in the January issue of the journal *Toxicological Sciences*, simulated secondhand smoke exposure by capturing and extracting the chemical compounds of tobacco smoke and administering the solution through implanted pumps in the laboratory animals.



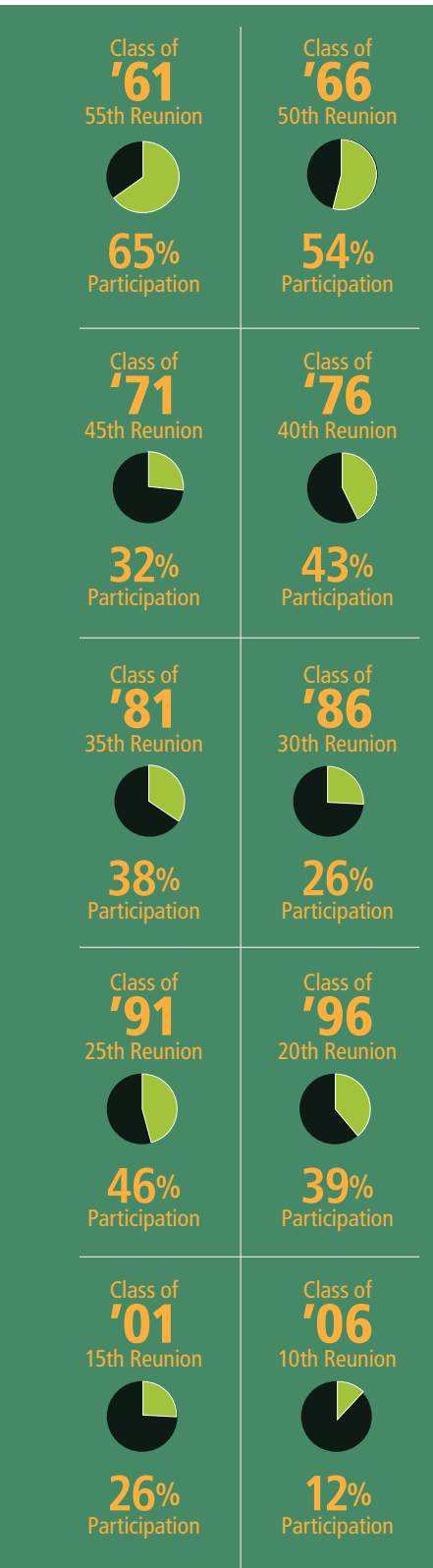
## A Cure for Poison Ivy Itch?

Scientists at Duke and Zhejiang Chinese Medical University have developed a strategy to stop the uncontrollable itch caused by urushiol, the oily sap common to poison ivy, poison sumac, poison oak, and even mango trees.

The team found that by using an antibody to block an immune system protein in the skin, they could halt the processes that tell the brain the skin is itchy. The research was done in mice and was described in November in the *Proceedings of the National Academy of Sciences*. The researchers hope their model could lead to potential treatments for people who are allergic to poison ivy—an estimated 80 percent of the population.

For most people, contact with poisonous plants is painful but not life-threatening. Still, there are significant health care costs associated, with more than 10 million people in the U.S. affected each year, said senior author Sven-Eric Jordt, PhD, associate professor of anesthesiology at Duke.

## Alumni Giving Reaches New Heights



Total Duke Medicine Reunion Giving 2016 totaled more than \$3 million (60 percent more than these classes gave in their last reunion).

Overall alumni reunion giving participation grew from 33 percent to 38 percent since their last reunion in 2011.

Our reuniting classes showed great spirit through their participation in the reunion giving program, especially the Half Century Society members (55th and 50th reunion classes), who exceeded 50 percent participation—outstanding by any measure! Also impressive were the 40th and 25th reunion classes, with participation rates above 40 percent.

### REUNION FUN FACTS:

Nearly **500** attendees

Oldest alumni class in attendance

**1953**

Youngest alumni class in attendance

**2016**

**36**

Alumni traveled from states and the District of Columbia

Nearly **220** attended the Alumni and Davison Club Welcome reception

## Blue Devil Docs

### Alumni Association Launches New E-Newsletter

In March, the Duke Medical Alumni Association launched Blue Devil Docs, a new quarterly e-newsletter, featuring news, resources, and more. With fresh alumni spotlights and new multimedia features, each edition of Blue Devil Docs serves as a digital counterpart to *DukeMed Alumni News* and is full of content easily accessible on your mobile devices.

Would you like inbox updates about current events at the school and the incredible research discoveries of Duke University School of Medicine graduates around the globe?

Send your request to join our mailing list to [dukemed@duke.edu](mailto:dukemed@duke.edu)

Find archives of previous e-newsletters online at: [medschool.duke.edu/about-us/alumni/news-awards/blue-devil-docs](http://medschool.duke.edu/about-us/alumni/news-awards/blue-devil-docs)





## New Gift From Dudley Rauch Provides Full-Ride Scholarships

**Dudley Rauch, T'63**, made a \$707,436 gift to support full-ride scholarships for two students entering the School of Medicine in 2017 and 2018. The Rauch Family Foundation Merit Scholarship is awarded each year to an incoming first-year student with outstanding promise of a significant career in medicine. The scholarship covers the full cost of attendance for four years, including tuition, fees, transportation,



Dudley Rauch

and allowance for living and miscellaneous expenses. In 2013, Rauch established this merit scholarship, the first all-inclusive scholarship in the School of Medicine, in honor of his 50th Duke reunion. Since its establishment, Rauch has given more than \$2 million for scholarships. The fund currently supports four Rauch Scholars.

"My intent with this scholarship is to allow the recipient the freedom to follow his or her passion in a career in medicine. This is my way of giving back to the next generation," says Rauch.

## Innovative Gift Supports Medicine-Engineering Collaboration

A \$3 million gift from Duke Engineering alumnus **Alan L. Kaganov, E'60, MBA, MS, ScD**, and his wife, Carol, aims to advance the diagnosis, treatment, and outcomes of pulmonary diseases by fostering collaborations across engineering and medicine at Duke. Two million dollars of the gift will create the Kaganov Research Initiative in Pulmonary Medicine and Engineering to fund research aimed at ultimately curing lung diseases such as pulmonary fibrosis. A \$1 million endowment will support the Alan L. and Carol M. Kaganov BioDesign Fellowship to foster collaborations between Pratt School of Engineering undergraduates and School of Medicine clinicians who will partner on real-world design projects that primarily target respiratory function disease and treatment.

## D'Arcy Named First Bar-Spach Medicine and Engineering Scholar

Second-year medical student Joshua D'Arcy has been selected as the inaugural recipient of the new Barr-Spach Medicine and Engineering Scholarship. Created by a gift from **Maynard Ramsey III, MD'69, PhD'75**, the endowment honors Ramsey's Duke mentors, **Roger C.**



Joshua D'Arcy

**Barr, T'64, PhD'68**, professor of biomedical engineering and associate professor of pediatrics, and **Madison Spach, T'50, MD'54, HS'54-'59**, a James B. Duke Professor emeritus and professor emeritus in pediatrics. The scholarship will support D'Arcy as he completes a master of engineering degree at the Pratt School of Engineering. It is designed to create a pipeline of newly minted MDs with engineering expertise. It also seeks to foster innovation in health care and help doctors think more deeply about developing novel solutions that help patients, solve problems, and serve society.

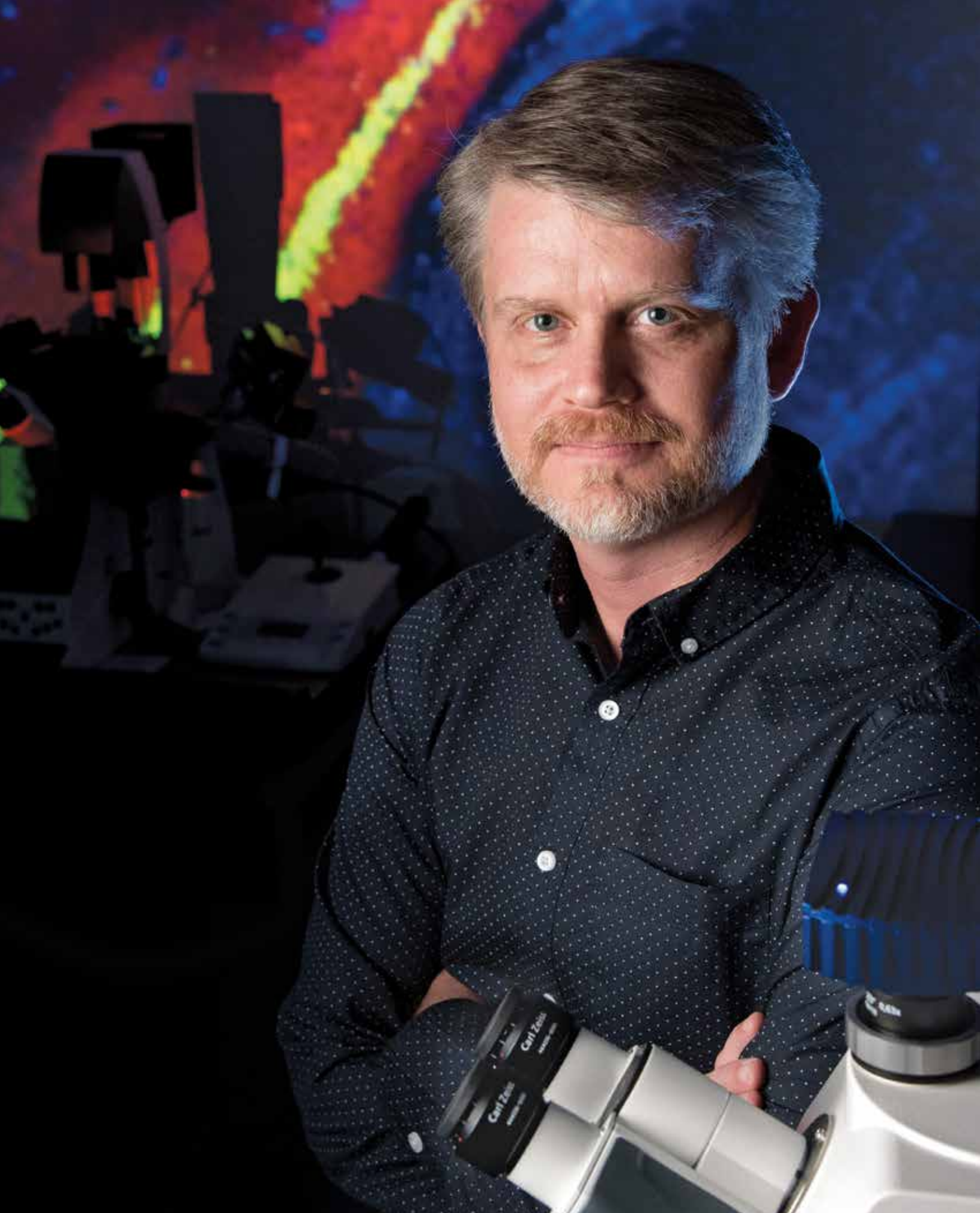


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# EXPLORING THE BRAIN'S HIDDEN LANDSCAPES

Scott Soderling, PhD, is having trouble sleeping.

It's not that he lies awake plagued by worries or woes. On the contrary, the problem is that he's so energized by the discoveries coming out of his lab, and by the future paths those discoveries point toward, that he can't wait to get in and start tackling the next step.

"We're incredibly excited about the things we've been doing here," says Soderling, an associate professor of cell biology and neurobiology. "And we have a lot of really cool stuff coming up ahead. The challenge is that we've opened up so many new areas of investigation that we're having to retool the lab so that we have the capability to functionally test them. I have a hard time sleeping at night thinking about all the possibilities."

Soderling studies synapses, the connections in the brain where signals pass across the tiny gaps from one neuron to the next. Neuroscientists believe that many, if not most, brain disorders are caused by genetic mutations or other damage that disrupts the proper functioning of these connections. But many of the precise details of the synapses—what they're made of, how genetic mutations alter their functioning, why a specific malfunction leads to a particular disorder, and so on—remain unknown.

Last year, Soderling and his lab developed a novel and elegant technique for exploring some

of the most poorly understood aspects of the synaptic process. That research revealed a wealth of data that dramatically increases what we know about how the brain works, and that new knowledge points the way toward exciting new hopes for thwarting some of the most devastating neurological disorders.

What's more, the technique Soderling developed can be applied to other parts of the brain as well, which should give him and other researchers unprecedented insights into yet more neurological processes and disorders.

"It's keeping us pretty busy," he says. "We're thinking up new applications for this every week."

## TRAFFIC SIGNALS IN THE BRAIN

Scientists have known for more than half a century that synapses come in two basic forms. One type, known as excitatory, boosts brain activity, activating the flow of information between neurons. The other, called inhibitory, dampens that activity. Soderling likens the two types of synapses to traffic signals: excitatory synapses are like green lights, allowing neural signals to proceed, and inhibitory ones are like red lights that pause that movement.

This inhibitory process is important in preventing the brain from becoming overly active. Malfunctions in these inhibitory connections can lead to excessive electrical activity in the brain,

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Scott Soderling Discovers Surprising Complexities in Synaptic Connections

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BY DAVE HART

and many researchers think this causes brain disorders such as epilepsy and autism spectrum disorders.

“We all love green lights when we’re driving because they allow us to move forward, but if all the lights were green all the time, the results would be catastrophic car accidents,” Soderling says. “The red lights are absolutely essential. It’s the same in the brain: the inhibitory synapses are as necessary for proper neural function as the excitatory ones. Without them it is equally catastrophic for the brain.”

But very little is known about the molecular makeup of inhibitory synapses. Scientists have extensively studied the excitatory synapses, describing their basic molecular structure and identifying some 1,000 proteins involved in their various functions. Inhibitory synapses, by contrast, are much harder to get at; they’re much more difficult to purify and examine biochemically, and until now only a few dozen of their component proteins had ever been identified. Relative to what we know about excitatory synapses, the inhibitory ones are the dark side of the moon.

“We’ve known they exist for more than half a century, and we know they are fundamentally important, but we know very little about what they’re made of and how they work,” says Soderling. “It’s an unexplored landscape in the brain.”

#### “A LITTLE BIT OF A CRAZY IDEA”

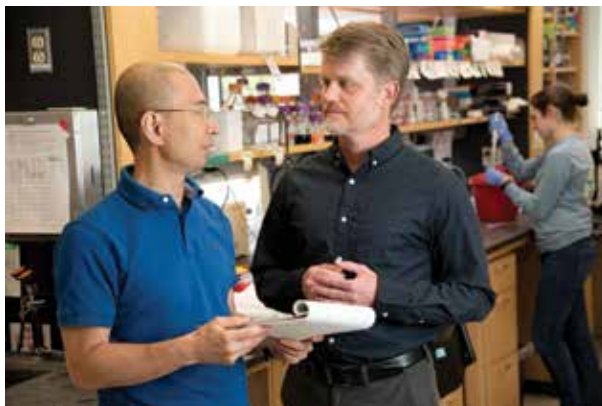
Soderling set out to map that uncharted territory. His first few attempts, he says, “failed miserably.” Then he and postdoctoral researcher Akiyoshi Uezu, MD, PhD, came up with an innovative idea.

Biotin is a naturally occurring molecule, also called Vitamin H. It’s commonly sold in drug stores as a dietary supplement reputed to strengthen hair and nails, but for Soderling’s purposes, it also has some more useful characteristics. When activated with a bacterial protein called BirA, biotin can be induced to “tag,” or attach to, any additional nearby proteins. Further, it happens that another particular protein, called streptavidin, has an extraordinarily high affinity for binding to biotin on proteins.

Soderling and Uezu thought perhaps they could, in essence, deliver what Soderling calls “a molecular probe.” They would fuse the

*“It’s as if these proteins had been locked away in a safe for 50 years, and we believe that our study has cracked open the safe.”*

Scott Soderling



Scott Soderling and postdoctoral researcher Akiyoshi Uezu identified 140 new synaptic proteins.

bacterial BirA protein with a mouse protein known to localize at inhibitory synapses and insert it back into the mouse brain. In theory, after giving the mice biotin supplements, this chimeric protein would tag all the unknown proteins in the vicinity with biotin. Then the researchers could take that brain tissue and pass it over some streptavidin, which should, like a magnet or a strip of tape, pull out all the biotin—and along with it all those proteins it had tagged.

“It was a little bit of a crazy idea,” Soderling says. “If it worked, it would mean we could identify a lot of component proteins in the brain without having to do all this very complicated biochemical analysis: we could just purify them using biotin. But we had no idea whether it would work.”

Soderling and Uezu dubbed their new procedure in vivo BioID. They ran the study and sent the data off to have it analyzed by mass spectrometry.

“When the results came back, Akiyoshi came in with the computer printout showing this list of proteins,” says Soderling. “I looked at it, and I almost fell out of my chair. I was so excited I could hardly breathe.”

#### OPENING THE SAFE

The printout included all of the few dozen proteins already known to be present at inhibitory synapses. But the list went on to show additional proteins—a lot of them. Using the in vivo BioID method, Soderling and Uezu identified some 140 proteins that had never before been known to exist at inhibitory synapse sites.

“It’s as if these proteins had been locked away in a safe for 50 years, and we believe that our study has cracked open the safe,” says Soderling. “And there are a lot of gems in there.”

More than two dozen of the newly revealed proteins have known links to brain disorders including inherited epilepsies, intellectual disabilities, and autism spectrum disorder.

The newly discovered presence of these proteins at inhibitory synaptic sites leads to a tantalizing hypothesis: that these proteins are necessary for the inhibitory mechanism to work properly, and that in some cases mutations in the genes encoding those proteins disrupt that functioning. And then you have a traffic grid with no red lights.



“When you lose that inhibitory mechanism, the excitatory input goes unopposed, and that leads to over-excitation in the brain: epilepsy,” says Soderling. “And many children with autism spectrum disorders also have seizures, and it’s long been thought that an imbalance between the excitatory and inhibitory mechanisms may be an underlying cause there too. So this may help explain that too.”

If the newly revealed proteins are indeed complicit in causing these disorders, then those proteins may offer new targets for therapies. Soderling and his lab are now engaged in follow-up research to try to determine exactly what role the recently revealed inhibitory proteins play in these diseases.

“We think this is going to lead to new insights into the etiology of these types of disorders,” Soderling says. “So we’re very excited about where that might lead.”

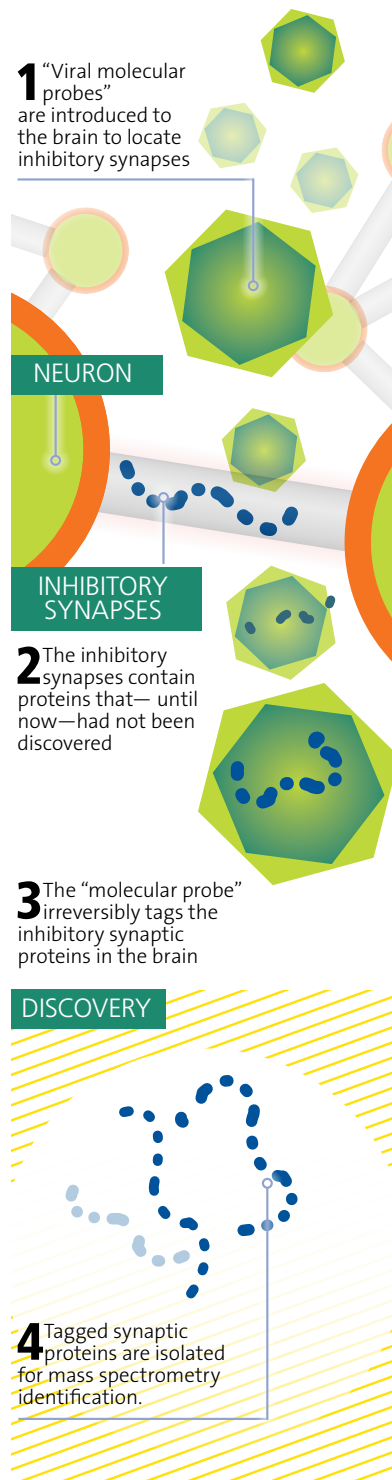
### SCRATCHING THE SURFACE

Beyond the immediate work of further exploring the newly discovered inhibitory synaptic proteins, Soderling and his lab are beginning to apply the *in vivo* BioID technique to other little-known parts of the brain. And there are many of those.

“This was a good example of a fundamental part of the brain that we’ve known existed for half a century but that we didn’t have a good working parts list for,” Soderling says. “And it turns out there are a lot more of those. There’s a huge landscape within the brain that, at a molecular level, we have a very poor grasp of. This new technique opens up a huge potential for uncovering the molecular basis for how the brain works in many other regions.”

One of those involves the other kind of synapses, the excitatory ones. In patients with developmental brain disorders, the normal growth and development of those synapses in the young, developing brain appears to be disrupted. A graduate student in the Soderling lab, Erin Spence, has now used the *in vivo* BioID method to identify a host of novel proteins that play a role in the development of those synapses: when these proteins are knocked out in mouse neurons, development is dramatically disrupted.

“This is an example of how, using this new molecular tool, we can go in and precisely pick out the internal components of a variety of different brain structures,” Soderling says. “My



guess is that as we identify these component proteins in different regions, we’re also going to identify genes implicated in many different disorders. Paired with the wealth of human genetic data, we can now start to explain the underpinnings of these disorders. There’s so much potential here. We’ve only just scratched the surface.”

### THE FIRST STEP

Soderling didn’t set out to be a neuroscientist. He did his doctoral work in pharmacology at the University of Washington and followed that up with research as a Howard Hughes Medical Institute postdoctoral investigator. In the course of that research, he identified a novel protein in which mutations cause a rare and severe form of intellectual disabilities in children.

“That was my first ‘aha!’ moment,” Soderling says. “That’s when it really hit me that the molecular mechanisms we were studying have huge impact on human health.”

He came to Duke in late 2005. It was the perfect environment for the kind of research he wanted to pursue.

“The research environment here is special,” he says. “We have world-class facilities and resources, but beyond that the atmosphere is one that gives you the ability to grow in new directions, which is especially important when you’re just starting out. My colleagues are fantastic. There’s a lot of collaboration, a lot of sharing of ideas and approaches, and it was clear to me that Duke was one of those places that had that special combination of factors.”

The research he and Uezu did in uncovering the inhibitory proteins garnered a lot of attention, and it has led to exciting new avenues of inquiry. New therapeutic approaches surely remain a long way off—but by illuminating previously dark corners of the brain, Soderling’s research helps light the way for those kinds of advances in the future.

“If your car is broken, you want to take it to a mechanic who understands how cars work,” Soderling says. “It’s the same with the brain. Unfortunately, we have a very poor understanding of how the brain works. If we can gain a better understanding of that, that will lead to better treatments. When it’s broken, we’ll understand exactly why it’s broken. And that is the first step to learning how to fix it.”

**SAVE THE DATE November 9-12**

# Medical Alumni Weekend 2017

# Duke

University School of Medicine



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## TRANSPORTATION

Buses will shuttle between the Washington Duke Inn and event locations throughout the weekend.

## Thursday

Medical Alumni Awards Dinner

## Friday

Half Century Society and the Class of 1967 Luncheon

4th Annual Women in Medicine Luncheon

CME Program

Welcome Reception

## Saturday

Breakfast with the Dean

Afternoon tours

Class of 1967 Medallion Ceremony

Class Reunion Dinners

## REGISTRATION

Registration details will be sent this summer, but for now, save the date, make your travel arrangements, and plan to join us!



**Asit “Tony” Pruthi, MD’90**, is a successful ophthalmologist and the managing partner of Vantage Eye Center and Vantage Surgery Center in Monterey, California. In the mid-1980s, when he applied to Duke University School of Medicine, he was not sure he would be able to attend without financial support. Duke offered the young and promising Harvard graduate financial aid. And that investment paid off.

“I think that I am successful today because of the training I received at Duke,” says Pruthi. “Duke really molded me as a physician and surgeon. My professors were knowledgeable and supportive, and I learned from them how to treat patients and staff. They always pushed for excellence, but in a very caring fashion in regards to patient care.”

Today, Pruthi is a loyal member of the Davison Club Leadership Society. He and his wife Rita support the Duke Medical Annual Fund, which provides scholarships, curriculum enhancements, new technologies, and cutting-edge research opportunities for medical students. “I want to give back because I would not have been able to attend Duke without financial aid,” he says. “Duke led me to where I am today, and I am extremely grateful for that. I hope that other students will be able to benefit the same way I did.”

Duke’s unique curriculum was also instrumental to Pruthi’s career. “In the third year I was able to do research in the Department of Ophthalmology, where I formed relationships with mentors that really fostered my interest in the field,” he says. After graduating from Duke, he completed his residency in ophthalmology at Wills Eye Hospital in Philadelphia.

While at Duke, Pruthi loved to attend Duke basketball games. “I was one of the Cameron Crazies. Just to experience that excitement and passion for winning and the community spirit — that’s one of my favorite memories at Duke,” he says. “One of the other things that I liked about Duke was the friendships I made with my fellow medical students. Those bonds were really special,” he says.

Attending Duke has become a tradition in the extended Pruthi family. Pruthi persuaded his younger brother, Raj Pruthi, to attend Duke medical school. **Raj, MD’92, FACS**, is a professor and chair of the University of North Carolina Department of Urology. Raj’s daughter, Amanda, is a sophomore at Duke University.



“I want to give back because I would not have been able to attend Duke without financial aid.”

Asit “Tony” Pruthi, MD’90

# Giving Back to Other Students

Gifts to the Davison Club provide critical support for medical education at Duke. Make your gift online at [gifts.duke.edu/daa](https://gifts.duke.edu/daa).

 **Duke University**  
School of Medicine







JARED LAZARIUS



LES TODD

From left: Sally Kornbluth, Paul Modrich, Nancy Andrews, Chancellor Eugene Washington, and Marie Washington at a dinner honoring Modrich, a 2015 Nobel laureate

## NANCY ANDREWS LEAVES A LEGACY OF GROWTH— IN SCIENCE, PEOPLE, PROGRAMS, CAMPUS, AND COLLEGIALITY



LES TODD

Dean Nancy Andrews, MD, PhD, will step down in July after a decade as dean and vice chancellor for academic affairs. She is credited with numerous important initiatives, including construction of the Mary Duke Biddle Trent Semans Center for Health Education, the Hudson Building at Duke Eye Center, creation of four new departments, key recruitments of faculty and department chairs, development of new educational programs and interdisciplinary research initiatives, substantially growing the basic sciences, and the implementation of efforts to improve diversity and inclusion.



“...without a doubt, Nancy Andrews is beyond compare, with a great intellect, deep curiosity, empathy, and, as important, kindness.”

**RICHARD BRENNAN, PHD**  
James B. Duke Professor of Biochemistry  
Professor of Biochemistry  
Chair, Department of Biochemistry



*“She brings together highly functional teams, chooses outstanding leaders, empowers others, deals thoughtfully and fairly with difficult issues, thinks creatively in the face of constrained resources, invests in the ongoing development of her faculty, and instinctively understands the necessity of raising the voices of those historically under-represented in academic medicine.”*

**ANN BROWN, MD, MHS**  
Vice Dean for Faculty  
Associate Professor in Medicine



“One of her special passions was the Medical Scientist Training Program, which she has revitalized with new leadership and resources. She accomplished all of this at a time when the economy was struggling and money was tight.”

**EDWARD BUCKLEY, E’72, MD’77, HS’81**  
James and Heather Gills Professor of Ophthalmology  
Vice Dean for Education  
Chair, Department of Ophthalmology  
Vice Chancellor for Duke-NUS



20  
07



**2007:** Dean Andrews becomes the first female Duke School of Medicine dean. Previously she was dean for basic sciences and graduate studies at Harvard Medical School.



**2012:** Duke School of Medicine researcher Bob Lefkowitz, MD, wins the Nobel Prize for Chemistry for his discoveries in protein-coupled cell receptors.



**2012:** Dedication of the medical education building—the Mary Duke Biddle Trent Semans Center for Health Education.



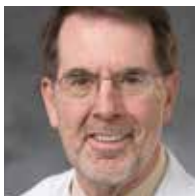
**2012:** Creation of the Duke Cancer Institute

**2014:** Launch of Duke AHEAD, an education academy to support faculty educators.

*“From the viewpoint of oncology, no previous dean has had as big an impact on cancer as Dean Andrews.”*

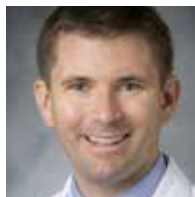
**JEFFREY CRAWFORD, MD,  
HS'77-'78, '82**

George Barth Geller Professor for  
Research in Cancer  
Co-Leader, Solid Tumor  
Therapeutics Program,  
Duke Cancer Institute



“Channeling her inner Coach K, she arrived to a community of talented individuals producing good work and melded them into a team centered on collaboration and creativity that is now at the cutting edge of medicine and science.”

**STEPHEN HARWARD II,  
T'06, PHD'15, MD'16**



*“From day one of her tenure she was as committed to Duke alumni as she was to her students and faculty. In working with Nancy, I was often reminded of the icons of Duke Pediatrics who were on campus in the early '80s while I was a student: she is brilliant, yet soft-spoken and kind in her demeanor, and she is as gracious as she is accomplished.”*

**NICHOLAS LEONARDY, T'81,  
MD'85**

Member, Duke Health Board of Visitors,  
Immediate Past President, Medical  
Alumni Council



**2015:** Construction of the Hudson Building at the Duke Eye Center



**2015:** Researcher Paul Modrich receives the Nobel Prize for Chemistry for research on how cells repair DNA.



**2017:** Dean Andrews signs the last steel girder during a “topping out” event for a new research building. This important milestone illustrates the progress that has been made thus far on construction of the third Medical Sciences Research Building (MSRB III).

“In my view, Nancy’s tenure oversaw the greatest increase in basic science faculty morale that occurred during the 40 years I’ve been at Duke.”

**PAUL MODRICH, PHD**

James B. Duke Professor of Biochemistry  
Recipient, 2015 Nobel Prize in Chemistry



*“She has been responsible for bringing in almost all of the leadership in the medical school at this point; her tenure at Duke saw the recruitment of a whole new slate of talented chairs of almost all of the departments in the school. This is no small feat.”*

**SALLY KORNBLUTH, PHD**

Provost, Duke University



“In 2010, when initial plans for the learning center building were proposed, as students we pleaded for a larger building with more educational space. Dean Andrews negotiated a higher budget from the university for the beautiful Trent Semans building that the students enjoy today.”

**NAVID POURTAHERI, T’08,  
MD’13, PHD’13**

Former President, Davison Council

*“She tirelessly participated in countless reunions, award ceremonies, Davison Club dinners, and receptions. It is clear that she loves the School of Medicine with the same fervor as we do and is truly one of us!”*

**KATHY UPCHURCH, MD’76**

President, Duke Medical  
Alumni Association



“Being a woman in science is very challenging. And until I arrived at Duke, I had not found a female scientist that I considered a role model. Nancy, however, shows that you can be successful in one of the most demanding leadership roles in science by being tough but at the same time gracious, fair, kind, and warm. She sets a very high bar, but provides the kind of role model I had been looking for.”

**MARIA SCHUMACHER, PHD**

Professor of Biochemistry





# AWARDS 2017

A physician scientist in the field of genetics and hematology, David Ginsburg has contributed substantially to advancing the understanding, diagnosis, and care of inherited and acquired coagulation disorders. His contributions have improved the understanding of the molecular basis of inherited bleeding and thrombotic disorders, genetic modifiers of bleeding and thrombotic risk, and the structure and function of blood coagulation factors and the regulation of hemostatic balance.

Ginsburg's accomplishments have included the original cloning of von Willebrand Factor as well as a body of work defining its structure, function, and important inherited mutations. In addition, he cloned human plasminogen activator-inhibitor and

elucidated its molecular control. He also defined the genetic basis of thrombotic thrombocytopenic purpura, leading to the development of a standard clinical test. Lastly, his work has defined the genetic basis of factor V and factor VIII deficiencies.

## Distinguished Alumni

He has been elected to leading professional organizations including the National Academy of Sciences, National Academy of Medicine, Association of American Physicians, and American Academy of Arts and Sciences. Ginsburg is a member and former president of the American Society for Clinical Investigation.

His numerous honors include a Distinguished Scientist Award from the American Heart Association, Association of American Medical Colleges Distinguished Research in the Biomedical Sciences Award, Henry M. Stratton Medal for Basic Research from the American Society of Hematology, and Distinguished Faculty Achievement Award from the University of Michigan Medical School.

Ginsburg has devoted his career to mentoring future scientists at every level and is a champion of the physician-scientist pathway, a road that he began at Duke.

**EDUCATION:** Yale University; Duke University School of Medicine

**TRAINING:** Presbyterian Hospital; Peter Bent Brigham Hospital; Harvard/Dana-Farber Cancer Institute, Harvard's Children Hospital

**CURRENT TITLES:** James V. Neel Distinguished University Professor of Internal Medicine and Human Genetics, Warner-Lambert/Parke-Davis Professor of Medicine, University of Michigan; Howard Hughes Medical Institute Investigator

SCOTT STEWART

## David Ginsburg, MD'78



**D**iane Havlir is a pioneering leader in the fight against HIV/AIDS. She has developed groundbreaking studies of early treatments, including highly active antiretroviral therapy (HAART) to overcome HIV's ability to mutate and become resistant to individual drugs. She is a leader in a research field that has transformed HIV from a fatal disease to one that can be managed as a chronic illness. Her clinical trials have defined best practices for not only the treatment of HIV, but also for tuberculosis (TB) and other infectious diseases, and her work has impacted national and global guidelines.

## Distinguished Alumna

Havlir was an internal medicine resident at the University of California, San Francisco, when AIDS emerged in the 1980s and has cared for HIV-infected patients for more than 25 years.

Through a research collaboration with Makerere University in Uganda and the AIDS Clinical Trials Group, she studies optimal treatment strategies for HIV and TB as well as how to reduce the burden of HIV and malaria in children and pregnant women. She is currently leading an innovative 320,000-person study in Uganda and Kenya, which is funded by the National Institutes of Health and aims to eliminate HIV through a multi-disease, community-health based approach that evaluates HIV and broader health, education, and economic outcomes.

Her international advocacy and engagement have transformed evidence-based medicine into new models of practice in resourced and under-resourced environments, and her commitment to mentoring and training has influenced a generation of HIV providers throughout the world.

Havlir has occupied many national and international leadership positions in the field of HIV research and treatment, including serving as a co-chair of the 2012 International AIDS Conference in Washington, D.C., chairing the World Health Organization HIV Drug Resistance Surveillance Program, and now serving as chair of the United Nations AIDS Science and Technical Advisory Committee.



**Diane  
Havlir, MD'84**

BRIAN BAER

Havlir is coauthor of the "Washington D.C. Declaration," a nine-point plan to end the AIDS epidemic. In 2013, she co-founded the San Francisco's Getting to Zero Coalition, which aims to make San Francisco the first jurisdiction with zero new HIV infections, zero stigma, and zero deaths by 2020.

She is author of more than 270 articles, book chapters, and other publications and an invited speaker at top institutions and conferences throughout the world.

Havlir is a member of professional organizations, including the American Society for Clinical Investigation, the Infectious Diseases Society of America, and the International AIDS Society.

She is a recipient of numerous honors, including the Joseph E. Smadel Award, the International Association of Physicians in AIDS Care Honorary Lifetime Award, and the HIV Medical Association Research Achievement Award of the Infectious Diseases Association of America.

**EDUCATION:** St. Olaf College; Duke University School of Medicine

**TRAINING:** University of California, San Francisco; Case Western Reserve University

**CURRENT TITLES:** Professor of medicine at the University of California, San Francisco; chief of the HIV, Infectious Diseases and Global Medicine Division at Zuckerberg San Francisco General Hospital



Branch at the National Institutes of Health.

As a researcher, Kirk has focused on transplant immunology, especially on the development of novel therapeutic approaches to modulate immune responses to kidney transplants. His discoveries have led to improved strategies to manage immune responses and have proven enormously

## Distinguished Alumnus

influential; he has received more than 50 grant awards from the NIH, he holds eight patents or patent applications, and he is one of the most frequently cited researchers in his field, with more than 200 articles in peer-reviewed journals.

Kirk has been recognized for his work with numerous awards and honors. He is the editor-in-chief of the *American Journal of Transplantation*, the leading journal in the field, and an elected member of many national and international societies and organizations, including the American Surgical Society, the American Society of Transplantation, the American Society of Clinical Investigation, and the National Academy of Medicine.

Prior to returning to Duke in 2014, Kirk was professor of surgery and pediatrics and vice chair for research in the Department of Surgery at Emory University.

### EDUCATION:

Old Dominion University; Duke University School of Medicine; Duke University Graduate School

### TRAINING:

Duke University Hospital; University of Wisconsin

### CURRENT TITLES:

David C. Sabiston Jr. Professor and chairman, Department of Surgery; professor in pediatrics; professor in immunology, Duke University School of Medicine; surgeon-in-chief, Duke University Health System

JARED LAZARUS

## Allan D. Kirk, MD'87, PhD'92, HS'87-'95

Allan Kirk is about as thoroughly steeped in Duke Blue as it is possible to be: the son of a Duke-trained biologist, he earned both his MD and PhD at Duke, did his residency in surgery at Duke (serving as chief resident), and eventually joined the faculty at Duke. He even married a Duke nurse, and his children were born at Duke. In all his roles at Duke, he has demonstrated the leadership, scientific and medical excellence, and vision that exemplify the institution's traditions and goals.

Kirk originally set his sights on a career in music; an accomplished tuba player,

he earned numerous music scholarships and performed with groups including the Boston Pops and Virginia Philharmonic. But medicine beckoned him to Duke, where he began a career specializing in transplant surgery. After following his education and training here with a fellowship in multi-organ transplantation at the University of Wisconsin, he served in the Medical Corps of the US Navy, attaining the rank of commander, and in several roles in Washington, D.C., including director of transplantation research at Walter Reed Army Medical Center and chief of the Solid Organ Transplant Program and the NIDDK Transplantation





# Karen Winkfield, PhD'04, MD'05, HS'05-'06

JARED LAZARIUS

**R**acial and ethnic minorities frequently encounter barriers when accessing health care, but radiation oncologist Karen Winkfield aims to change that, making it her mission to break down those barriers and become a champion for health equity for all.

Winkfield currently is an associate professor of radiation oncology at Wake Forest University School of Medicine and director of the Office of Cancer Health Equity at Wake Forest Baptist Comprehensive Cancer Center (WFBCCC). Prior to joining Wake Forest in August 2016, she was a radiation oncologist at the Massachusetts General Hospital (MGH) Cancer Center.

Specializing in the use of radiation therapy in the treatment of hematologic malignancies, Winkfield developed the

first comprehensive clinical program focused on hematologic malignancies in the Department of Radiation Oncology at MGH. With support of collaborating oncologists, she also established the first multidisciplinary clinic for patients diagnosed with hematologic disorders.

In addition to her research in radiation therapy, Winkfield also focuses on understanding and addressing sociocultural barriers that contribute to disparities in cancer outcomes. The goal of this research is to develop a platform for discussion that will enable accurate and timely dispersal of clinical information in the black community and encourage policymakers to invest in initiatives designed to address inequalities in the health care delivery system.

While at MGH, Winkfield was a co-principal investigator of a \$3 million grant that established the Lazarex-MGH Cancer Care Equity Program. The goal of the program is to improve clinical trial access and enrollment in vulnerable populations. Winkfield was responsible for the community outreach and education component of the grant. She

## Emerging Leader

continues this work in her current role as associate director of cancer health equity at WFBCCC. By growing extramurally funded research focused on cancer health equity and strengthening outreach efforts in underserved communities, Winkfield aims to reduce cancer disparities in North Carolina and beyond by alleviating barriers to care across the cancer continuum.

As only the second black woman to graduate from the Medical Scientist Training Program at Duke, Winkfield realized early in her career the importance of workforce diversity in addressing health inequities. While an MD/PhD student, Winkfield restarted the Duke chapter of the American Medical Women's Association, which is still active today, and served as president of the Student National Medical Association.

Nationally, Winkfield is a co-founder and director of the Association of Black Radiation Oncologists and served as chair of the American Society of Clinical Oncology's Health Disparities Committee from 2016 to 2017.

**EDUCATION:** Binghamton University; Duke University School of Medicine

**TRAINING:** Duke University Medical Center; Harvard Radiation Oncology Program

**CURRENT TITLES:** Associate professor of radiation oncology, Wake Forest University School of Medicine; associate director for cancer health equity, director of the Office of Cancer Health Equity, Wake Forest Baptist Comprehensive Cancer Center

**A**nna Mae Diehl is a pioneer and international leader in the field of liver growth and pathobiology. Colleagues describe her work as marked by persistence and inspiration. She has conducted seminal research in many areas, including liver regeneration, the role of cytokines in liver disease, and hepatocellular cancer. In addition, she has conducted the definitive work in understanding the important role of Hedgehog signaling proteins in liver pathobiology, from liver regeneration, to hepatic fibrosis, to activation of stellate cells, growth of progenitor cells, and development of cirrhosis. Also, she was one of the first to demonstrate that fatty liver is not a reversible innocuous condition, but a frequent cause of severe liver damage, evolving into non-alcoholic steatohepatitis (NASH), cirrhosis, and liver cancer.

An innovative physician investigator, Diehl has been well funded by the National Institutes of Health for many years and has authored more than 250 peer-reviewed articles. She

## Distinguished Faculty

is a recipient of numerous awards, including the Leon Schiff Award, the Hans Popper Award, the Sheila Sherlock Award from the British Society of Gastroenterology, and the American Association for the Study of Liver Diseases Distinguished Achievement Award.

Known for a congenial attitude, Diehl is always ready to explain and argue dialectically to critically examine her viewpoints and those of others. An active teacher and mentor, she has mentored 80 undergraduates, medical students, house officers, post-doctoral fellows, and junior faculty. When Diehl began her career in gastroenterology/hepatology, there were very few women in the field, and she has become known as an outstanding female role model.

Her service to Duke includes roles on the Distinguished Chair's Selection Committee for Duke University, DOM Executive Committee Duke University, many search committees, and the Enterprise-Wide Planning Committee for Duke University Health System.

Before joining the Duke faculty, she was professor of medicine at Johns Hopkins University, where she had previously served as associate professor.



**EDUCATION:** Georgetown University

**TRAINING:** John Hopkins University

**CURRENT TITLES:** Florence McAlister Professor of Medicine, Duke University School of Medicine; Director, Duke Liver Center; professor in pharmacology and cancer cell biology; professor in molecular genetics and microbiology



recently led projects to improve health care delivery in sub-Saharan Africa and to expand global health research, education, and policy in China. Outside Duke, he has held numerous leadership roles, including executive director of the World Health Organization

## Distinguished Faculty

(WHO) Global Program on AIDS, director of the WHO Diarrheal Diseases Control Program, and chief medical epidemiologist at the Cholera Research Laboratory in Dhaka, Bangladesh.

Merson has been recognized for his dedication, excellence, and leadership with numerous honors and awards, including the Arthur S. Fleming Award for Outstanding Federal Service and the Surgeon General's Exemplary Service Award. He is the recipient of two honorary degrees and a member of the National Academy of Medicine and numerous professional societies, and he holds board and committee positions with a number of leading national and international organizations, including the Fogarty International Center at the National Institute of Health and WHO.

Before joining the Duke Faculty in 2006, Merson was dean of the School of Public Health, professor and chairman of the Department of Epidemiology and Public Health, and director of Center for Interdisciplinary Research on AIDS at Yale University.

## Michael Merson, MD

JARED LAZARIUS

Few people have played a more important role in transforming Duke into a truly global institution than Michael Merson. An international leader in global health and the founding director of the Duke Global Health Institute, Merson has extended the reach of the university, including the School of Medicine, into the farthest corners of the planet. Merson, who announced last fall that he will be stepping down effective June 30, founded the Duke Global Health Institute in 2006 with the goal of solving complex global health challenges, training the next generation of global health scholars, and reducing the devastating

impact of health disparities worldwide. A committed advocate of interdisciplinary collaboration, Merson has partnered with collaborators throughout the university, and indeed throughout the world, to build the Global Health Institute into one of the world's leading institutions of its kind. He is a committed educator and mentor whose example inspires countless students, trainees, and colleagues.

In addition to his role in building the Duke Global Health Institute, Merson has served as vice chancellor for Duke-NUS affairs and vice president and vice provost for global affairs. He has

**EDUCATION:** Amherst College; State University of New York, Health Sciences Center at Brooklyn

**TRAINING:** Johns Hopkins Hospital; U.S. Centers for Disease Control; Beth-Israel-Children's Hospital Program in Infectious Diseases; Harvard Medical School

**CURRENT TITLES:** Founding director, Duke Global Health Institute; vice provost and vice president for global affairs; Wolfgang Joklik Professor of Global Health, Duke University

# Iron Surgeon

**Ashley Wysong, MD'09, HS'09-'10**, an assistant professor of clinical dermatology at the University of Southern California (USC), was named "Iron Surgeon" by the American Society of Dermatology Surgery (ASDS) in 2016. The Iron Surgeon is a national competition, similar to the Iron Chef, but for surgeons. Instead of a cooking challenge, two surgeons compete against each other to receive the audience-awarded gold medal for the best way to approach a complex surgical case.

Wysong's challenge was to reconstruct a large skin cancer defect in the face, which included big portions of the nose, the cheek, and the upper lip. An expert in Mohs surgery, a unique surgical technique that allows surgeons to remove thin skin cancer layers and evaluate them under the microscope in real time until only cancer-free tissue is left, she presented her approach for reconstructing the face of one of her patients after Mohs surgery. Wysong presented her work at the annual ASDS conference and was chosen by a live audience filled with hundreds of dermatologic surgeons to receive the prestigious gold medal.

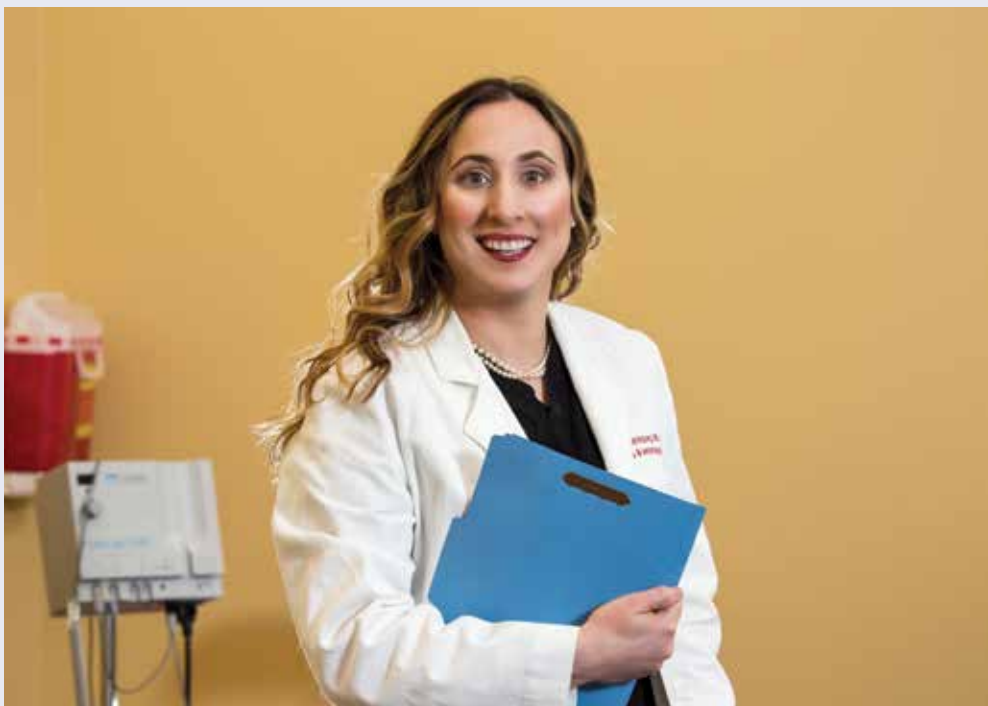
Wysong is the youngest surgeon and the second woman ever to win this award. "It's nerve-wracking to present your surgical reconstruction in front of all of your peers on a national level, especially being a young surgeon myself. I was not expecting to win and was very shocked when they announced me as the winner," says Wysong, who also serves as director of Mohs and dermatologic surgery at USC and Los Angeles County Hospitals.

Wysong was first introduced to Mohs surgery when she was a student at Duke University School of Medicine. She had the opportunity to work with Jonathan Cook, MD, and saw numerous skin cancer patients. "I saw his practice and what he did, and it was an 'aha' moment for me. I said: 'This is it. This is what I want to do for the rest of my life,'" she says. She went on to work as a Howard Hughes Medical Research Fellow in her third year of medical school performing research in head and neck tumors.

As a former six-time NCAA All-American and a professional athlete who ran four years for Nike, Wysong has a special interest in promoting sun safety and skin cancer prevention among outdoor athletes. She says that for the 12 years that she ran outdoors, she never wore sunscreen. "I admit, I didn't. No one had ever spoken to me about the dangers of sun exposure. Little did I know that I would grow up to become a skin cancer surgeon," she says.

While at Duke, Wysong started a group called Sun Smart Ath-

letes, which later became a nonprofit ([sunsmartathletes.com](http://sunsmartathletes.com)) that educates athletes and the community about the dangers of ultraviolet exposure. She met with Duke outdoor athletes and explained the importance of skin cancer prevention. In 2010-2011 Wysong and her colleagues conducted a survey study in 290 athletes from Duke and Stanford to identify their attitudes towards sunscreen use.



*"I said: 'This is it. This is what I want to do for the rest of my life.'"*

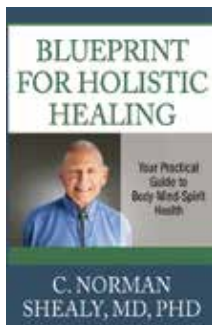
Ashley Wysong

They found that the average athlete spends four hours a day and 10 months per year training outdoors, yet the vast majority of athletes do not use any sunscreen. They also found that women who cared more about their image and about preventing wrinkles were more likely to use sunscreen than women or men who did not care about those things. "Our study shows that despite that 96 percent of the athletes know that ultraviolet radiation causes skin cancer, over 75 percent of them rarely or never use sunscreen," she says. Wysong hopes to change these statistics through outreach, education, and encouraging young athletes and people who love to be outside to enjoy the sun safely.

- by *Aliza Inbari*



## 1950s



C. Norman Shealy, T'53, MD'56, DC, has been recognized as Professional of the Year for two consecutive years by Strathmore's Who's Who Worldwide for outstanding contributions to the field of holistic health care. He recently published a book titled *Blueprint for Holistic Healing: Your Practical Guide to Body-Mind-Spirit-Health*. Shealy is founder of the American Holistic Medical Association. The premise of the book is that "when body-mind-spirit is integrated through a view of holistic care, the whole can flourish." The book is available at [arecatalog.com](http://arecatalog.com) and [amazon.com](http://amazon.com).

## 1960s

Robert S. Mathews, MD'64, HS'65-'70, is an orthopaedic surgeon and the medical director of First Team Institute LLC, and in addition to his practice he is involved with a host of other things. A NASCAR owner and former track physician, he worked to develop improved safety features for race cars, and through a company called Design Recycle, Inc., he developed new building products from recycled rubber tires. He and his wife Barbara live in Millersville, Pennsylvania, and have four grown children. They support an organization that gives orphaned teenagers stable homes with surrogate families, and they themselves have served as surrogate parents to 21 teens. While at Duke, Mathews trained under the late Dr. J. Leonard Goldner, who was a James B. Duke Professor and chief emeritus of the then Division of Orthopaedic Surgery. Mathews has been a generous supporter of the Goldner Jones Professorship Endowment Fund for Orthopaedic Surgery.

## 1970s



Allen R. Dyer, MD'72, G'80, professor and vice-chair for education in the George Washington University Department of Psychiatry and Behavioral Sciences, has been selected by the American Psychiatric Association as a recipient of its 2017 Bruno Lima Award in Disaster Psychiatry. Over a long career in disaster psychiatry, Dyer developed education programs for disaster-affected communities following earthquakes in China and Haiti and a tsunami in Japan. Since 2001, he has worked with Iraqi health professionals and the Minister of Health to develop educational programs and policies that would strengthen Iraqi health services infrastructure, for which he was awarded special recognition in 2014 by the Iraqi Medical Sciences Association. Most recently, Dyer organized two humanitarian relief teams that responded to different phases of the refugee crisis in Greece.

## 1980s



Lisa G. Rider, T'83, MD'87, received the 2016 PhRMA Research and Hope Award for Government Research for her work on juvenile myositis, a rare pediatric autoimmune disease. She remains with the National Institute of Environmental Health Sciences, National Institutes of Health in Bethesda, Maryland, where she is the deputy chief of the Environmental Autoimmunity Group.

## 1990s



Phillip M. Boiselle, MD'90, has been named dean of the Charles E. Schmidt College of Medicine at Florida Atlantic University (FAU). He previously served as associate dean for academic and clinical affairs and professor of radiology at Harvard Medical School. FAU's College of Medicine enrolled its first medical students in 2011. His goal is to continue building the medical student program and expanding the graduate medical education program. He also will oversee the college's research focus, including neuroscience and healthy aging.

Jennie Robertson Crews, MD'90, HS'90-'95, has been appointed as medical director of Seattle Cancer Care Alliance's Affiliate Network program. She formerly was medical director of

Cancer Services, PeaceHealth Northwest in Bellingham, Washington. She also previously served as medical director of the Marion L. Shepard Cancer Center in Washington, North Carolina, and held appointments as a consulting associate in the Department of Medicine, Division of Medical Oncology and Transplantation at Duke, and as an affiliate associate professor in the Department of Medicine at East Carolina University.

Jeffrey Drayer, MD'98, currently is a writer and co-executive producer of the NBC television show *Chicago Med*. It airs at 9 p.m. Thursdays. He lives in Los Angeles. Drayer was previously featured in *DukeMed Alumni News*. To read the story, go to [medspace.mc.duke.edu](http://medspace.mc.duke.edu) and enter Spring 2013 DukeMed Alumni News in the search field.

## 2000s

Drew H. Barzman, MD, HS'01, director of the Child and Adolescent Forensic Psychiatry Service at Cincinnati Children's, has had his recent research featured in a story in *Newsweek*. He and his team are studying whether a test can be devised to predict which children will be violent in the future. Their pilot study administered a 28-item questionnaire to students to try to predict who likely would commit a violent act. Their report was published in the July issue of *Psychiatric Quarterly*, and concluded that 11 of the 25 students in the study were considered at high risk of verbal or physical aggression or violence toward others. Barzman advised parents and school mental health professionals about what they could do to help students at risk of violent behavior. To read the article, go to [newsweek.com](http://newsweek.com) and enter "Barzman" in the search field.

Kelley Hutcheson, T'97, MD'06, HS'06-'11, is now a practicing cardiac surgeon at The Heart Hospital Baylor in Plano, Texas.

Stephen C. Harward II, T'07, MD'16, PhD'16, HS-current, DC, recently had two papers published in *Nature* related to learning and memory function. Harward is currently a neurosurgery resident at Duke.

1970s



Michael D. Schneider MD, HS '76-'78, has been elected a Fellow of the American Association for the Advancement of Science (AAAS). Schneider is head of Heart Science at the Imperial College of London's National Heart and Lung Institute. He is recognized for distinguished contributions to the field of molecular cardiology, particularly for advances in basic heart failure research, cardiac stem cell biology, and regenerative medicine. He is a 2010 recipient of the Distinguished Alumnus Award from the Duke Medical Alumni Association.

Haider J. Warraich, MD, HS-current, a cardiovascular disease fellow at Duke, has authored the book *Modern Death: How Medicine Changed the End of Life*, published by St. Martin's Press. Warraich writes that, "Beyond its ecology, epidemiology, and economics, the very ethos of death has changed." The book explores the rituals and language of dying that have developed in the last century and how modern technology has not only changed the hows, whens, and wheres of death, but the what of death. The book is available at [amazon.com](http://amazon.com).

James S. Barr, MD, HS'60-'61, of Greenville, South Carolina, died Dec. 13, 2016.

Bruce L. Baer, MD'53, DC, of Baton Rouge, Louisiana, died Sept. 19, 2016.

Rona Spector Cohen, MD'83, of Langhorne, Pennsylvania, died Sept. 10, 2016.

Eric H. Conn, MD'76, HS'81, of Chattanooga, Tennessee, died Feb. 4, 2017.

Hewlette C. Connell, MD, HS'68, of Williamsburg, Virginia, died Jan. 7, 2017.

William C. Cooper Jr., MD'60, HS'60-'62, '64-'65, DC, of Rocky Mount, North Carolina, died Jan. 29, 2017.

Raymond T. Doyle, MD, HS'61, of Cary, North Carolina, died Oct. 4, 2016.

David A. Drachman, MD, HS'57, of Concord, North Carolina, died Dec. 5, 2016.

Lee W. Elgin Jr., MD, HS'52-'60, of Tallahassee, Florida, died Feb. 2, 2017.

Roy J. Ellison Jr., MD, HS'57, of Greenville, South Carolina, died Sept. 30, 2016.

Joe W. Frazer III, T'75, MD'79, of Greensboro, North Carolina, died Dec. 16, 2016.

Lynn D. George, MD, HS'79-'80, of Southern Pines, North Carolina, died Feb. 21, 2017.

Joseph H. Hardison Jr., MD'56, of Raleigh, died Tuesday, April 4, 2017.

James P. Hartley, MD'52, of Gaithersburg, Maryland, died Jan. 19, 2017.

A. Everette James Jr., MD'63, of Chapel Hill, died March 14, 2017.

Donald R. Kernodle, MD'53, HS'53-'55, of Burlington, North Carolina, died Oct. 22, 2016.

Don C. McFadden Jr., T'58, MD'62, of Lexington, Kentucky, died July 4, 2015.

Byron A. Milgram, MD, HS'69, of Leawood, Kansas, died Jan. 11, 2017.

Larry B. Newman MD'69, of Nashville, Tennessee, died March 9, 2017.

Lloyd A. Owens, MD, HS'55, of Yukon, Oklahoma, died Feb. 12, 2017.

Grady E. Price, T'55, MD'60, HS'60-'61, '63-'64, of Charlotte, North Carolina, died Oct. 9, 2016.

Charles H. VonCanon, MD, HS'65, of Whitwell, Tennessee, died Oct. 1, 2016.

Lawrence C. Walker Jr., MD'60, HS'60-'61, '64-'68, of Winston-Salem, North Carolina, died Dec. 1, 2016.







ALLAN GEHO

## Former All-American Georgia Beasley to Join Faculty

Georgia Beasley was a student-athlete at Duke when she met Sara, an 11-year-old girl, who was sitting on the bleachers at Cameron Indoor Stadium. The young girl was waiting for her father, who was late to pick her up from a Duke basketball summer camp. Beasley asked her to catch rebounds for her, and Sara happily agreed. Later, her father introduced himself as none other than Henry Friedman, MD, deputy director of the Preston Robert Tisch Brain Tumor Center at Duke.

Beasley, T'01, MD'08, MHS'12, HS'15, did not miss the opportunity to express her interest in medical school. Friedman offered to mentor her, and the CAPE (Collegiate Athlete Pre-medical Experience) program was born.

CAPE provides female student-athletes the opportunity to shadow Duke doctors in their clinical work and prepare them for applying to medical school. The program was co-founded by Henry Friedman and fellow brain tumor center deputy, Allan Friedman, MD.

"I was really interested in medicine right after high school, and Duke seemed like a great place to get exposure for that and to play on the basketball team. That was a perfect fit for me," says Beasley, who was named the ACC Player of the Year in 2000 and 2001. In 2013, she was inducted to the Duke Athletics Hall of Fame.

Beasley was ready to go to medical school right after graduating from Duke's Trinity College of Arts and Sciences in 2001, but her coach at the time, Gail Goestenkors, encouraged her to pursue a WNBA career. "She helped me think that medical school can wait for a year or two since that was an opportunity that few people can ever have, and I thought I should try it. I enjoyed the time at the WNBA, but I was already planning to go back to medical school," says Beasley.

After three years with the Minnesota Lynx, Beasley came back to Duke to pursue her dream to become a doctor. She considers her third year as the one that had the most impact on her life. "The unique curriculum in the third year at Duke medical school, when you come to select your own research, was life-altering for me. It set the stage for the rest of my career," says Beasley.

During that year, Beasley had the opportunity to work with Douglas S. Tyler, MD, a professor of surgery, who served as the chief of the Division of Surgical Oncology. Tyler introduced her to melanoma, her main research and clinical interest to this day. "He took me under his wings and really showed me how to do research, ask important questions, and be successful as a clinician and a researcher. It took a lot of his time and effort to train me, and I can't say enough about how incredible that time was," says Beasley.

Beasley will join Duke University School of Medicine as an assistant professor in August 2017. She received her medical degree from Duke in 2008 and completed a general surgery residency at Duke in 2015. Currently, she serves as a second-year surgical oncology fellow at The Ohio State University Wexner Medical Center.

- by Aliza Inbari



*"I was really interested in medicine right after high school, and Duke seemed like a great place to get exposure for that and to play on the basketball team. That was a perfect fit for me."*

Georgia Beasley

## Rising to Meet a Higher Standard

**William G. Kaelin Jr., T'79, MD'83,** knows just how fragile a fledgling career in science and medicine can be. He recalls that if he had not chosen Duke University for medical school, he might not have stuck with medicine. During his first year, the rote memorization required left him cold. But the second-year clinical rotations made it all come alive. "Allowing students to go on the wards in their second year, as Duke did, really helped me, and it put the work I had done during my first year into proper context," he says. "If I had done two years of classroom learning as opposed to one year, I might not have survived."

Kaelin, a professor in the Department of Medicine at the Dana-Farber Cancer Institute, Harvard Medical School, is the recipient of the 2016 Albert Lasker Basic Medical Research Award. His research has contributed to the development of promising therapies for kidney cancer, and he has made crucial discoveries about how human cells sense and adapt to the oxygen levels in their environment.

Kaelin, also associate director, basic science, for the Dana-Farber/Harvard Cancer Center, visited Duke in April 2017 to deliver the Lasker Lecture to a standing-room-only crowd in the learning hall of the Trent Semans Center for Health Education. He also shared his insights with students at City of Medicine Academy, a Durham magnet high school that prepares students for health sciences careers. He spoke about the need for students to have early successes in research that "light the fire" for them to continue pursuing science.

Such a crucial moment in Kaelin's career at Duke came during his third-year medical student research experience in the lab of epigenetics pioneer Randy Jirtle, PhD. Jirtle, now a professor of epigenetics at North Carolina State University, was supportive and enthusiastic. That was particularly important for Kaelin, because his one research experience as an undergraduate, in a chemistry lab, had been discouraging. "My time in the Jirtle lab planted a seed in my mind that maybe I could do research," Kaelin says.

Kaelin also reminded students to remember they aren't conducting research to gain fame or publish in the most prestigious journals, but to save lives. In 1993, Kaelin began studying the VHL tumor suppressor gene, which is mutated in patients who develop a constellation of tumors referred to as the von Hippel-Landau syndrome. Searching the internet, he found a website that connected VHL patients from around the world. It turned out that the site was run

by a woman living near Harvard who had a husband and a son with VHL disease. After they met, Kaelin spoke at an international meeting organized by VHL patients and their families. "It was one of the most motivating things I've ever done. I found the patients to be extremely resilient and brave," Kaelin says. "It's one thing to read about a disease in a textbook, but it's another thing to shake the hand of someone who has that disease, look them in the eye, and see how their disease has affected them."

In his talk at Duke, Kaelin admonished students to avoid focusing on prizes or prestigious journals. "Those are false gods. It's all about whether what you've just told the



William Kaelin spoke to students at Durham's City of Medicine Academy.

***"Statistically, everyone sitting here is going to eventually have a loved one battling this awful disease."***

William G. Kaelin Jr.

world is true, robust, and will stand the test of time, and if you're really lucky, will move the field forward. Statistically, everyone sitting here is going to eventually have a loved one battling this awful disease," said Kaelin, whose wife, Carolyn, a renowned breast cancer surgeon, died in 2015 after a four-and-a-half year battle with glioblastoma. "We all collectively will have to rise together and decide we're going to hold ourselves to higher standards."

- by Angela Spivey



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JARED LAZARUS

## Match Day

On March 17, medical students at Duke opened their envelopes and learned where in the country they will begin their residency programs. A total of 106 students participated in Match Day at Duke this year. They are headed to some of the nation's most prestigious programs. The following list indicates institutions where multiple students matched.

### Where are they going?

- |  |                                     |
|--|-------------------------------------|
| <b>28</b> are staying at Duke          | <b>5</b> are going to Stanford      |
| <b>4</b> are going to Harvard          | <b>5</b> are going to Johns Hopkins |
| <b>6</b> are going to UC San Francisco | <b>4</b> are going to Yale          |

Malini Veerappan and Ro Tejwani react after they both got their first choice during Match Day. At left, Riikka Nomides opens her envelope as her husband, Charlie, and his niece, Cali, look on.

### Most frequent locations by state:

- North Carolina **31**
- California **18**
- Massachusetts **16**
- Illinois **5**
- New York **5**

### Students matched in the following specialties:

- Anesthesiology **4**
- Dermatology **1**
- Emergency Medicine **5**
- Family Medicine **2**
- General Surgery **6**
- Internal Medicine **25**
- Medicine/Pediatrics **2**
- Medicine/Psychiatry **1**
- Neurology **3**
- Neurosurgery **4**
- Obstetrics & Gynecology **5**
- Ophthalmology **10**
- Orthopaedics **6**
- Otolaryngology **2**
- Pediatrics **7**
- Plastic Surgery **3**
- Psychiatry **6**
- Radiation Oncology **3**
- Radiology **5**
- Urology **3**

### Also new fields:

- Interventional Radiology **2**
- Medicine/dermatology combined **1**