

Thanks to support from the Wagner Fellowship, Mark Axelrod (r) is able to pursue his research at UVA, working closely with mentor Dan Gioeli, PhD.

PHOTOGRAPH © TOM COGILL

## UNLOCKING MEDICAL MYSTERIES

Basic Science Research—or Bench Research—May Lead to Breakthroughs in Patient Care

**MARK AXELROD, A POST-DOCTORAL SCHOLAR** at UVA's School of Medicine, is dedicated to better understanding how cancer cells develop resistance to the new generation of targeted anti-cancer agents. He hopes this research will contribute to the development of new, more effective cancer treatments.

In 2007, Axelrod was one of several students to receive a Robert R. Wagner Fellowship. The financial award made it possible for him to pursue his PhD in cancer biology at UVA.

“For any scientist, the ability to think outside the box is critical for success,” says Axelrod, whose research was partly inspired by his grandmother who succumbed to ovarian cancer several years ago. “Thanks to the Wagner Fellowship, I had the creative freedom to take control of my research. I am a better scientist thanks to that experience.”

The late Robert R. Wagner, MD, was professor and chair of the Department of Microbiology from

1967 to 1985 and founding director of UVA Cancer Center. A renowned scientist who made prominent contributions to the field of virology and cancer research, he was instrumental in guiding UVA to become a major contributor to modern medical research.

Wagner and his wife, Mary, who died last October, established a fellowship fund at the School of Medicine through a \$4 million bequest. The newly endowed fund assures the continuation of fellowship support that Mary Wagner initiated soon after her husband's death in 2001.

“Robert Wagner had an incredibly deep commitment to medical research,” says Tom Parsons, PhD, professor and former chair of the Department of Microbiology. “He understood how important basic science research is for laying the groundwork for modern treatments and cures for diseases.”



*The basic sciences help us better understand disease and develop new drugs and technological advances.*



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Mike Mangrum, MD, plans to bring the best minds to UVA to focus on A-Fib.

PHOTO COURTESY OF DR. MIKE MANGRUM

## RESTORING RHYTHM

UVA's Atrial Fibrillation Center Leads the Way in Heart Care

**WHEN BETHANE CRIGGER** of Wytheville, VA, experienced two frightening prolonged episodes of irregular heartbeat—known as atrial fibrillation (or A-fib)—medications failed to restore a normal heart rhythm. Both times, Crigger underwent electric shocks to the heart.

Hoping to prevent a recurrence, Crigger pursued cardiac ablation—a technique to treat abnormal heart rhythms. Several doctors in Southwest Virginia declined to perform the procedure, however, because Crigger was overweight with underlying health problems. UVA electrophysiologist Michael Mangrum, MD, agreed to help.

“We have experience here treating patients with complicated medical histories,” Mangrum explains. “We felt comfortable performing the procedure on Bethane.”

Crigger underwent a catheter ablation in May 2012. Since then, she's had no additional incidences of A-fib and was able to stop taking heart medications. “I feel like Dr. Mangrum saved my life,” she says. “The ablation made an amazing difference, and now I feel great. I'm 100 percent cured—it's amazing.”

More than 3,000 patients like Crigger have come from across the U.S. and worldwide for treatment at UVA's Atrial Fibrillation Center (AFC). A part of the UVA Heart and Vascular Center, the AFC uses the latest equipment and techniques to provide individualized care for A-fib, stroke risk, heart function, and related conditions.

“Our center is focused on atrial fibrillation, so our staff offers unmatched expertise and experience,” Mangrum says. “We have good clinical results and low complication rates, and that's what attracts patients and referring physicians to our center.”

A-fib—a condition in which the heart's two upper chambers beat erratically and out of sync with its two lower chambers—is the most common type of abnormal heart rhythm in the U.S. For more than two decades, UVA has been at the forefront of A-fib research and care. In 2004, UVA was the first site to implant an FDA-approved pacemaker for patients with congestive heart failure and A-fib. Recently, Mangrum was the first physician in the U.S. to use the newest type of ablation catheter, which assesses contact inside the heart chamber. UVA is also a major contributor to most clinical trials, offering additional treatment options to patients.

Mangrum and his colleagues hope to revolutionize the understanding and treatment of the condition at the AFC by creating an atrial fibrillation institute that would bring together various disciplines to better understand the causes of A-fib, develop innovative treatments, and assure the best care for patients. Private support is needed to make this program a reality.

“UVA is poised and ready to become the national and international leader in research, education, and comprehensive treatment of atrial fibrillation,” Mangrum says. “We have the expertise, the collaboration, and the clinical foundation to create an institute that will bring together the best minds across the globe to focus on A-fib.” ●

*Unlocking Medical Mysteries*  
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### THE POWER OF DISCOVERY

The basic sciences encompass a broad range of disciplines—from microbiology and immunology to neuroscience and pharmacology. These disciplines explore the fundamental elements central to the mechanics of the human body, such as cell division and genetics. Working alongside UVA faculty researchers, post docs like Axelrod hope to unlock medical mysteries that ultimately will lead to better treatments, prevention, or early detection.

“For the past 100 years, bench research has been the foundation for everything that has happened in the clinics,” Parsons says. “This research not only trains scientists and clinicians, but also helps us better understand diseases and develop new drugs and technological advances.”



The School of Medicine has a robust research program, with about \$100 million each year invested by the NIH and other funding agencies. But as the nation's economy has struggled in recent years and government spending has tightened, monies devoted to bench research have undergone deep cuts.

“The Wagners' incredible gift is transformative for our graduate program in biomedical sciences,” explains Amy Bouton, PhD, associate dean of graduate and medical scientist programs. “The funds will support up to five full-time PhD or MD/PhD candidates each year, allowing us to bring the brightest students to UVA.”

And the return on that investment is immeasurable.

“Ultimately, UVA's faculty researchers and graduate students will make discoveries that contribute to the health and wellness of people throughout the world,” says School of Medicine Dean Nancy E. Dunlap, MD, PhD, MBA. “By investing in scientific discovery, we can change the face of medicine today, and for many years to come.” ●

# THOMAS P. LOUGHRAN, JR., MD



## MEET THE MAN BEHIND UVA CANCER CENTER

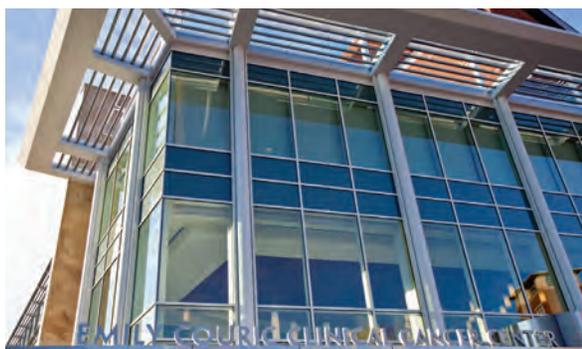
UVA is already a national leader in cancer research and treatment. Now the Cancer Center is setting its sights on earning comprehensive cancer center status, a designation that means patients will have even greater access to new treatments and more effective ways to prevent cancer.

Thomas Loughran, Jr., MD, is the man tasked with leading that charge.

A world-renowned blood cancer clinician and researcher, Loughran was the founding director of the Penn State Hershey Cancer Institute. During his 10 years there, he recruited about 100 physicians and scientists while maintaining a busy research laboratory and clinical practice.

At UVA, Loughran plans to recruit several star physicians, as well as clinical and basic science researchers. He will work to expand the number of clinical trials offered at UVA and formalize the center's cancer prevention research program. With a \$10 million grant from the NIH, Loughran also plans to bring new therapies to patients with acute myeloid leukemia, and find better ways to deliver these therapies using nanotechnology.

“By having input from as many scientists as possible in engineering, biology, organic chemistry, physics, and medicine, we can come up with better ways to treat cancer,” he says. ●



PHOTOGRAPH © COE SWEET



PHOTOGRAPH © JACKSON SMITH

## AT A GLANCE

*Director, UVA Cancer Center  
World's foremost expert in large granular lymphocyte leukemia, a rare form of blood cancer he discovered*

## CHALLENGE

*Lead efforts to transform UVA Cancer Center into a comprehensive cancer center*

## IMPACT

*Give all Virginians access to the most promising treatments and clinical trials, close to home, and help them avoid a cancer diagnosis altogether*

## ACTION

*Build UVA's strength in basic, clinical, translational, and cancer prevention and control research; increase clinical trials, public outreach, and education*

*“If we capitalize on our existing strengths, build programs with international leaders, and develop unique, more effective ways to treat our patients, we will be able to help more and more people and become a destination for patients from across Virginia and beyond.”*



When complete, the Battle Building at UVA Children's Hospital will offer advanced pediatric outpatient care in a comfortable and imaginative environment.

## COUNTDOWN TO OPENING

The Battle Building at UVA Children's Hospital Opens its Doors in June

**FOR CEREBRAL PALSY PATIENT** 16-year-old Isabelle, visits to UVA Children's Hospital clinics are about to get easier.

Typically, Isabelle's visits can include developmental pediatrics, orthopedics, physical therapy, wheelchair fitting, and a nutritionist. When the Battle Building opens in June, Isabelle will see all of these specialists in one convenient location. That's a huge relief for Isabelle—and for her parents.

"For medically complicated children, many of whom are in wheelchairs, it can be physically difficult and emotionally exhausting to maneuver from one location to another," notes Karin League, BSN, MSN, associate chief, UVA Children's Hospital and Women's Health. "For patients like Isabelle—and for children who are simply coming for annual checkups—the Battle Building will offer advanced care in a comfortable, fun, and imaginative environment."

"The opening of the Battle Building will highlight the excellent care and service we provide for the children of the Commonwealth," adds Jim Nataro, MD, director of children's services and chair of the Department of Pediatrics. "This new outpatient facility will enable us to be at our best—coordinating care together."

Designing the building took into account the needs of patients and

healthcare providers, even involving some parents, including Isabelle's mother, in the planning process. The result is an environment organized around distinct neighborhoods of care.

"Our goal is to be the best place in the region to provide care for sick children," says UVA Medical Center CEO R. Edward Howell. "We pledge to make every effort to care for every child. We are so grateful to our generous community and to all those who helped to make this building a reality."

Beyond the services offered in the Battle Building, that pledge also extends to the groundbreaking pediatric research conducted by UVA physicians and scientists. UVA Children's Hospital is home to some of the nation's most talented and passionate pediatric health researchers.

"Research is also care," says Nataro, who studies infectious diseases in children. "What we learn about childhood diseases—their origins and how they respond to treatment—has a profound impact on the care we provide. In the Battle Building, we offer children and their families the best of pediatric healthcare today. With research, we extend that care to new treatments for the patients of tomorrow." ●



The Battle Building will bring together outpatient and rehabilitative care in a collaborative space, improving the patient experience for thousands of children and their families.

### AN ENCHANTED EVENING

*This year's Main Event, held at Keswick Hall at Monticello, drew a sold-out crowd of 430 and raised \$319,000 to benefit the Battle Building. Since 2008, the Main Event has raised more than \$1.1 million for UVA Children's Hospital. This year's guests embraced the theme of "Enchanted" and spent the evening dancing, dining, and celebrating the upcoming June opening. Next year's gala will benefit pediatric research at UVA Children's Hospital.*

# GRATEFUL PATIENT'S GIFTS WILL HELP IMPROVE CARE AT UVA

Access to New Technologies Will Give ALS Patients Greater Independence



Hollister Lindley is determined to raise awareness and support for patients and their families living with ALS.

## DID YOU KNOW?

The Richard R. Dart ALS Clinic at the University of Virginia was the first, and is still the largest, multidisciplinary clinic in Virginia designed specifically to care for patients with ALS, or Lou Gehrig's disease.

PHOTOGRAPH © ISAAC HARBELL

**HOLLISTER LINDLEY UNDERSTANDS** how costly living with Lou Gehrig's disease, or ALS, can be. Since losing hand function and the ability to walk from the degenerative neurological condition, Lindley now gets around in a \$30,000 motorized wheelchair, drives an \$80,000 van equipped with an automated lift, and built a \$250,000 addition to her home to be more accessible as her disease progresses. She uses an iPad and voice recognition software to write.

For the Richmond, VA, native, such accommodations are financially attainable. She knows that other ALS patients, however, are not so lucky.

"ALS does not discriminate—it can affect anyone," says Lindley. "For patients who aren't wealthy, acquiring these adaptive technologies and tools can be impossible."

Lindley recently made a generous contribution and bequest to support UVA's Richard R. Dart ALS Clinic, Virginia's first multidisciplinary clinic dedicated to caring for patients with ALS. The condition causes nerve cells to gradually break down and die, resulting in muscle weakness and loss of function in the limbs. Patients eventually lose their ability to breathe.

A portion of Lindley's gift is earmarked to purchase adaptive technologies that can improve the lives of patients experiencing difficulty with speech and movement. Lindley envisions creating a "loaner closet" from which patients may borrow new-generation digital devices such as iPads or Google Glass, a wearable, hands-free computer built into eyeglasses that responds to voice commands, as well as specialized wheelchairs or ankle-foot orthotics. Once the items are returned, they could be offered to someone else.

"Adaptive technology is changing so fast," says Lindley. "A loaner closet would allow people to use these items before they become outdated."

UVA neurologist Ted Burns, MD, says Lindley's gift will make adaptive devices available to more patients.

"Insurance plans widely differ in terms of what pieces of equipment they will cover for patients," says Burns, who oversees Lindley's care. "Anything we can offer to improve their access to conventional or state-of-the-art adaptive equipment...that will help them function day-to-day...is very helpful. We are so grateful for Hollister's generosity. It speaks volumes about what type of person she is."

Lindley also understands that finding a cure for ALS—a disease that claims many patients within three years—is critical. A portion of her bequest will support improvements to and expansion of the Dart Clinic's efforts in clinical research. Burns hopes this kind of private support will allow UVA to participate in more clinical trials to better understand the cause of the disease, and to one day find a cure.

Lindley is grateful for the care she's received at UVA and appreciates the clinic's team approach, bringing together expertise from a variety of specialties.

"I was raised with the concept that if you have the resources, you are obligated to help others," she says. "I couldn't see more good than supporting an existing clinic that's doing great work now and that I hope will continue doing great work in the future." ●



*ALS does not discriminate—it can affect anyone. For patients who aren't wealthy, acquiring these adaptive technologies and tools can be impossible.*



# SCHOOL OF MEDICINE ALUMNUS GIVES BACK

Gifts Boost Department of Plastic and Maxillofacial Surgery



**EDICAL SCHOOLS OFTEN STRUGGLE** to provide a wide range of hands-on experiences in aesthetic plastic surgery for residents. Mark Constantian, MD (Med '72), a plastic surgeon in private practice in Nashua, NH, has made a generous contribution to help UVA expand its offerings for residents.

Constantian and his wife, Charlotte, gave \$100,000 to create the Mark B. Constantian, MD, Lectureship in Aesthetic Plastic Surgery. The gift will allow UVA's Department of Plastic and Maxillofacial Surgery to annually host a renowned guest lecturer, who will discuss the latest advances in the field, followed by hands-on experience in the lab. Constantian hopes the lecture series will broaden the skills of UVA's aspiring surgeons.

"The field of plastic surgery is so wide, no institution can give equal exposure to everything," says Constantian, who specializes in reconstructive rhinoplasty. "This total immersion experience will allow residents to learn and practice techniques that they may never have seen before, working alongside a master surgeon."

Charlotte Constantian adds: "We hope this opportunity will make these young doctors more well rounded."

In addition, the Constantians have made a generous \$1.65 million bequest to provide scholarship funding for deserving medical students. The bequest will also help residents travel abroad to provide reconstructive surgeries to people in need.

Constantian credits Milton Edgerton, MD, UVA's first full-time chair of plastic surgery, with sparking his interest in the specialty. When Edgerton joined the faculty in 1970, UVA became the first American medical school to establish a Department of Plastic Surgery, headed by a full-time member of the medical faculty.

A pioneer in studying the psychological aspects of plastic surgery and its role in the self-image of emotionally disturbed patients, Edgerton inspired Constantian's own research into why some patients who have had numerous nasal reconstructions are never satisfied after surgery. Constantian has shown

*The Constantian Lectureship helps broaden the skills of aspiring surgeons.*

that dissatisfaction correlates highly with a history of neglect or abuse.

Edgerton himself also made a recent gift to the department. His \$1.47 million contribution, a beneficiary designation from his IRA, will complete funding for the Milton T. Edgerton Professorship in Plastic and Maxillofacial Surgery. He hopes the funds will help UVA attract the best candidates to guide the program through ever-changing developments in the specialty.

"These funds will establish an economic basis that would be competitive in bringing leadership to UVA," says Edgerton, who established UVA's multi-disciplinary Craniofacial Clinic to treat primarily children with severe facial and cranial deformities. "Plastic surgery is a rapidly changing specialty, and UVA's outstanding surgeons are making fine contributions to the field."

For his part, Constantian is grateful for the education he received at UVA. He hopes his gift will attract future medical students who will someday make important contributions to the field.

"The medical education I got at UVA was wonderful," Constantian says. "Being able to make these contributions offered a nice opportunity to show my affection and to give a leg up to a lot of young surgeons so that their learning experience would be easier than mine." ●



Mark Constantian (l) and his wife Charlotte have remained close to Milton Edgerton, Constantian's mentor and inspiration for his own research.

PHOTO COURTESY OF DR. AND MRS. CONSTANTIAN

## DID YOU KNOW?

Endowment gifts are long-term investments aimed at securing the success of UVA Health System for years to come. These type of gifts support student scholarships or faculty professorships, as well as lectureships or research funds.

These gifts bring with them the opportunity to pay lasting tribute to the donor or to honor a loved one, a friend, or a colleague.



A growing body of evidence suggests that resilient caregivers offer safer, more compassionate care.

PHOTOGRAPH © TOM COGILL

**DID YOU KNOW?**

The School of Nursing's Compassionate Care Initiative brings together professionals from across the healthcare spectrum in pursuit of resiliency, meaning, and connectedness.

# COMPASSION 101

UVA School of Nursing's Compassionate Care Initiative Fosters Resiliency in Healthcare

**EACH DAY, NURSES, DOCTORS, AND OTHER HEALTHCARE PRACTITIONERS** face difficult, heart-wrenching situations: traumatic injuries, the death of young patients, or a family struggling to make end-of-life decisions. They also face the stress of working in high-pressured and complex hospital systems. This combination can leave caregivers overwhelmed and burned out—and the care their patients receive can suffer in turn.

“Learning how to buoy your own spirit in times of difficulty and stress is often the first step in offering the best care to your patients,” says Susan Bauer-Wu, PhD, RN, FAAN, the Tussi and John Kluge Professor of Contemplative End-of-Life Care.

The UVA School of Nursing's Compassionate Care Initiative (CCI), established four years ago and directed by Bauer-Wu, supports students and practitioners throughout the UVA Health System by teaching resilience, compassion, and self-care. The CCI offers innovative educational and experiential programs that incorporate mindfulness practices, yoga, and reflective writing. The goal is to cultivate a safe and high functioning environment with healthy and happy healthcare professionals.

“A resilient workforce is a stable workforce,” says Lorna Facticeau, RN, DNSc, chief nursing officer at UVA Medical Center. “They come to work every day, put all their heart and soul into their patients' care, and leave refreshed, as opposed to downtrodden.”

UVA's caregivers are learning concrete ways to integrate compassion into each encounter with patients while taking steps to bolster their own resilience during stressful situations. In the UVA Medical Center's Emergency Room, for example, practitioners observe “The Pause” after the death of a patient. This 45-second moment of silence allows them to acknowledge their own emotions while honoring patients and their families.

Ultimately, the CCI is an investment in better, safer patient care. A growing body of evidence suggests that burned-out, emotionally exhausted healthcare providers are at an extraordinarily high risk of making costly and potentially fatal errors. A 2012 study found

that hospitals with more stressed nurses had dramatically higher infection rates. But even a 30 percent reduction in nurse burnout can result in some 6,000 fewer preventable hospital infections for a total cost savings of \$69 million.

Bauer-Wu hopes private support for the initiative will position UVA to meet the tremendous local and national demand for ways to help practitioners find the calm, clarity, meaning, and connectedness that underlies patient-centered care. Her vision includes resiliency training throughout nursing school curricula, programs for all healthcare workers including unlicensed personnel, certificate programs for nurse managers, and innovative online resources available for practitioners at other institutions.

“The CCI is a leading priority of our school because we see that it makes a difference,” says School of Nursing Dean Dorrie Fontaine, RN, PhD, FAAN. “Centered and empathetic healthcare professionals provide safe and compassionate care.” ●

## WHAT DOES IT TAKE?



*Investment in Research*



*Programmatic Support*



*Build Collaborations*

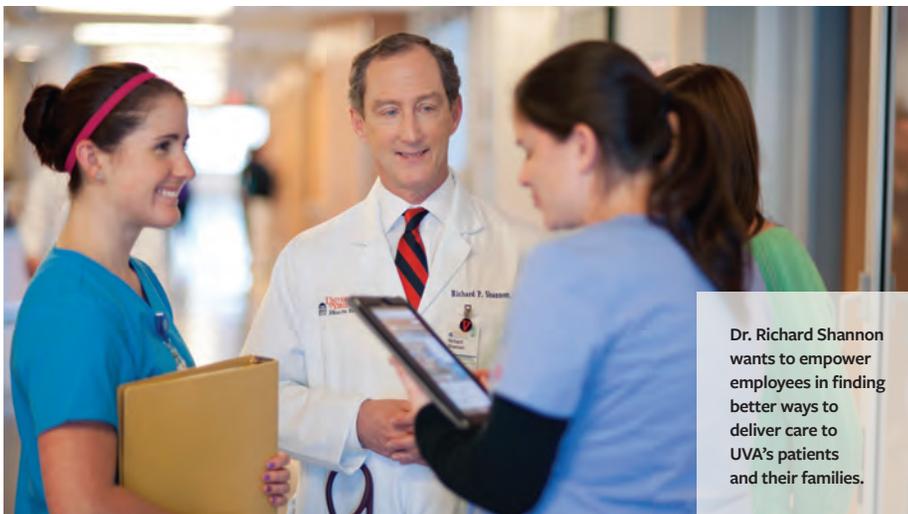
*Centered and empathetic healthcare professionals provide safe and compassionate care.*

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PO Box 800773  
Charlottesville, VA 22908-0773  
Toll-Free (800) 297-0102  
Fax (434) 982-1984  
Email: [pulse@virginia.edu](mailto:pulse@virginia.edu)  
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# PURSuing EXCELLENCE



Dr. Richard Shannon wants to empower employees in finding better ways to deliver care to UVA's patients and their families.

PHOTOGRAPH © KAY TAYLOR

**RICHARD P. SHANNON, MD**, UVA's new executive vice president for health affairs, knows that each patient has a story.

As the former chair of the Department of Medicine at the University of Pennsylvania Health System, Shannon himself has stories to tell—including the story of a 22-year-old leukemia patient and single mother. In remission after completing a highly toxic chemotherapy regimen, the woman contracted a fatal staph infection. “Penn is nationally ranked with Magnet-level nurses,” Shannon remembers. “We wanted to know why this happened.”

Shannon, an internist and cardiologist, is widely recognized for his work on patient safety. He led an investigation and, by implementing a few, easy procedures, significantly decreased the number of infections in the hospital. Fewer mistakes led to increased admissions, and, most importantly, lives saved.

“Quality is never an accident. It is always the result of high intention and skillful execution,” he says. “By looking at how we

work, we are able to deliver the care that patients want and need—on time, without error or waste.”

At UVA, Shannon will oversee both the academic and clinical areas. His primary responsibility will be to advance the strategic vision for the Health System, helping UVA reinvent the way it works to better benefit patients and students.

Shannon's goal is to make UVA one of the safest academic medical centers in the nation, eliminating errors and defects in care found in hospitals across the country. He will emphasize UVA's role in nurturing the health of the surrounding population, and the importance of training future healthcare professionals.

“Now is the time to take all that is good, all that has been built, and transform patient care, education, and research—for patients today, and in the future,” Shannon says. “We can accomplish this audacious goal only with the help of our friends and benefactors who make so much possible.” ●

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