Vital Signs



Gun fight:

You can almost consider gun violence as a disease, and it's going up. We're having an outbreak.

The ties that bind:

I thought Ohio was one of those rectangular states in the middle.

Real-life MacGyver:

Mine was kind of a Rube Goldberg affair...every bend and every curve, every piece had a purpose...



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From the Dean

After 33 years at the Wright State University Boonshoft School of Medicine, it is my distinct pleasure to serve as dean of this remarkable medical school. In my years here, I have been involved in many aspects of medical education and administration, from serving as clerkship director in the Department of Surgery, to executive associate dean, to CEO of Wright State Physicians. I recall with special fondness nurturing several generations of medical students on their surgical rotations. I always enjoy running into them, reminiscing about their time here, and learning where they are now.

I have worked with many of you over the past three decades—as a teacher, a colleague, or a friend of the school, and I look forward to working with you again as we begin this journey into the next chapter of the Boonshoft School of Medicine. Please drop me a line. I'd love to hear from you.

Vital Signs is once again tackling a tough issue, one that keeps returning to the headlines: gun violence. Although this divisive issue shows no signs of resolution, many medical professionals believe the problem should be confronted as a public health issue. You can read about the perspectives of several of our faculty and students who are working on the frontlines of this national affliction in our cover story, "Gun fight."

We also take you back in time to the very founding of the medical school at Wright State in our feature chronicling the remarkable career of Dr. Richard DeWall. Dr. DeWall was an early pioneer in the development of the heart-lung machine who went on to play a critical role in the creation of our medical school.

You will meet several of our outstanding students and alumni and catch up on the latest research news from our faculty investigators.

Thank you all for your generous support of the Boonshoft School of Medicine throughout the years. As a new year begins, I look forward to meeting many of you as we chart the course ahead.

Margaret Dunn, M.D., M.B.A., FACS Dean



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Snapshots

Surgery resident selected for NIH fellowship with National Cancer Institute

Sadia Ilyas, M.D., a Boonshoft School of Medicine resident in surgery, is in her second year of a three-year National Institutes of Health fellowship with the National Cancer Institute.

The Surgical Oncology Fellowship Program trains surgeons committed to academic careers in surgical oncology. Eight positions per year are available for this fellowship program.

Ilyas began the fellowship in 2013, focusing on immunotherapy, a treatment that uses the body's immune system to help fight cancer. She is now in the surgical oncology research program, which includes six months in clinical services and 18 months in the research laboratory.

Ilyas, who plans to become a physician-scientist, was interested in the fellowship because of the clinical experience in the field of immunotherapy and clinical trials.

"This fellowship allows significant, dedicated time in the laboratory in a highly translational setting," she said. "It provides me with the opportunity to work with and learn from top researchers."

WRIGHT STATE UNIVERSITY



The Commission on Presidential Debates (CPD) has selected Wright State University to host the first national presidential debate in fall 2016 prior to the November general election.

The debate will be held September 26, 2016, at the Wright State University Nutter Center.

"I could not be any prouder of our university and the fact that the Commission on Presidential Debates has entrusted Wright State to host such an important event," said Wright State University President David R. Hopkins. "The commission had the daunting challenge of selecting just a few institutions, and the fact that Wright State was selected is very gratifying and humbling. I am confident that our university will excel in supporting the commission and represent our students, faculty and staff, community, and the state of Ohio in a way that will make us all proud. This is a huge win for all of us."

The CPD is a nonprofit, nonpartisan corporation and has sponsored all general election presidential and vice presidential debates since 1988. To learn more about the CPD visit debates.org.

Visit wright.edu/event/ debate for more information about the event.

2015 grad received Young Physicians Patient Safety Award

Class of 2015 graduate Charles N. Spear, M.D., was one of six medical students and residents nationwide who received the 2015 Young Physicians Patient Safety Award for their essays detailing personal insights into the significance of patient safety work.

Spear and the other winners were recognized at the annual Association of American Medical Colleges' Integrating Quality meeting and received \$5,000 each from The Doctors Company Foundation, which cosponsors the annual contest with the Lucian Leape Institute.

In addition to Spear, winners included medical students from Georgetown University School of Medicine and Columbia University College of Physicians and Surgeons, among other medical schools.

The Doctors Company Foundation was created in 2008 by The Doctors Company, the nation's largest physician-owned medical malpractice insurer. The foundation supports patient safety education for health care professionals, patient safety research with clinically useful applications and medical professional liability research. The essays can be read on The Doctors Company Foundation website at tdcfoundation.com.

Spear is completing his pediatrics residency at Children's Mercy Hospital in Kansas City.

Department of Surgery receives second grant to study impact of inter-facility transfers between hospitals

Research by a multidisciplinary team of researchers and surgeons from the Department of Surgery has found that trauma victims are sometimes transferred unnecessarily from one hospital to another. Their research has led to another grant from the Ohio Department of Public Safety (ODPS).

The team's initial findings were part of study funded through a \$56,126 grant from the ODPS awarded in July 2014.

Led by Priti Parikh, Ph.D., assistant professor and director of research in the Department of Surgery, the multidisciplinary team focused on improving patient triage by emergency medical services at roadside accidents. The team studied how errors affect the efficiency of the trauma system.

While efficiently matching patients' needs to hospitals' resources and capabilities is vital to improving the trauma system, the research team found that a lot of people are transferred unnecessarily from one hospital to another.

"The data was very intriguing," Parikh said. "So we decided to dig deeper to identify reasons for inter-facility transfers."

This finding led to the ODPS awarding a \$75,790 grant to Parikh and her team in July 2015. The multidisciplinary team includes Melissa Whitmill, M.D., Randy Woods, M.D., and Kimberly Hendershot, M.D., in the Department of Surgery, and Pratik Parikh, Ph.D., in the College of Engineering and Computer Science.

With the 2015 grant, the team will study and determine the rate of inter-facility transfers along with secondary over-triage, which occurs when patients are transferred to a Level I trauma center for nonmedical reasons and are discharged shortly after admission.

"This practice can overwhelm medical resources and delay recommended treatment," Priti Parikh said. "It can be costly and inconvenient for patients."

In Ohio, patient-transfers between hospitals have increased because of regionalization, specialization, and facility designation. The emergence of specialty systems, such as cardiac and stroke centers, often determines the ultimate destination of patients rather than proximity of the facility and the patient's needs.

"The secondary over-triage rates affect the quality and efficiency of trauma care and resource utilization," Parikh said. "We expect our study's findings to support Ohio's efforts to improve access to care and trauma system efficiency, while alleviating unnecessary costs."

Gary LeRoy, M.D., elected to AAFP Board of Directors

Gary LeRoy, M.D., FAAFP, associate dean for student affairs and admissions, was elected to the Board of Directors of the American Academy of Family Physicians (AAFP) at the medical society's 2015 annual meeting in Denver.

The AAFP, which represents 120,900 physicians and medical students nationwide, is devoted to primary care. Its board of directors advocates on behalf of family physicians and patients nationwide to inspire positive change in the U.S. health care system.

LeRoy, an associate professor of family medicine, is a lifelong Daytonian and public servant. He serves the disadvantaged as a staff physician at the East Dayton Health Clinic. He served the clinic as medical director from 1994 to 2008, and helped secure funding to remodel and expand the center and its services. LeRoy is a leader throughout the Dayton community, serving in several different organizations, including Reach Out of Montgomery County, Dayton Public Schools, American Red Cross, and St. Vincent de Paul homeless shelter.

He has been a member of the AAFP since 1991, serving in leadership roles at both the state and national level. Since 2010, LeRoy has served as an Ohio delegate to the AAFP Conference of Delegates. He served as chair of the Commission on Education and has also chaired the Commission on Membership



and Member Services. He served as president of the Ohio Academy of Family Physicians (AFP) from 2004 to 2005 and serves as a board member. In 2014, he was recognized with the Ohio AFP Family Medicine Educator of the Year award. In 2004, he was honored with the Family Physician of the Year award from the Miami Valley Academy of Family Physicians.

LeRoy earned both his bachelor's and medical degrees from Wright State University. He completed his residency at the Miami Valley Hospital Family Practice Residency and a fellowship at Michigan State University Primary Care Faculty Development Fellowship.

Center for Healthy Communities marks 25th anniversary

For 25 years, the Center for Healthy Communities has been working in partnership with the Greater Dayton region to improve the health of the community. To recognize and honor its community and academic partnerships and programs, the center has planned a yearlong celebration.

"We want to thank the community and our partners," said Katherine Cauley, Ph.D., director of the center and professor of community health, "for working with us for 25 years to meet the mission of improving the health and well-being of the community, educating its health professionals, and serving as a force for change."

The center began as a partnership among local higher education institutions and community-based health and social service agencies in 1991, with fiscal support from the Kellogg Foundation, the Ohio Board of Regents, the Ohio Department of Health, **Community Mutual** Insurance Company, Wright State University, and Sinclair Community College. The founding academic partners from Wright State University included the Boonshoft School of Medicine, College of Liberal Arts, College of Nursing and Health, and School of Professional Psychology; and from Sinclair Community College included the Division of Life and Health Sciences. Founding community partners included Dayton Public Schools, Public Health Dayton, Our Common Heritage, Parity Inc., Good Samaritan Hospital, Miami Valley Hospital, City of Dayton, faith-based organization, and social services organizations. All of these partner organizations and many more continue to work with the center through multiple initiatives.

Through the center, the Kinship Navigator Program supports grandparents and other caregivers linking them with needed resources to support their grandchildren who are in their full-time care. Community health workers provide an extension of the primary care team, meeting with patients in their homes and helping to ensure people get needed services and get to follow-up medical appointments. Additionally, the center facilitates coalitions that improve coordination of services across sectors.

The center supports health professions students by providing community-based clinical experiences and innovative models of care, interprofessional team training, and community research opportunities in quality and clinical outcomes. Additionally, the center provides quarterly continuing education programs for practicing health care professionals in the Greater Dayton area.

Beyond the local area, the center also develops, implements, and evaluates interprofessional, communitybased health professions education curricula and enhanced primary care models at the state and regional level, and disseminates this work broadly at national and international professional meetings.

The center will mark its 25th anniversary at several events throughout the year, including:

Partners Luncheon— Wednesday, March 16, 2016 Staff Dinner and Reunion—

Friday, June 3, 2016

Founders Dinner— Saturday, June 4, 2016

For more information, visit medicine.wright.edu/chc.

School of Medicine expert tapped to evaluate EPA's effort to address lead exposure in buildings

Adults and children are exposed to lead and its associated health risks following renovation, repair, and painting activities in public and commercial buildings, a Wright State University assistant professor told an Environmental Protection Agency (EPA) peer review panel.

Because of her extensive research on lead, Naila Khalil, M.B.B.S., M.P.H., Ph.D., associate professor of community health in the Center for Global Health, was invited to be one of 12 scientific and academic professionals to evaluate the EPA's Approach for Estimating Exposures and Incremental Health Effects from Lead Due to Renovation, Repair, and Painting Activities in Public and Commercial Buildings.

In addition to Khalil, the peer reviewers included researchers and experts from the University of Rochester School of Medicine and Dentistry, Rutgers University, University of Texas, Arlington, Harvard School of Public Health, and the California Environmental Protection Agency, among other organizations.

"It was an honor to be selected to serve on a peer review panel that was involved in evaluating the scientific basis of EPA's approach," said Khalil, who holds an M.P.H. from Pakistan, where she was the national program manager for environmental health, a collaborative effort with the World Health Organization. "To my knowledge this approach is the first of its kind that offers plausible adverse health effect estimates due to lead paint exposure of adults and children. These projected results could be used in public health decision making."

Khalil serves on the editorial board of the Journal of Family Medicine & Community Health and as a reviewer for Environmental Health Perspectives and British Medical Journal.

The WrightCurriculum

The Boonshoft School of Medicine is transforming its curriculum to meet the health care challenges of the future

Health care is changing rapidly in the United States, and medical schools nationwide are transforming medical student education to better prepare physicians for delivering safe, evidencebased, quality care to a diverse population.

To ensure that our future graduates can meet the challenges of a rapidly evolving health care environment, the Boonshoft School of Medicine is revamping its medical education with the creation of a new WrightCurriculum.

"We expect our graduates to be outstanding physicians who continue to learn through their professional lives, and who will serve both their community and the profession," said Dean Parmelee, M.D., professor of psychiatry and pediatrics and associate dean for academic affairs. "When it is implemented, our new WrightCurriculum will ensure that our new graduates will be ready to meet the health care challenges of the future."

In 2010, the Faculty Curriculum Committee (FCC) appointed a task force, led by Brenda Roman, M.D., assistant dean for curriculum and medical education research, to define the key components for a new curriculum and provide guideposts for moving forward. In 2011, the FCC created the Wright-Curriculum Steering Committee to begin the detailed planning and development for the entering class of the 2017-18 academic year.

Since 2013 the medical school has been field-testing and evolving its pedagogies and assessments. Faculty of all ranks in all departments are involved in the creation of the WrightCurriculum, which will go live in the fall of 2017.

"The WrightCurriculum, represents our faculty's collaborative efforts and creativity over several years to build an innovative and enduring program of study for the practice of medicine," said Roman. "It will evolve with new information and best practice, strengthen as students and faculty provide feedback, and emphasize a spirit of inquiry and discovery that will benefit our patients, their families, and the communities in which they live."

The curriculum will no longer be structured with learning "the normal," then "the abnormal," and finally clinical application. Rather students will be learning about disease processes and therapeutic approaches within the context of normal development and function. The medical knowledge threads and overarching learning objectives will be incorporated into foundational modules, clerkships, clinical electives, and assessments throughout all three phases of the curriculum.



The new curriculum will include milestones that will align the undergraduate medical education experience with the next phase of residency training, within the continuum of medical education. These educational milestones will be a starting point rather than an endpoint, a new way of thinking about undergraduate medical education using a developmental approach.

"The Boonshoft School of Medicine is committed to providing its students a curriculum that is forward-thinking, faculty who practice and research contemporary medicine, and a learning environment that nourishes the professional and personal growth of every student," said Margaret Dunn, dean.

For more information about the WrightCurriculum, visit: medicine.wright.edu/ wrightcurriculum The WrightCurriculum will have six interrelated educational objectives.

2015 Graduate receives Excellence in Public Health Award

Betty Cheney, M.D., M.P.H., exemplifies the collaboration between medicine and public health. As a student in motivational interviewing the Boonshoft School of Medicine and the Wright State Master of Public Health Program, she focused on helping others attain high-quality lives by creating social and physical environments that promote good health.

The U.S. Public Health Service took note of her commitment to public health and recognized Cheney with a 2015 Excellence in Public Health Award at the Boonshoft School of Medicine commencement ceremonies in May.

As an undergraduate at Wittenberg University, Cheney's experience at a community health center set the stage for her interest in public health. At the Rocking Horse Center in Springfield, Cheney was introduced to the concept of a medical home. That experience shaped her career goal of becoming a pediatrician who spent two weeks doing a cares about children and the underserved.

As a child, she considered becoming a teacher or a doctor. She chose to become a doctor and has found that clinical encounters include education for both the child and the parents.

As a member of the Physician Leadership Development Program (PLDP) at the Boonshoft School of Medicine, Cheney completed her Master of Public Health (M.P.H.) degree concurrent with medical

school. During her M.P.H. coursework, she examined the effectiveness of using with adolescents who are diagnosed with obesity.

"Her desire to improve the quality of life for others led her to find more effective ways of counseling and educating young people about health challenges and making positive changes to health behaviors," said Sabrina Neeley, Ph.D., M.P.H., PLDP director. "Betty wants to be part of the community in order to better understand the many factors that impact the health and well-being of her patients. She wants to care for her patients and their families as if they are her neighbors."

Cheney volunteered for international experiences that strengthened her medical knowledge and skills. She was part of a pediatrics team during a six-week international health experience in Tanzania. She clinical shadowing with HIV-positive children in Lesotho. She is a founding board member of BLOOM Africa, a nongovernmental organization that supports local partnerships to improve the lives of orphans and vulnerable children.

As a medical student, Cheney was committed to improving the lives and health of children through community service. She served as a Student to Student talk leader. discussing health and the human body with local elementary and secondary school children. She also served as a volunteer coach for the Special Olympics



Roller Skating team, leading practices, coordinating competitions, and recruiting other medical student volunteers.

During her third year of medical school, Cheney served as co-chair of the PLDP Executive Council, advising program administration, and organizing opportunities for other medical students to learn about leadership. She also served as cochair of the Pediatrics Club, class service chair for the Medical School Student Council, and student representative on numerous School of Medicine administrative committees. She is a member of the Phi Rho Sigma Medical Society and was inducted into the Delta Omega Honorary Society in Public Health and the Gold Humanism Honor Society.

Cheney began her residency last summer in pediatrics at the University of Florida Health Shands Hospital in Orlando.

John Donnelly, M.D., named Family Medicine Educator of the Year



The Ohio Academy of Family Physicians has awarded John F. Donnelly, M.D., its 2015 Family Medicine Educator of the Year Award.

Donnelly, professor of family medicine, has been practicing medicine for 27 years. Following residency and an early career in Texas, Donnelly came to the Boonshoft School of Medicine in 1997.

"My teaching philosophy is to motivate, challenge, and encourage learners to give their best effort, thereby empowering them to provide their patients with health care of the highest quality," Donnelly said. "I strive to foster in learners a love of patients, the joy of medicine, a zest for professional development, and lifelong learning."

Therese M. Zink, M.D., M.P.H., professor and chair of the Department of Family Medicine, describes Donnelly as a medical student magnet. He is dedicated to each and every one of his 400-plus medical students. He is said to know each student's first and last name. The class of 2015 selected Donnelly to be its graduation speaker instead of following the tradition of selecting a nationally recognized celebrity. Medical students also have awarded him the Teaching Excellence Award nine times.

Donnelly partnered with others to secure grants to start several innovative programs, including the Healer's Art course, a five-week class that brings together students with practicing physicians to explore the role of healer. He also implemented the Finding Meaning in Medicine program for third- and fourth-year medical students.

In 2003, Donnelly took a medical leave of absence. When he returned to the Boonshoft School of Medicine, he brought back his story and knowledge regarding the art of medicine.

"Perhaps Dr. Donnelly's own illness and recovery journey have formed the importance of being a healer to his patients and instilling that same value in his students," Zink said. "Mentoring the next generation of physicians and healers is important to him." He has received many awards, including the American Association of Medical Colleges Humanism in Medicine Recognition (four times) and the Arnold Gold Humanism in Medicine Foundation Award. He was inducted into the Alpha Omega Alpha Honor Society in 2002.

While practicing at the University of Texas-Houston Medical School, Donnelly received the John P. McGovern Outstanding Clinical Teacher Award three times and from 1989-97 both the Outstanding Teacher in Family Practice Award and the Dean's Teaching Excellence Award.

In addition to serving on many Boonshoft School of Medicine committees, Donnelly volunteers with several church and community groups, including the Church of the Holy Angels, St. Vincent De Paul, Reach Out of Montgomery County, and Cedarville University. He also is a youth coach, referee, and umpire for several Dayton-area programs.

He earned his M.D. degree at the University of Texas-Houston Medical School and completed his residency training at the University of Texas-Houston Medical School and Memorial Herman-Texas Medical **Center Family Practice** Residency Program, followed by a clinical teaching fellowship in family medicine at the Family Practice Faculty Development Center, McLennan County Medical Education and Research Foundation, in Waco, Texas.

He is board certified in family medicine and is a fellow of the American Academy of Family Physicians.

The OAFP annually presents the Family Medicine Educator of the Year Award to a family medicine educator who meets and exceeds the criteria of being a capable teacher of family medicine, successful administrator/ practitioner, productive researcher/scholar and inspiring leader.

Issues In Depth

Gun fight

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Vital Signs Winter 2015

gun violence

Kevin Purcell's academic interest in gun violence had its roots in the very visceral reaction he had to finding himself looking down the barrel of a handgun.

Now a third-year medical student at Wright State University's Boonshoft School of Medicine, the Brooklyn-born Purcell, 27, tried to break up a scuffle at a college party in New York state some years ago when one of the revelers pointed a gun at his head.

Although the gunman ultimately lowered the weapon and Purcell was unharmed, "My life went before my eyes in the blink of a second," he said.

Purcell is one of many in the medical school community and beyond who are taking a public health approach to the seemingly increase of more than 40 percent, according to a 2013 analysis of suicide and homicide deaths coauthored by Sara J. Paton, Ph.D., director of the Master of Public Health Program.

"You can almost consider gun violence as a disease, and it's going up," Paton said. "We're having an outbreak."

Solutions elusive

Experts acknowledge solutions have been depressingly elusive, even in the wake of such high-profile mass shootings as the December 2012 bloodbath at Sandy Hook Elementary School in Newtown, Connecticut, in which a gunman killed 20 children and six adults. There were at least 142 school shootings between Sandy Hook and the October 1, 2015, shooting spree at Umpqua Community College in Roseburg, Oregon, that left 10

> dead, according to the nonprofit Everytown For Gun Safety.

> > Gun violence continued

to be a major issue as 2015 drew to a close with mass shootings, including the deadly Novemner 27 attack on a Planned Parenthood clinic in Colorado that left three dead and the December 2 rampage in San Bernardino that killed 14.

"People are just deadlocked," said Peter Ekeh, M.D., professor of surgery and medical director of the trauma program at Miami Valley Hospital in Dayton. "You see two camps. You see the people who say the right to carry arms is part of the American DNA, and you have the camp that wants to limit access to guns. I think the answer is somewhere in the middle. I've heard all the sides of the issue, and I think every one has some validity."

Limiting access to guns is difficult, he noted, not only because of Supreme Court interpretations of Second Amendment rights, but because the nation is already so flooded with firearms. There are an estimated 300 million guns in private hands in America, so even if the manufacture of new weapons stopped tomorrow, guns would continue to present problems long into the future, he said.

"We have to live with that," Ekeh said. "That's the fact on the ground."

Public health issue

Like others interviewed for this article, Ekeh believes gun violence can be reduced if health professionals use a multifaceted approach that not only focuses on guns, but the underlying causes of violence with an eye toward prevention.

"It should be dealt with as a public health issue," he said. "At one point in this country, we had typhoid as a public health issue, smallpox, AIDS. The socioeconomic issues that push people toward violence need to be addressed."

Miami Valley Hospital's (MVH) Injury Prevention Center, headed by Ekeh, has been taking steps to do exactly that. One example: For the last several years, the center has sponsored a program called Hope in the Valley in conjunction with Montgomery County Juvenile Court. Under the program, which meets for two to three hours weekly for four weeks, troubled youth aged 12-15 learn alternatives to violence in an effort to "realign their lives," Ekeh said.

A new program, which is to be launched in 2016, will make social services available to gunshot victims in a bid to keep them from being re-victimized. Some gunshot victims, Ekeh noted, are involved in activities that put them at risk of being shot, such as engaging in criminal enterprises or associating with gangs. He said he has treated the same people for gunshot wounds multiple times at MVH, and "I have had instances where people come in (with gunshot wounds), and you x-ray them, and you find other bullets" from earlier shootings.

The program will offer education, help with employment issues, and other services to gunshot victims.

"A lot of times, this is a teachable moment for them, when they have been shot," Ekeh said.

A second chance at death

Medical student Purcell, who has worked in violence prevention and written a thesis on gun violence, agrees.

"When you save a gunshot victim, you don't give them a second chance at life, you give

intractable

problem of gun violence in the United States. They say the nation needs to get beyond heated political arguments about gun control and pursue multiple strategies compatible with the Second Amendment to bring down frustratingly high rates of firearm deaths and injuries.

Outbreak in Montgomery County

More than 32,000 people die from gunshot wounds annually in the United States, two-thirds of them suicides, according to the Centers for Disease Control and Prevention. About 67,000 suffer nonfatal gunshot injuries, more than half of them requiring hospitalizations. While studies show gun violence has declined significantly since the early 1990s, the journal *Preventive Medicine* reported in a 2015 article that between 2000 and 2012, "firearm suicides increased and nonfatal firearm assaults increased to their highest level since 1995."

Locally in Montgomery County, the use of firearms in homicides leaped from 52.1 percent in 2000 to 73.5 percent in 2011, an

them a second chance at death because you haven't gotten to the root cause of the problem," he said. "The physician's job is to heal. Not just medically, but emotionally, spiritually. (In cases of repeated gunshot victimization) you're telling me you didn't do your job, because you fixed this person up and three months later he's back in a trauma bed."

Mary C. McCarthy, M.D., Elizabeth Berry Gray Chair and professor of surgery, said it's important to remember that not all gunshot victims occasioned their own injuries. Doctors should triage patients strictly on the severity of their injuries, not on any preconceived ideas about whether a victim had culpability in the shooting.

I have had instances where people come in (with gunshot wounds) and you x-ray them and you find other bullets

"I try not to find out," she said. "I don't want to know."

In one of McCarthy's first cases involving gun violence, when she was in medical school, an acquaintance who was employed by the Indiana hospital where she worked "came in one night while I was on call with a shotgun blast to the abdomen. He wasn't the intended victim. He was just in the wrong place at the wrong time." The man survived the shooting.

A few years later, McCarthy was a resident at Dallas' Parkland Hospital, where President John F. Kennedy was treated after his mortal wounding on Dealey Plaza in 1963.

One day two decades later, McCarthy was present when medics brought in wounded police and civilians who had been involved in a "tremendous firefight" in the civilians' home. It was believed the civilians were criminals who shot the cops as they raided the home, and there may have been a temptation to give top priority to the police officers even though their wounds were less severe, she said. As it turned out, the police raided the wrong home and the people in the house fired at the officers in self-defense.

"Information at the scene is rarely correct, so you don't want to make a (treatment) decision based on that," McCarthy said. "There's always more to the story."

Gunshot injuries more severe

Miami Valley's trauma unit treats far more accidents (90 percent of its caseload) than penetrating trauma like gunshot and stab wounds. But gunshot wounds often are fatal, especially in cases of suicide.

According to *Preventive Medicine*, the fatality rate for suicide attempts involving guns is 85 percent, compared to 19 percent for assaults by firearm and 5 percent for unintentional firearm injuries.

The severity of injury is often greater with gunshot wounds than other types of traumatic injury, McCarthy said. "If you get stabbed, there's a very localized injury. (A gunshot wound) is more extensive—and more lethal."

She said she finds trauma care exciting and rewarding—and so do medical students. "Everybody wants to take care of trauma victims," she said. "It's very adrenalin-charged. A lot of students enjoy their rotation on the trauma service." Some 20 percent of our general surgery residents go on to work in trauma and critical care, McCarthy said.

McCarthy, who founded the Injury Prevention Center in the mid-1990s, said people should contact authorities if they suspect a friend or relative may be prone to violence. "If they're concerned, they need to tell somebody," McCarthy said. "In so many of these active-shooter incidents, people know these people are having (psychiatric) problems. It doesn't just come out of the blue. Trauma is a preventable disease." Also, "there's just too many guns and too many assault weapons. I mean, how do assault weapons end up in the hands of disturbed children? I can't say I'm opposed to guns, but there's no place for assault weapons in a civilized society."

Mass shootings capture headlines

While they make up only a sliver of the gun violence in America, random mass-shootings in public places like schools and movie theaters have captured headlines.

"There seems to be—and this is arguable an increasing number of these incidents," said Brian Springer, M.D., associate professor of emergency medicine and director of the tactical emergency medicine division in the Department of Emergency Medicine. In the latter role, Springer, who also is a commissioned law enforcement officer for Grandview Hospital, provides medical support for area police, particularly Special Weapons and Tactics teams. He is also an attending physician at Kettering Medical Center.

Active-shooter incidents can be headed off with better security at schools, more school resource officers, and better awareness and preparedness for all civilians, Springer said. Since the 1999 massacre at Colorado's Columbine High School, there has been an increased emphasis on getting tactically equipped and trained medics into shooting scenes earlier to help the wounded.

"As far as prevention, that's a tough one," Springer said. "You're dealing with not only disturbed minds but young minds, and that's always been a problem."

Police militarization has been a controversial topic in the wake of a wave of officer-in-

volved shootings of unarmed people, particularly black men, and Springer acknowledged that some police departments are ill-trained and dazzled by getting the latest "tacti-cool" gadgets. He also acknowledged that police departments that invest the time and money to create SWAT teams are more likely to use them. "Obviously," Springer said, "quality varies among them."

But he said properly trained and equipped SWAT teams can manage a crime scene and "wait things out" so there's a "safer resolution"

It's better to build strong kids than to repair broken men

to "not only enhance officer safety but also the safety of the public and even the suspect."

On a day-to-day basis, law enforcement can have an increased impact on gun violence by stepping up gun-law enforcement, by mediating disputes between gangs, by having a more "visible presence at gun shows," where background checks aren't always required, and by "communicating with reputable (gun) dealers to make sure the law is being followed."

Community options in dealing with violence

Ken Dahms, J.D., who teaches public health ethics and policy at the Center for Global Health, said communities still have options for dealing with gun violence, even if the Supreme Court has struck down gun control efforts. "Obviously, there are some limitations that have been set by the Supreme Court, but there are lots of policy options remaining," he said. Perhaps half of the annual firearms deaths in the U.S. could be prevented with policy changes, he said.

Universal background checks before any gun sale, significant controls on assault weapons, stronger efforts to keep guns out of the hands of people suffering from severe mental illness, along with increased crime watches and education in impacted communities are among those options, said Dahms and Paton. "Gag order" laws in some states that prohibit doctors from talking with their patients about gun violence also should be eliminated, Dahms said.

Epidemiologist Paton is working on a strategic plan for Montgomery County's Family and Children First Council to find strategies to curb gun violence.

She noted that men tend to be most prone to using guns. Studies show middle-aged white men who commit suicide are most likely to use guns, while young black men are overrepresented as victims of firearm homicides.

Paton said mental health services don't get the same attention, or funding, as physical health services, and increasing access could reduce suicide. But she acknowledged that funding is tight for all types of social and public-health programming that might make an impact.

"There's not a lot of extra funds going around in general," Paton said. "Budgets are tight for public health and mental health services."

High cost of gun violence

But the cost of maintaining the status quo also is high. Between 2010 and 2012, firearms deaths and injuries totaled \$48 billion in medical and work-loss costs, *Preventive Medicine* said.

Mother Jones magazine sets the cost much higher. In an April 2015 report, the magazine said its analysis found the annual cost of gun violence in the U.S. is \$229 billion, higher than the cost of obesity and nearly the cost of the Medicaid program. It said direct costs including medical costs and incarceration total \$8.6 billion, while indirect costs like lost income, losses to employers, and impact on quality of life add up to \$221 billion.

"People don't understand the cost of violence," Purcell said. "They don't understand the strain it places on society."

Social programs do get results, he said. He worked with troubled youth in Brooklyn in an anti-violence program that led to some getting jobs and furthering their educations.

"It's better to build strong kids than to repair broken men," he said.

Purcell said he realizes that gunshot victims can be among the most difficult and hostile patients, but he urged doctors to look beyond the attitude and find ways to not only treat their wounds but help them heal their lives.

"Medicine is supposed to be about compassion," he said. "Well, that's compassion at its finest."

—Tom Beyerlein



Faculty in Focus

The ties that bind

Ties can bind many things. Family ties can bind you to a place, stitches can bind wounds, and yarn binds knitting

Margaret Dunn, M.D., M.B.A., FACS, became dean February 2015.

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Most of those who have known Margaret Dunn over the years have seen her knit. During her more than 30 years with the medical school, she would often sit quietly during meetings silently working yarn and needle as she knitted row upon row. Knitting is the thread that has looped back and forth through her life since her earliest days.

The oldest of four children, Dunn grew up in a large, extended Irish Catholic family that included 46 first cousins. She was raised on Long Island, as were her parents. They moved from New York City to Oakdale on the south shore when Dunn was four.

"I spent a lot of my time growing up with my family," she says. "You could spend every weekend doing a christening or a shower or a birthday with my extended family." Summers were spent at the beach. "My mother's strategy to deal with four children was to just take us all to the beach."

Because her maternal grandfather was unable to work, her grandmother supported her five children by working in hospitals, which led to Dunn's interest in medicine. Although her grandmother's formal education had ended before high school, "She was a really smart woman," said Dunn. "She never let the lack of formal education make her think she wasn't a bright person. Which of course, she was. She had five kids to raise."

Candy striper at 12

Although there were no physicians in her family, Dunn remembers getting interested in the idea of becoming a physician at the young age of 10 or 11, and she soon became a candy striper. "Once I worked through being the nun thing, it just seemed like a way to help people, and it was intellectually interesting."

In her teens, she applied to an accelerated medical school program at Jefferson Medical College in Philadelphia that combined an undergraduate and medical education into six years. She was accepted and began medical school at the age of 18. She developed an interest in anesthesia early in medical school because of a pediatric anesthesia elective she did in Montreal, Canada. She pursued a surgery clerkship thinking it would expose her to anesthesiology and soon found that the third-year students in the program functioned more like interns. "You could write orders for everything except Coumadin because some student had anti-coagulated a patient to a bad place once," she said. "But everything else you could write orders without them being signed."

Surgery over anesthesiology

She had signed up for the surgery clerkship thinking she was interested in anesthesia, but instead developed an interest in surgery.

In the middle of the clerkship, a third-year resident sent her to take stitches out of a patient with a large incision. "The incision just didn't look right," she recalls. She went back to the resident and told him he needed to look at the incision because it didn't look right. Instead he sent another student who removed the stitches. Dunn's concern was justified—the wound had not healed correctly and the patient eviscerated. "That's when I decided, yeah, I can do this," she said.

When she made the decision to pursue a career in surgery, she had never met a woman surgeon. "I was 21 and I didn't know any better," she recalls. "It's like why not do it? Why shouldn't I do it?"

She met her future husband, Bill Spohn, when he was an intern doing a pediatric residency in Delaware. He was her classmate's resident.

After graduation from Jefferson in 1977, Dunn did her residency at Einstein-Montefiore in the Bronx, where she served as chief surgical resident.

After finishing his residency in pediatrics in Delaware, Spohn followed her to New York. He joined the Public Health Service and worked in the Lower East Side of Manhattan for two years. "And then he did his pediatric pulmonary fellowship at Mt. Sinai, so we ended up finishing up at the same time," she said. They were married in 1982.

Staying awake with knitting

Knitting helped her throughout her medical training. Dunn's mother taught her to knit when she was nine, and she taught herself to crochet when she was 10. She crocheted as a medical student to stay awake in lectures and decided to pick up knitting again as a fourth year. "It helped tremendously during my residency," she said. "Without knitting, I was asleep as soon as the lights went down at grand rounds."

After completing her residency, Dunn was offered a faculty position at Einstein Montefiore. She would have stayed, but her husband couldn't find a position he liked because there were so many pediatric pulmonologists in New York. Since many positions were open in other parts of the United States, he landed an interview for a Wright State position at Children Medical Center of Dayton. Although he considered it a practice interview, after interviewing he decided he really liked the position and Dayton. "I told him he could decide where we moved next," she said. "So we did.

"I thought Ohio was one of those rectangular states in the middle," she recalls. "I really had no idea where I was going."

First pregnant woman on the surgery faculty

She soon landed a faculty position in the Department of Surgery at the Wright State School of Medicine, starting in 1982. "The founding chair of the department was pretty sure he didn't want to hire a woman," she said. "He was a lovely man, and he turned into a mentor, but at the time he met me, he didn't believe women ought to be in surgery." But because the job had been open for a year, and no one else had applied, he was left with little choice. Dunn became the first woman on the surgery faculty and one of the very few women faculty members in the medical school.

Dunn recalls that there were a few women surgeons in the Dayton area then, but she was the only woman working in the allopathic community. "For most people, I was the first woman surgeon they had seen," she said. "Without a doubt, I was the first pregnant surgeon anybody had seen."

At that time, the surgery department was located at Kettering Hospital, but Dunn spent most of her time at the Dayton Veterans Affairs Medical Center. She went on to serve as surgery clerkship director for 13 years.

Since Dunn was so young when she started at Wright State, she attributed any possible disrespect she experienced to her youth as much as her gender.

As Dunn recalls, the founding chair, Dan W. Elliott, M.D., didn't have a mean bone in his body. "He really couldn't figure out anything to say to me other than what he would say to another faculty member," she recalls. "He was really at a loss. So he pretty much gave me the advice he would have given anybody."

Because the department was so small, he often sent her to meetings where everyone else was a department chair. "I really had an incredible opportunity that I never would have gotten in a bigger department," she said.

VA patients accepting

Surprisingly, the one place she found no resistance to a woman surgeon was among the patients at the Dayton VA Medical Center. "The patients there were so lovely and accepting," she said. After the birth of her second child, "There was no going to clinic without baby pictures, because all the guys wanted to see the baby."

She became one of the early leaders of the fledgling Association of Women Surgeons (AWS), serving as its second secretary. She was elected as its president in 1994 and has served as the AWS Foundation treasurer. In 2011, she was awarded the organization's highest honor, the Nina Starr Braunwald Award in recognition of her contributions to the advancement of women in surgery.

It was through AWS that she met Dr. Mary McCarthy, now chair of the Department of Surgery. "I knew Mary because Bill and Charles (McCarthy's husband) met fighting over the last high chair in the dining room at the Grand Hotel in Mackinaw at the Midwest Surgical," she said. Dunn recruited McCarthy to the medical school faculty in 1991.

For the most part, Dunn found tremendous support from the male surgeons in the area. Longtime surgeon Dr. Robert Finley was very supportive and nominated her as a regent of the American College of Surgeons. The second chair of the Department of Surgery, Dr. Jim Peoples, was a close friend and mentor. "Because Jim was so open, early on we ended up having a department that had a lot of women in it," she said. "Disproportionately so."

Midwestern culture shock

Dunn was attracted to academic medicine because she has always enjoyed teaching and was good at it. "That I ended up at a medical school whose mission was primarily education was really fortunate," she said, "Because it was exactly the type of medical school I wanted to be at."

She admits to a bit of culture shock when she moved to the Midwest. "I went from being perceived as one of the nicest people in the place I trained to being perceived as not being nice,' she said. "And it took me awhile to understand that I was living in a place with different cultural norms and ways of communicating. Just because we're speaking English here doesn't mean it's the same." She found Midwesterners more reticent in offering their thoughts and opinions. "You have to actively elicit opinions in a safe space, or you're not going to get them," she said. She found that frustrating when she was younger. "But at the age I'm at now, I think it's wonderful," she said. "It's just less stressful."

Named dean in 2015

Dunn has had a long and successful career during her 33 years at the Boonshoft School of Medicine. She served as associate dean for faculty and clinical affairs from 1999-2007. After earning an M.B.A. in 2005, she was appointed president and CEO of Wright State Physicians and executive associate dean of the medical school in 2007. In February 2015, she was named dean of the medical school.

Despite her busy schedule, Dunn still sets aside a day each week to practice breast surgery. She also stays active with national professional organizations, including serving on the Board of Regents of the American College of Surgeons since 2010.

Dunn found herself dean during a time of enormous change in American health care, including its accessibility, how it's delivered, and how it's paid for. "Guiding our school through this transitional period in American medicine is a big responsibility that I take very seriously," she said.

"Everything is changing about medicine. The funding of it, how physicians get paid is changing," she said. "We recognize that we're not getting value in this country for the money we spend on health care for what we get in terms of the health of our population.

"I think physicians, particularly our faculty, are energized to obtain better health outcomes in our patients, and we know that's generally associated with lower costs of care. Everyone wants to do better; we will do better." she said.

To help respond to those changes, the medical school is transforming its medical student education to better prepare physicians to deliver safe, evidence-based, quality care to a diverse population. "We are committed to providing our students with a curriculum that is forward-thinking and a learning environment that nourishes their professional and personal growth," Dunn said.

Faculty members are collaborating to create the WrightCurriculum, an innovative program of study that will evolve with new information and best practices. "The new curriculum is being designed to not only meet today's challenges in health care delivery," she said. "It will emphasize a spirit of inquiry and discovery that will also prepare our graduates to meet the health care challenges of the future."

Dunn says she is also committed to raising funds for scholarships to reduce student debt and to reinvigorating and deepening the medical school's relationships with its clinical partners as well as finding new institutions to work with. She is especially excited about expanding the new rural health track in the counties surrounding WSU's Lake Campus.

She also plans to grow the research enterprise, particularly in population health and health systems research, as well as biomedical and translational research.

Working out

In her spare time Dunn has started running, although by her own admission, not very fast. "Even though for years I told patients what a good thing exercise was, I really only started to personally appreciate it," she said. "As I get older, I'm trying to be more focused on getting it, and I've really come to enjoy it."

And she still finds knitting very soothing.

Even though she never intended to pursue a career in academic medicine in Dayton, Ohio, or expected to become dean at this stage of her life, she says it all worked out. "Most of my life, things have just worked out." **VS**

-Cindy Young

A Closer Look

A REAL-LIFE MACGYVER BUILDS A MEDICAL SCHOOL

Dr. Richard DeWall, the inventor of an early heartlung machine used in cardiac surgery worldwide played a critical role in the founding of Wright State's medical school



During four years of surgical residency at the University of Minnesota, Dr. Julie Gilkeson, now a clinical professor in surgery at Boonshoft School of Medicine, handled beakers and pipettes used by Dr. C. Walton Lillehei and other pioneering giants of cardiac surgery.

During two subsequent years as a fellow in vascular and endovascular surgery at Baylor College of Medicine, she saw those same Minnesota names and faces in the background of tributes to cardiac surgery icons Michael E. DeBakey and Denton Cooley.

But it wasn't until she joined Dayton Surgeons Inc. that the founder and director of the Kettering Amputation Prevention Center came face-to-face with one of her field's foundational figures, Dr. Richard DeWall.

"One, I didn't know he was alive," Gilkeson told the audience at the inaugural Richard DeWall, M.D., Endowed Lecture, delivered last March at the Kettering Medical Center's Dean Amphitheater.

Two, she had had no notion that, in addition to fashioning a heart-lung machine of a "remarkable, simple, elegant design that changed the world," DeWall wrote the original and largely unaltered proposal for the founding of Wright State's school of medicine, using another remarkable, simple, elegant design.

Gilkeson told an audience that included DeWall and his wife, Diane, that meeting such a major figure in her field's history felt like being dropped from real life into the midst of a video game.

As it turns out, going back in time with DeWall to re-imagine both of his major contributions at times invokes a similar sensation.

A first important discovery

As the woodland seemed to pour through an expanse of sliding glass doors into a back room of his home in the Little Woods area of Oakwood, 88-year-old Richard DeWall speculated that with a brother and two sisters 13, 10, and 9 years older, he might have been "an afterthought or a mistake." More clearly, his early life was influenced by a mistake made by a general practitioner in the prairie town of Morris, Minnesota, 150 miles west of Minneapolis.

A botched operation for a bowel obstruction not only deprived then 14-year-old DeWall of his father, an investment banker, who died days later; it also deprived Herman DeWall of the pleasure of watching his youngest blossom into a high school high jumper, the left tackle on Morris's 1943 championship football team, a senior class president, and the student the yearbook staff singled out as "most likely to succeed."

DeWall was feeling decidedly less than a success a decade later when, after working to become a general practitioner in Anoka, Minnesota, he made his first important medical discovery.

"I knew it wasn't for me. I wasn't cut out to be a GP I just didn't like it."

Married and with a "very pregnant" wife, however, he had to carve out a new niche for himself in medicine. He started by taking a model of a mitral valve he had carved from Plaster of Paris to his former instructor, Dr. Richard Varco, at the University of Minnesota Medical School.

From the model and the discussion they had over it, Varco picked up DeWall's interest in biomedical research and decided to encourage that interest.

"One of his young associates, Dr. Walt Lillehei, had a research lab in the basement," DeWall said.

Although the lab's budget had no line item for a research assistant, Lillehei "could pay me as an animal attendant." DeWall said.

So while Dr. Morely Cohen and later Dr. Herbert Warden performed heart operations on animals to test procedures for human use, said DeWall, "I just got the dogs out of the cages and set them out for surgery."

Young, damaged hearts

Today, cardiac bypass surgery is most commonly associated with the treatment of adults with obstructions in their coronary arteries.

But in the early 1950s, rubella, also called German measles, had coincided with a baby boom to flood waiting rooms at Minnesota's largest regional medical center with children who had damaged hearts.



While in basic training during World War II, DeWall himself had developed a heart murmur as the result of "an enormous epidemic of

scarlet fever" at the Great Lakes Naval Station north of Chicago. "I think I went in with a company of 120 men, and only half of them graduated on time. The rest were in the hospital."

Because he'd completed only a year's service by war's end and was at risk for induction during the Korean conflict, Dr. DeWall volunteered for alternative service with the U.S. Public Health Service and served at the Marine Hospital in Staten, Island, New York.

After seeing a 15-year-old boy being treated at the hospital for rheumatic valvular heart disease, DeWall found himself asking a basic question: "The heart is fundamentally a pump. Why don't we just open the pump and replace the valve, because people have been doing that with pumps for 2,000 years?"

That thought led to the plaster model DeWall brought to Varco.

From the animal lab to the OR

DeWall's first project was to help a surgical team develop what was known as crosscirculation—a technique that would allow surgeons to briefly open and repair a child's heart while diverting blood around the heart and lungs.

During the operation, a small, calibrated pump was to be used to transport blood

through the child's body, using blood supplied by a donor—presumably a parent in the operating room. The idea for cross circulation came to Cohen when his wife was pregnant, and he envisioned it as a parallel to a mother providing blood to a growing fetus.

After establishing a successful record of test operations on dogs, the team was granted approval to move the cross-circulation procedure to the hospital operating rooms in March of 1954. DeWall soon followed. "Since I had the experience in managing the pump with the laboratory experiments, I was designated the clinical perfusionist."

In the course of 18 months, the team performed 45 surgeries on children with good results: 28 patients, or 62 percent, went home, and 49 percent were alive 30 years later. But during 1954, Dr. Lillehei decided the team needed a heart-lung machine of the sort then being developed at the Mayo Clinic and said to DeWall: "That would be a good project for you."

"I always appreciated it that he gave it to me as an option," DeWall said. "Of course, I didn't know anything about it at that time, and I had no training at all," attributes that aligned perfectly with his supervisor's wishes.

Lillehei's two admonitions were: "Don't use a bubble system" to oxygenate blood, because of its "very poor history," and "avoid libraries and literature searches" that might lead DeWall to repeat the mistakes of others.

Told to rely on his own mechanical sensitivities, DeWall went to work in the basement lab.

Early MacGyver

During the ensuing months—lightning speed in comparison to the development of today's biotechnologies—DeWall leveraged those sensitivities against the fundamentals of engineering, science, and medicine he'd learned in his university education.

To infuse donor blood with fresh oxygen, he experimented with exposing the surface of



blood to oxygen in an inclined tube. Practicality led him to substitute a helix for the tube, allowing the same principles to work in a compact design suited for an operating room.

His search for affordable equipment on a shoestring budget led DeWall to flexible tubing a friend of Lillehei was using to pump mayonnaise in a factory. The result anticipated the ingenious devices 1980s television hero Angus MacGyver used in innumerable tight spots. "Fortuitously, the polyvinyl was very much blood compatible," DeWall said, unlike commonly used glass tubing, which disrupted blood's capacity to clot.

The tubing's flexibility and strength paid additional dividends when DeWall experimented with infusing blood with oxygen under three atmospheres of pressure, enough to enrich the blood plasma itself with oxygen. Part of that strategy proved unsuccessful: The pressure produced the same sort of unwanted bubbles experienced



Richard DeWall, M.D., performs first open heart surgery in the Dayton area at Kettering Medical Center.

by divers who return too quickly to atmospheric pressure from the pressure under water, an obvious danger to patients.

Along the way, however, DeWall learned valuable lessons about bubble management, among them that bubbles tend to rise to the top in any oxygenating system and can be kept safely away from the patient by drawing blood from the bottom of a reservoir rather than the top. As a result, when DeWall finally decided the only practical way to oxygenate blood was to ignore Lillehei's admonition and send bubbles of oxygen through a helical reservoir of blood, he was prepared.

DeWall also came up with a practical approach to problems with carbon dioxide, which is 20 times more soluble in blood than oxygen is. Reasoning that fewer large bubbles of oxygen would present a smaller total surface area for reaction than more numerous small bubbles, he fashioned larger bubbles by pumping oxygen through 18 large-bore No. 22 needles pushed through a rubber stopper.

The ultimate outcome of DeWall's work was reported in 1955 in a medical journal that said surgeons at the University of Minnesota began using "a bubble oxygenator, which costs less than \$15 and serves as a temporary replacement for the human lungs during direct-vision intracardiac surgery."

An important vote of confidence

Both the simple construction and low cost contrasted with a Mayo Clinic model that required four technologists to run and was beyond the financial means of most hospitals. The same characteristics also generated some suspicion.

"Mine was kind of a Rube Goldberg affair," DeWall told Dr. William S. Stoney during an interview that was one of a series conducted on the history of cardiac surgery by the Annette and Irwin Eskind Biomedical Library at Vanderbilt University Medical School. "It was really bizarre," looking like "a bunch of tubes kind of gathered in a heap and on a stand."

"Every bend, and every curve, every piece had a purpose in it," DeWall added, "but if you didn't know what the purpose was, it looked very strange and peculiar." As a result, many people who tried to replicate it failed, and a major figure of the time urged surgeons not to use it. The criticism would have proven a problem had not Dr. Denton Cooley come to its defense.

Once Cooley reported his great success in using it in 125 cases, DeWall said, "That was the end of the discussion."

The next step

Use of DeWall's oxygenator quickly spread around the globe, securing him a place in the history of cardiac surgery.

When the university passed the oxygenator program on to the private sector for production and distribution, DeWall made a more modest move in the smaller world of the operating theater.

Without applying or getting additional training, "I was assigned to the residency program" in thoracic surgery, he said.

Finishing his residency in 1960, he had spent a year on the medical school's faculty in charge of one of the surgery divisions when an opportunity arose at the Chicago Medical School.

"They needed a chief of surgery down there, and I hoped to just duplicate what we had at Minnesota," he said. Foremost in his mind was bringing to that medical school Minnesota's success in being "a great enhancement to the community outside its walls."

He arrived there in 1962 only to find that, like the job he'd taken years before as a family practitioner in Anoka, it was "not meant to be."

"I wasn't mentally or psychologically equipped to deal with the administrative role sitting around at desks." Furthermore, "I was not well supported in my surgical program."

A mention of this to a colleague in 1966 initiated a contact with Dr. Paul Kedzie, an internationally known cardiologist who had relocated to Dayton's Cox Heart Institute. Through Kedzie, DeWall met "an outstanding internist/cardiologist by the name of Doug Talbott. They wanted me to come down here as a surgeon."

Before making the move, the ever-practical inventor surveyed the competition in Indianapolis, Columbus, and Cincinnati and concluded Dayton was a "fertile area" for a practice.

Starting at Cox in August of 1966, DeWall did some research in its animal labs before migrating to Kettering Medical Center, where he built a busy practice operating on patients. With the help of fellow practitioners Dr. Robert Taylor and Dr. Charles O'Brien, "I started the general surgery residency program at Kettering," DeWall said, adding another piece to Dayton's medical infrastructure.

Impressed soon after his arrival with the quality of the surgical residency program at Miami Valley Hospital, DeWall concluded Dayton "should have a medical school in support of all this."

The element of the Minnesota program would take root in the Miami Valley.

Pre-existing condition

DeWall first met with Al Martin, associated with the powerful Kettering Foundation, in the Winters Bank Tower in downtown Dayton. Martin both encouraged him and referred him to Charles W. "Bill" Ingler, a prominent figure in another Dayton powerhouse of the time, National Cash Register. (NCR Chairman Robert S. Oelman would be the first president of WSU's Board of Trustees.)

Both Martin and Ingler knew that DeWall's energy, commitment, and proven track record as a builder had the potential to catalyze community support for the project because of a pre-existing condition: The city's failure earlier that decade to garner state approval for a medical school in Dayton.

The new proposal, however, would have to be different.

In *Founding and Fulfillment*, his history of Wright State's development, Ingler writes

that, by the early 1960s, Dr. Douglas Bond, dean of the Western Reserve School of Medicine, then one of Ohio's three medical schools, had rightly concluded that ponderous expense had turned the established model for medical schools into an anachronism.

Summarizing Bond, Ingler writes: "No longer should a medical school contain a large, costly complex, including a major general hospital ... that medical clerkships and internships should be provided in the surrounding community hospitals, with big capital savings ... and that a medical school should be based in a university with maximum common usage of basic science departments between medical and other university students."

Despite Bond's insights, Ingler writes, "politics were again to reign supreme" when Toledo rallied its political base with the help of Paul Block Jr., a copublisher of the *Toledo Blade*, and bested both Dayton and Akron in the quest to garner the Ohio legislature's permission to build.

The project ran into the problems Bond had foreseen and would pose problems for the Dayton proposal eventually articulated in a *Dayton Journal Herald* editorial: "The (Toledo) school has sputtered along without even a full administrative complement while soaking up staggering amounts of capital and operating finds, and even more are being sought."

The practicalities of invention

DeWall doesn't recall Ingler mentioning Bond's model, but there's no question he took Ingler's other observation to heart.

"A medical school is a political animal, beyond all else," DeWall said. "It isn't something that you just wish would be there. It has to go to a political base, and it has to be sold on that basis."

"The next step," he said, "was probably to conceptualize how a medical school could be logically brought into the Dayton community." Although DeWall did not consult Bond or his writings, the problems at Toledo led him to the same conclusions: That the way ahead involved foregoing a large university hospital, fashioning the existing resources of Dayton's medical community into a network, and grafting them to Wright State University.

Political practicalities led DeWall to Republican Ohio State Sen. Clara Weisenborn, who introduced a bill to establish a medical school at Wright State. Its introduction in May of 1967 actually came months before the enrollment at the fledgling branch of Ohio State and Miami universities reached 5,000, the level at which it would become a free-standing institution.

To outsiders, the idea of grafting a medical school to a university still wet behind the ears may have seemed odd. But Dr. Robert J. Kegerreis, then vice president of administration and later university president, said that to Daytonians convinced they had lost their earlier bid for lack of a local university, it seemed the perfect solution.

The loss had been "a bitter blow for the movers and shakers, the establishment here," he said in a taped interview on file in the university archives.

Soon, DeWall and Kegerreis' colleague Dr. Robert Conley, the first dean of Wright State's College of Science and Engineering, were writing the plan to right that earlier wrong.

Making the case

Writing programs "was our forte" in the early days at Wright State, Conley said—an effort devoted largely to "locking and tying the institution into the Dayton community."

In this case, however, Conley would concentrate on rewriting.

DeWall came to Conley after meeting Wright State economics professor Norman Anon at a party at Dr. Benjamin Schuster's home. During the discussion, DeWall mentioned a 20-page brief he'd prepared over the course of three years describing how a medical school at Wright State might be organized, complete with tentative budgets.

Anon introduced DeWall to Wright State's founding president Dr. Brage Golding, who forwarded DeWall's plan to Conley unchanged. (Another key player was Frederick White, then a university vice president.)

"It all started through Dick DeWall" Conley said in another archived interview. "We were more the instruments of bringing it about than we were the creator of the ideas."

DeWall's design was as practical and serviceable as his bubble oxygenator.

"I didn't want to develop a school of specialists because I didn't think it would fly," he said. "You had to do what was practical. You had to do what would fit."

He worked with Conley to flesh it out into a proposal.

"In the early days, between Dick and myself, it was like meeting at each other's table and putting the medical school, the feasibility study together," Conley said. He described DeWall as "an extremely competent scientist with a deep concern for the delivery of medical services" and "a very serious, quiet gentlemen with very strong convictions."

Despite that and all the time he spent with DeWall, Conley said in 1985 that "to this day, I don't know" what motivated DeWall to do such yeoman's work on the proposal. He did know that at proposal's end, "We honestly, really believed it was feasible. We honestly really believed we had a case."

The roll of politics

To those who love stories of pure or impure politics, the founding of the medical school is dramatic reading.

The two primary accounts are Ingler's previously mentioned work and an account written by Dr. John R. Beljan, the medical school's founding dean, who brought with him not only administrative skill and political savvy, but a resume with deep connections to the U.S. Air Force and Washington political circles that landed the seven-year \$19.5 million Veterans Administration grant crucial to the school's founding.

Beljan describes how: A Dayton-area political community committed to the cause threatened to interfere with additional funding to the Ohio State University medical school when it suspected OSU was working behind the scenes against Wright State.

Ohio Rep. C.J. McLin threatened "black voter retaliation" against Ohio Gov. John Gilligan's re-election bid if Gilligan "killed (the) proposed medical school."

Republican Weisenborn and Democratic Rep. Paul Leonard promised to visit "a shower of punitive legislation" on the Ohio Board of Regents, "if it withheld funding for necessary studies."

By the time all that started, DeWall was out of the picture, feeling he'd contributed all he was able and content to leave the politics to Ohioans who knew Ohio politics.

Asked how he managed the herculean task of writing the original proposal (which his wife typed) while carrying on a busy surgical practice, DeWall gave a practical man's answer: "By working from the time I woke up in the morning until the time I went to bed at night."

In retirement

Having accomplished so much and worked at such a bristling pace, DeWall finally paused as he was turning 60, looked to the future, and made another practical decision.

"I could have gone another five years, but I didn't want to. I just looked at my resources and figured, I have enough to survive, why push it?" He spent time that hadn't been available to him during his daughters' childhoods to spend with those whose bright faces fill a frame in the DeWalls' first floor den.

Professional awards and honors have come as well, a special one on October 20, 2004, when he received the Lifetime Achievement Award from the University of Minnesota's Lillehei Heart Institute "for renowned scientific discoveries that forever changed heart surgery and were essential to future cardiovascular research."

On July 1, 2015, DeWall's oxygenator received renewed recognition in the "Places of Invention" exhibit in the American Wing of the Smithsonian. A picture of DeWall with the oxygenator included in cocurator Monica M. Smith's accompanying text, *Medical Alley, Minnesota, 1950s: Tight-Knit Community of Tinkerers Keeps Heart Ticking.*

Still, at 88, DeWall says he takes more satisfaction in the part he played in founding the Boonshoft School of Medicine, which he has seen expand to include residencies in 13 specialties and fellowships in 10 subspecialties.

"With the bubble oxygenator, you're dealing with maybe several hundred patients a year," he reasoned. "With a medical school, when you get it expanded, you're dealing with thousands."

Gilkeson concluded her lecture on DeWall with a more generous accounting, saying his bubble oxygenator and its descendants have been responsible for repairing "millions of hearts" worldwide. She also mentioned his 120 published peer-reviewed articles, his hand in multiple cardiopulmonary bypass machines, and his part in validating multiple heart valves.

Gilkeson concluded by calling DeWall "a giant in surgery and a giant for humanity" clear evidence that DeWall also has become something he never aspired to be: An inspiration to a new generation of Dayton surgeons. **VS**

Tom Stafford



Rosalyn Scott, M.D., demonstrates Dayton VA Simulation Center

Joining forces

A new sim center and a virtual medical center change the face of medical education and health care delivery at the Dayton VA When the Dayton Veterans Affairs Medical Center (VAMC) held the grand opening of its \$3.3 million state-of-the-art simulation learning center in June, it was the culmination of a vision for patient safety that began more than seven years ago with a Boonshoft School of Medicine professor.

In 2008, Rosalyn Scott, M.D., MSHA, professor of surgery, attended a leadership retreat at the Dayton VA to help determine how some available dollars might best be used within the VA. Scott, who also directs the Veterans Health Administration (VHA) Veterans Integrated Service Networks (VISN) 10 Simulation Consortium and serves as medical advisor to the deputy chief learning officer of VHA's Employee Education System (EES), proposed promoting patient safety and requested funding for a simulator and other related equipment.

Her proposal resulted in generous support from the VA regionally and locally. This support led to the purchase of simulation training equipment for multiple disciplines and the only mobile simulation center in the VA system. Ultimately, funding was provided for the remodeling of the first floor of Building 315 at the Dayton VA Medical Center into the most advanced simulation center of any kind in the region. The building had been used for medical education by Wright State during the medical school's beginning years. But in 2004, it was transferred back to the VA. Today, the 17,000-square-foot facility uses simulation technology to enhance the skillsets of the entire health care team.

The center features life-sized computeractivated mannequins with heart rates, blood pressures, breath sounds, and other bodily functions, which are regulated in a control room by medical staff. The center features six simulation rooms, three task-training rooms, and five debriefing rooms. State-of-the-art audio/visual systems allow recording and playback of simulated events to enhance the learning experience. It also includes a nurse's station, a medication and code cart room, and an auditorium with 125 seats. It is the largest simulation center in the region.

"The simulation center is a way for caregivers to learn how to handle real, life-threatening scenarios on simulated patients in order to minimize error and risks when caring for human patients," said Scott, who is the first African-American woman to be trained in thoracic surgery and to be offered membership in the Society of University Surgeons. "It challenges learners and teaches them what to expect in a critical event."

Scott is a member of the board of directors of the MedBiquitous Consortium, a Johns Hopkins Medicine-founded organization, developing XML and web services standards that serve as a technology blueprint for health care education and quality improvement. Scott sees simulation as a key component of health care education.

"This 21st century rebirth of Building 315 will be an unparalleled platform for health education," said Dean Margaret Dunn, "Through that education, we will continue to improve the care of veterans, and undoubtedly many other patients as well."

Medical student training

Medical students from the Boonshoft School of Medicine will benefit from the Dayton VA Simulation Center. Already, students in the Prematriculation Program, a four-week summer program for incoming medical students, and residents from the medical school have utilized the new facility. In addition, students from the medical school's Horizons in Medicine Program, a unique program designed to give disadvantaged high school students a sense of the career possibilities in health care, have visited the simulation center.

Scott foresees other departments bringing medical students to the simulation center for training or working with the VA to help educate providers. The Department of Obstetrics and Gynecology has been working with Scott to develop programs that help the VA advance excellence in women's health care.

"Traditionally, the VA has taken care of male patients," Scott said. "However, there are an increasing number of women veterans."

She explained that the VA is promoting women's health and is using simulation training with virtual patients as well as mannequins and task trainers to help providers enhance their skills in women's health.

VA Virtual Medical Center

In addition to the Dayton VA Simulation Center, the new VA Virtual Medical Center (VMC) was debuted at the June grand opening event. Developed by the EES, the VMC is designed to enhance clinical outcomes, promote collaborative health care, provide care in virtual clinics, and employ tele-health technologies.

The Veterans Health Administration is the largest integrated health system in the world, serving veterans in both urban and rural environments, said Scott, who has been instrumental in the development of the VMC, collaborating with faculty in the College of Engineering and Computer Science and the Boonshoft School of Medicine at Wright State University and across the nation.

The VMC has the potential to improve the condition of veteran health care by eliminating barriers to access, increasing veterans' health literacy, and cultivating patient engagement. Scott said that this virtual technology promotes veteran participation from the convenience of veterans' home computers. It also affords opportunities for increased patient-provider interactions.

"Our newest generation of veterans is very tech savvy and embraces virtual world technologies," said Scott, who is leading the development of several virtual reality projects, including a serious medical game for training tele-ICU teams. "The VMC will allow

Battlefield to classroom

Virtual environments help returning veterans adjust to student life

The Dayton VA has been working with Wright State University for many years to support the academic success of its returning veteran students with an array of strategies and programs.

"Many veteran students experience emotional and cognitive impairments that interfere with their ability to study, concentrate, and perform academically, while interpersonal problems affect social functioning," Scott said. "These issues, when coupled with the challenges related to returning to general civilian life, place returning veteran students at a significantly higher risk of dropping out."

In collaboration with the Wright State University College of Engineering and Computer Science, the School of Professional Psychology, and the Office of the Vice President for Enrollment, Scott and her interdisciplinary team are developing a virtual environment, replicating areas of the WSU campus to help students learn to cope with triggers in the civilian environment that can psychologically return them to combat and distract them from their educational goals.

The Battlefield to Classroom project helps returning veterans face a unique set of challenges and stresses, including symptoms associated with post-traumatic stress disorder (PTSD), post blast injuries, including traumatic brain injury, chronic pain, substance use problems, and partner relationship problems.

"For returning veterans, campus life can be full of potential triggers, including loud noises, arguments, unattended backpacks, rooms that have not been cleared, and classroom discussions or assignments, which many contain content directly related to current military conflicts," Scott said. "We have recreated these experiences in a virtual environment and are working with the students to help them with coping skills."

Scott's collaborative team includes several people from Wright State. Jennie Gallimore, Ph.D., is the associate dean for research and graduate studies of the College of Engineering and Computer Science, professor of industrial and human factors engineering, and professor of surgery in the Boonshoft School of Medicine, on virtual reality projects. Jeff Cowgill, M.B.A., is the manager of multimedia and technology in the WSU College of Science and Mathematics. The team also includes two VA simulation fellows, Cathy D. Graham, M.S., Ph.D., and Terry L. Oroszi, M.S., a research instructor in the Department of Pharmacology & Toxicology at the Boonshoft School of Medicine. geographically separated staff and patients to interact in a rich avatar-based environment."

The VMC was launched as a collaborative care and learning environment available to veterans and their health care teams anytime and anywhere.

To better understand the challenges with activation of the VMC, five pilot projects are being developed focusing on key conditions diagnosed among veterans. Those clinical areas include diabetes, congestive heart failure management, obesity, palliative care and sleep medicine. Several of the members of the multidisciplinary team are part of Wright State University.

Diabetes project increases access

The diabetes project is being conducted at the Dayton VAMC to help increase access and participation in diabetes education, group classes, and shared medical appointments, especially for the rural, underserved, disabled, and elderly veterans. Veterans will be able to access diabetes materials from the convenience of their home computer. A serious medical game is in development to enhance the skills of health care providers.

Brian V. Burke, M.D., chief of the diabetes service and lead physician in the heart failure clinic at the Dayton VAMC and an assistant professor of internal medicine and endocrinology, is part of Scott's collaborative team. Scott explained that veterans often feel overwhelmed by the sheer volume of information presented in diabetes education sessions. "This can result in lengthy questioning during clinic appointments or unnecessary trips to the emergency room," she said. The Palliative Care Project is one that is shared by VISN 10, the VA Healthcare System of Ohio, and the Miami VA Healthcare System. Scott said that 2.5 million veterans will need end-of-life care in the next five years. The project seeks to enhance basic palliative care competence of non-palliative care specialists, such as primary care team members, caring for veterans with serious medical illnesses.

"Primary care team members rarely have in-depth education in palliative care during their training. The VA is dedicated to caring for veterans throughout their lives, and palliative care is an important component of the care provided," Scott said. "We want our primary care team members to be able to support veterans, their caregivers, and families to achieve the best quality of life during the end of their lives." **VS**

-Heather Maurer

Askes to action

Medicine and the Holocaust focus of course for Wright State medical students

> They met survivors of the Nazi death camps. They met the U.S. liberators, hardened soldiers who were ill prepared for what they would see at the camps. They met Jews who barely escaped the tightening Nazi noose in Europe, forced to leave doomed family members behind.

It's all part of the Medicine and the Holocaust class for students at the Boonshoft School of Medicine. The medical students study one of the darkest chapters in human history to try to understand how physicians could ever be part of euthanasia, medical experimentation, torture, and mass extermination.

"Medicine was consumed by the flames of the Holocaust, which physicians were complicit in creating," said course director David Shuster, M.D., clinical assistant professor of orthopaedic surgery. "How could a profession dedicated to curing a patient descend the slippery slope of ethical distortion beginning with sterilization of the unfit?"

The course considers ethics, law, philosophy, psychology, religion, the right to life, conscious feelings, and medicine as part of making decisions in medical situations.

"The course is not about giving the students the answers," said Shuster. "It is about asking students questions so they can look inside themselves for the answers."

Last year, the students visited the Veterans Memorial Museum in Germantown, Ohio, where they met some liberators of the death camps. The students met a Romanian who survived slave labor under the Nazis. They met a survivor who as a child was put on a kinder transport by his parents and never saw them again.

One class was held recently at the Dayton Holocaust Resource Center in Wright State's Allyn Hall. The center stores, maintains, purchases, and disseminates Holocaust educational materials for teachers and researchers in the Greater Dayton area.

It was there that they heard from center founder Renate Frydman, whose fraternal grandparents and maternal grandmother were among the

millions killed in Nazi concentration camps in the 1940s. Her late husband, Charles, escaped from one of the deadly camps.

"Renate Frydman is a role model for doing," Shuster told his students.

During the class, the students discussed their research into current issues that may have parallels with what was happening in Nazi Germany.

There was a discussion of a study that suggests an increase in anti-Semitic events in Europe. There was discussion of a Jewish organization petitioning French officials to change the name of a small hamlet outside of gave the Nazis more power and an uneasiness at any government dictating medical decisions.

"The danger is not from those who think, but from those who stop thinking—those who stop questioning themselves and stop questioning their actions," Shuster said. "You will never forget that you stood up, and you will never forget that you always have the choice to do so."

Medical student Bob Papas, of Akron, said the class has been enlightening and can bring

out a whole range of emotions when the Holocaust is discussed—from sadness to shock to outrage.

"I think the biggest thing is to, as a physician, always be aware of ethical situations," said Papas. "Always be cognizant that what I do as a physician impacts humans in general."

This year's students have a Holocaust humanity project called From Ashes to Action. The goal is for the students to use what they learn to channel their talents and passions into action that makes a positive impact on humanity.

"Create, provide a service, submit an article for publication, audition for a TED Talk, take a photograph, produce music, write a poem, discover, invent, build, start something, do

"Nothing could prepare us for what we smelled, for what we saw, for what we felt, for what we could not comprehend, for what we will never forget," one former soldier told the group. Paris from what translates in English as "Death to Jews."

There seemed to be consensus among the students on the importance of publicly confronting wrongdoing. There was an acknowledgment that the authority of doctors something," Shuster tells his students. "Your contribution is mandatory. The magnitude of the good you create in the world is up to you."

—Jim Hannah

The power of collaboration

Wright State University's dazzling new Neuroscience Engineering Collaboration

Building a research powerhouse



Wright State University's spectacular new Neuroscience Engineering Collaboration (NEC) Building promises to spawn pioneering research and medical breakthroughs by housing the collective brainpower of almost 30 top neuroscientists, engineers, and clinicians, and their teams.

The four-story, L-shaped structure features two wings—one for neuroscience and one for engineering—that flank a central atrium. The building is honeycombed with laboratories and includes offices, conference rooms, and a 105-seat auditorium for research symposiums.

"It is one impressive building," said Robert Fyffe, Ph.D., vice president for research and dean of the Graduate School. "It represents a transformational moment for the university's research enterprise, the community, and its partners."

The building is the first of its kind to be intentionally designed to drive research interaction across disciplines, bringing 30 researchers from six disciplines under one roof to understand brain, spinal cord, and nerve disorders and develop treatments and devices.

Architectural features include chilled ceiling beams that provide a natural, energy-efficient convection air current, an anti-vibration floor that preserves the clarity of sensitive lasers and microscopes, and a dust-free sensors lab that is free of the tiniest speck.

NEC Building glass fins

The Neuroscience Engineering Collaboration Building's facade is clad with hundreds of glass "fins" that provide shading and reduce heat buildup on sunny days.

About 70 percent of the facade is glass, enabling natural light to stream into the building and create an airy work environment. In the building's atrium is a dazzling art installation with 3-D asterisks that mimic the firing of the brain's neurons.

The building is designed to foster research projects that break new ground in treating brain, spinal cord, and nerve disorders by putting neuroscientists, engineers, and clinicians under the same roof and creating an environment that enables them to collaborate and feed off of each other's ideas and skills.

It houses basic researchers working to understand biological processes, clinical researchers who use that knowledge to develop treatments and cures, and engineers who create medical devices and imaging technologies.

The NEC Building has already become the new home for pioneering research.

For example, Wright State neuroengineer Sherif M. Elbasiouny, Ph.D., has a three-year, \$433,000 research grant from the Defense Advanced Research Projects Agency to try to make upper limb prostheses feel and function like natural limbs.

"Our lab being one of neuroscience and engineering is exactly the multidisciplinary nature of what the NEC Building is all about," said Elbasiouny. "The space we're receiving will allow us to do more work. The impact is going to be huge on the research."

The building also houses sophisticated technologies such as an \$800,000 PET/CT scanner, which marries positron emission tomography with computed tomography. Wright State is one of only a few universities that have this body-scanning technology, which is at the forefront of medical diagnosing. It holds out the promise of helping find causes and treatments for cancer and neurological diseases such as epilepsy.

"It just opens up a whole world of opportunities we didn't have before," said assistant engineering professor Nasser Kashou, Ph.D.

Kashou said the scanner will be instrumental in training engineering students, strengthening research proposals and increasing their chances of being funded, and creating opportunities for Wright State researchers to collaborate with those at other universities.

The NEC Building also features a special bullpen for graduate and undergraduate student researchers, such as Adam Deardorff and Emily Diller.

Deardorff is an M.D./Ph.D. student studying the nervous system to learn how people develop coordinated, purposeful movement and make small movement corrections. Diller is a biomedical engineering graduate student studying how tiny vibrations can improve a person's fine-motor skills.

"The work that goes on in this building will truly be cutting edge," said Fyffe, "maybe even science fiction in its nature." **VS**





1,000 Words

Created by Erwin Redl, an Austrian-born artist from Bowling Green, Ohio, the art installation, Dial, graces the atrium of the new Neuroscience Engineering Collaboration (NEC) Building. Mimicking the firing of the brain's neurons by creating complex, shifting patterns of light and shadow, Dial is designed to inspire the scientists, engineers, and clinicians who work in the new facility.

Redl said much of his art is inspired by the natural world. "I am especially influenced by the long cycles in nature and how complex patterns and rhythms evolve out of simple interactions between individuals acting in large groups." — Photo Will Jones

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Research Spotlight

Medicine gets personal Madhavi Kadakia uses her genomics skills to battle cancer

Skin cancer, esophageal cancer, and endometriosis are all on Madhavi Kadakia's hit list. The Wright State University researcher has been using high-tech equipment and her expertise in genetics to help diagnose and treat these sometimes deadly diseases.

Kadakia, Ph.D., professor and chair of the Department of Biochemistry and Molecular Biology, is riding the wave of personalized medicine, an increasingly popular medical model that uses molecular analysis to customize health care. Genetics is a big part of that.

"Your genetic makeup is going to give a clue as to what drugs you're going to respond to, what drugs you're not going to respond to," said Kadakia, "We have reached a point where we cannot only diagnose but treat patients based on their genetic makeup."

Last year, Kadakia received a grant to purchase a next-generation sequencer, which accelerates genome sequencing by producing thousands or millions of sequences concurrently. The sequencer has revolutionized understanding of the complexity of cellular gene expression and provided deeper insights into the genomic landscapes of many diseases.

"It's very important; it's really a state-of-theart technology," she said. "We were very excited to be able to get it here at Wright State. People are surprised at the equipment we have here."

Earlier this year, Kadakia became involved in a research project with Steven Lindheim, M.D., professor and research director in the Department of Obstetrics and Gynecology. The project involves endometriosis, an inflammatory gynecological condition that produces chronic pelvic pain and infertility.

To diagnose endometriosis, it is often necessary to perform a biopsy, the surgical removal of tissue from the patient. The research project is instead taking bodily fluids, including urine and blood, and analyzing the DNA, proteins, and metabolytes to create a panel of biomarkers that hopefully identify women with endometriosis, obviating the need to perform surgery to diagnose this debilitating condition. "You want to diagnose it quickly and try to come up with a way to diagnose it in a noninvasive manner," Kadakia said.

The research is being aided by the Wright State University-Premier Health BioRepository, which provides patient bodily fluids and tissue samples.

As part of funding by the National Cancer Institute-National Institutes of Health, Kadakia is also studying the effects of vitamin D on cell survival in nonmelanoma skin cancer.

Vitamin D is thought to be important to maintain a healthy immune system. While vitamin D can be obtained from exposure to the sun's ultraviolet radiation, too much UV exposure can also cause skin cancer.

"So we're really interested in how much UV radiation is good and how much is not good and how vitamin D regulates those genes," she said. "We are focusing on nonmelanoma skin cancer since the gene we are interested in is overexpressed there. Our studies will provide more insight into the role of vitamin D in cancer."



Her research on esophageal cancer is in collaboration with Sangeeta Agrawal, M.B.B.S., associate professor of internal medicine and director of the Gastroenterology Fellowship Program.

To identify the pre-cancerous esophageal condition, biopsies must be conducted over time even though only a small percentage of the patients will actually get cancer.

"Can you imagine the anxiety?" Kadakia said. "Every time you go to the doctor, you don't know if your condition has worsened."

The goal of the research is to prevent the need for biopsies by genetically analyzing tissue and blood samples during different stages. The less invasive procedure would be more cost effective and reduce patient anxiety.

Kadakia grew up in Mumbai, India, with eight brothers and sisters. Her parents strongly emphasized the importance of education.

"Their mantra was, 'If we give you education, you're going to get what you want in life,'" she said. "I just can't be thankful enough. I still talk to my dad and my mom every time I have to make a critical decision in my life." When Kadakia was working on her bachelor's degree in India, she took a course on immunology and fell in love with it. So she studied it as she pursued her master's degree.

"It was about that time that AIDS was all over the news," she said. "I was so fascinated by immunology, and I wanted to cure AIDS."

When Kadakia was pursuing her doctorate in microbiology and infectious diseases at the University of Pittsburgh's Graduate School of Public Health, virtually her entire department was doing AIDS research, and she helped with clinical trials involving AIDS patients.

However, the bulk of her research was on human herpesvirus 6 in bone-marrow transplant patients.

The patients often get a rash and a fever that is attributed to graft versus host disease (GvHD), in which the donated bone marrow views the recipient's body as foreign and attacks it. But the herpes virus can also cause the rash and fever, and it can become activated when a patient's immune system is compromised.

Kadakia was able to isolate 16 new strains of herpesvirus 6 in bone-marrow transplant patients.

"As a result of that, doctors actually look for that virus rather than just assume it's graft versus host disease," she said.

Kadakia joined the faculty at Wright State in 1999.

"If you are really interested in science, this is the place you want to be," she said. "There is a sense of community. Everybody has the same focus."

Kadakia escapes the pressures of the lab by painting. She has even created a tiny art studio in the basement of her house.

"When I'm painting, I don't think of anything," she said. **VS**

—Jim Hannah

Search party

Weiwen Long and his research team are on the hunt for mysteries of gene that affects cancer

A Wright State University researcher and his team are working on unlocking the mysteries of a gene that plays an important role in the formation and spread of lung cancer and other cancers.

Weiwen Long, Ph.D., assistant professor of biochemistry and molecular biology, recently received a \$1.7 million, five-year grant from the National Cancer Institute to conduct the research.

"This is no small feat at a time when funding is so hard to come by," said Madhavi P. Kadakia, Ph.D., chair of the Department of Biochemistry and Molecular Biology.

Long, who teaches courses in cell signaling and cancer biology, joined the faculty in 2013.

Kadakia said Long has developed "a vibrant lab" in just the short time he has been at the university.

Long and his research team are studying the roles and underlying molecular mechanisms of ERK3, a nonconventional kinase gene, in regulating cancer progression and metastasis. A kinase is an enzyme that chemically changes the structures and functions of other proteins (substrates) and is known to regulate cellular pathways.

"We do not know much about ERK3, but it is a very important gene physiologically and pathologically," Long said.

In lung cancer and breast cancer, for example, the ERK3 gene is overexpressed or mutated. Long and his team are trying to elucidate the ERK3 signaling cascade—what activates ERK3 and what ERK3 targets.

They have identified the interacting proteins and are using both in vitro and in vivo assays to delineate the ERK3 signaling network. To define the role of ERK3 in tumor growth and progression, they are utilizing two different testing models—overexpressing ERK3 in mice to see if it causes tumors to spread and removing ERK3 to see if that causes the tumors to shrink.

Long is also investigating the role ERK3 plays in cellular resistance to cancer-fighting drugs. When ERK3 is overexpressed, the cancer cell has higher drug resistance. When ERK3 is removed, the cancer cell becomes more sensitive to the drugs.

Long grew up in a rural village in Hunan Province in south central China. He got a bachelor's degree in horticulture from Hunan Agricultural University with the idea of returning to his village to help improve the quality and production of crops there.

But during college, Long became more interested in molecular biology, which he pursued in the form of a graduate degree at Huazhong Agricultural University.



In 1999, Long began molecular biology work at a research institute affiliated with the University of Scranton in Pennsylvania. He moved into cancer biology, obtained his Ph.D. in structural and cellular biology in 2005 from Tulane University, and then did postdoctoral training at the Baylor College of Medicine in Houston.

Long has worked with pioneers in the field. One of his mentors investigated the functions and molecular mechanism of growth factor receptors in cancer progression. Receptors are proteins in cells that can be bound to certain substances (ligands) that circulate in the blood. Another mentor studied how hormones such as estrogen act on cancer cells to promote cancer growth and progression.

Now Long and his research team are integrating and harnessing the knowledge and expertise from both of these fields to investigate ERK3 signaling and aim to define ERK3 as a new diagnostic and/or therapeutic drug target for treating cancers.

—Jim Hannah

Wright State researchers show nonstick chemicals may be linked to osteoporosis

Researchers at the Boonshoft School of Medicine report that women with higher blood levels of certain chemicals tended to have slightly lower bone density and a higher prevalence of osteoporosis.

These chemicals, called perfluoroalkyl substances (PFASs), have been widely used for more than 60 years in applications such as nonstick cookware, stain-resistant and waterproof fabrics, furnishings, carpets, and food packaging.

"These environmental chemicals are detectable in humans worldwide and are in the blood of 95 percent of the U.S. population," said first author Naila Khalil, Ph.D., associate professor of community health. "We found significant negative associations between bone health and some of the PFAS compounds in postmenopausal women."

Osteoporosis is a condition in which the bones become weak and brittle and are prone to fracture.

Led by Khalil and senior author Kurunthachalam Kannan, Ph.D., professor of environmental health sciences at the University at Albany School of Public Health, the team of researchers assessed the association between blood PFAS concentrations in 1,914 U.S. participants and their bone density using the Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey 2009-2010 data.

The team of researchers from the Boonshoft School of Medicine included James Ebert, M.D., chair and associate professor of community health; Stefan Czerwinski, Ph.D., professor of community health and director of Lifespan Health Research Center; and Miryoung Lee, Ph.D., associate professor of community health and pediatrics, in addition to researchers from other institutions.

Their article, "Association of Perfluoroalkyl Substances, Bone Mineral Density and Osteoporosis in the U.S. Population in NHANES 2009-2010," was published online in *Environmental Health Perspectives*, a monthly peer-reviewed journal of research and news published with support from the National Institute of Environmental Health Sciences, National Institutes of Health, and the U.S. Department of Health and Human Services.

Although the changes in bone health were relatively small, the authors pointed out that the public health implications could be significant if it turns out PFASs were responsible.

"These exploratory results will help assess and understand the toxicity of PFASs," said Khalil. "Further research is needed to confirm the study findings and determine what they may mean for public health."

Master Class



Suruc, Turkey, April 3, 2015: Unnamed Syrian (Kurdish) people in refugee camp in Suruc. These people are refugees from Kobane and escaped because of an ISIS attack.

Master of Public

Health student

from Somalia

focuses research

on mental health

of immigrant women

Soon after Fartun Yussuf was born, her native country of Somalia dissolved into civil war. By the time she was three years old, her family had left the war-torn nation and immigrated to the United States in search of a better life.

Now in graduate school at the Boonshoft School of Medicine, Yussuf is pursuing a Master of Public Health degree and is drawing upon her own cross-cultural experience as she researches the mental health of immigrant women.



Dadaab, Somalia, August 15, 2011: Children live in the Dadaab refugee camp where thousands of Somalis wait for help because of hunger.

In 1993, Yussuf and her family fled Somalia and eventually settled in Columbus, Ohio. Because she was so young when her family left, she doesn't really remember much about Somalia.

"At times, I am grateful for this. I don't have to deal with the emotional scars that come from going through a civil war," said Yussuf, who is the oldest of six children. "Yet it's frustrating, because Somalia was my home. I don't have any memories."

Yussuf grew up in Columbus, where her father runs a small ethnic grocery store and her mother works part time at a production and distribution warehouse.

She was the first person in her immediate family to go to college and the only one to go to graduate school. As an undergraduate at Ohio State University, she majored in psychology but realized the field was not for her.

"I loved my psychology classes," Yussuf said. "But after working in a depression lab coding therapy sessions, I knew it wasn't for me."

Yussuf explored several health-related careers and considered becoming a sonographer or a physician assistant. But after shadowing for a few days, she realized those fields were not a fit. A job at a nursing home as a nurses aide opened her eyes to the possibility of a career in public health.

"Spending time with the nursing home residents helped me realize that I am passionate about advocating for the health of underserved populations," she said. "After a



Suruc, Turkey, April 3, 2015: Unnamed Syrian (Kurdish) people in refugee camp in Suruc. These people are refugees from Kobane and escaped because of an ISIS attack.

lot of research, I realized that I was interested in public health."

She shadowed at Columbus Public Health and fell in love with the field. "After spending a day there, I knew I had found my career," she said.

Yussuf met Hibo Noor, a 2012 graduate of the M.P.H. Program. She encouraged Yussuf to look into the Wright State program.

After hearing about Noor's experience and learning more about the program, Yussuf knew she wanted to go to Wright State to pursue her M.P.H. degree.

She hasn't regretted her decision. "The faculty and staff are some of the kindest and most supportive people," she said.

As part of the program practice placement, she was an honorary research assistant at Wolfson Institute of Preventive Medicine at Queen Mary University of London. She spent five weeks learning research methods and conducting a literature review. She researched the mental health of immigrants, especially immigrant women during and after immigration.

"We were curious to find out what was it about being an immigrant woman that made someone more likely to experience a mental health issue," she said. "Was there anything that could be done to prevent this?"

She has continued her work on the literature review, focusing on the mental health of immigrants and refugee women for her culminating experience—the final research paper in the program.



©ldealPhoto3

Belgrade, Serbia, September 5, 2015 : A young Syrian woman holding a child in a park full of refugees in tents near the train station, waiting for the transport to the European Union.

"I have learned that there are often many overlapping factors that affect the mental health of immigrant women," Yussuf said.

Acculturation, or assimilation, is a factor unique to immigrants, she said. It affects mental health in both positive and negative ways.

"The degree of acculturation to the host society has to be balanced," said Yussuf, who plans to publish a paper about her research. "Too much acculturation leads to identity and family and cultural issues. Not enough acculturation leaves immigrants dealing with isolation, perceived discrimination, and limited language ability."

Yussuf's advisor, Cristina Redko praised her research.

"Her tenacity coupled with her extensive cross-cultural experience and sensibility transform her into an excellent candidate to work with the public health of underserved populations," said Redko, Ph.D., associate professor in the Department of Community Health and global health director in the Master of Public Health Program.

Yussuf plans to graduate in 2016 and is applying to different positions in local and global health organizations to work with underserved populations. Eventually, she would like to return to Somalia to set up regional public health departments there and in other resource-poor nations. **WS**

-Heather Maurer

On The Move



Timothy Broderick, named associate dean for research affairs

Timothy Broderick, M.D., professor of surgery, was named associate dean for research affairs, effective January 1, 2015. He replaces Arthur Pickoff, M.D., who retired December 31, 2014. A surgeon and researcher, Broderick also serves as the chief scientist at the Wright State Research Institute.

Broderick served as a program manager at the Defense Advanced Research Projects Agency. He spent seven years as professor of surgery and biomedical engineering at the University of Cincinnati and was founder and director of its Center for Surgical Innovation.

He served in the U.S. Army Telemedicine and Advanced Technology Research Center, within the National Aeronautics and Space Administration's (NASA) Medical Informatics and Technology Applications Consortium, and the National Space Biomedical Research Institute External Advisory Council. He developed high-impact biotechnology for the Department of Defense and NASA.

He earned his M.D. at the University of Cincinnati College of Medicine and completed his residency at the Medical College of Virginia at Virginia Commonwealth University, where he served as chief resident in general surgery.

Madhavi Kadakia named chair of biochemistry and molecular biology

Madhavi P. Kadakia, Ph.D., was appointed chair of the Department of Biochemistry and Molecular Biology, effective January 1, 2015.

Kadakia serves as a full professor of biochemistry and molecular biology, associate director of the Center for Genomics Research, and director of the master's program within the Department of Biochemistry and Molecular Biology.

She attained her bachelor's and master's degrees in microbiology from the University of Mumbai. After receiving her Ph.D. in infectious diseases and microbiology from the University of Pittsburgh, she completed a postdoctoral fellowship with the Pittsburgh Cancer Institute and conducted research at the Cancer Institute of New Jersey.

She was awarded the Faculty Mentor Award in 2010 from the Boonshoft School of Medicine. In 2011, Kadakia served as a visiting research scholar at Nottingham University and the Leicester Medical Research Council in the United Kingdom.

Her research, funded by the National Cancer Institute, focuses on identification of signaling pathways that play a role in cancer and development, and the identification of biomarkers that can help differentiate different stages of cancer.





James R. Ebert named chair of community health

James R. Ebert, M.D., M.B.A., M.P.H., was appointed chair of the Department of Community Health, effective January 1, 2015. He replaced Arthur Pickoff, M.D., who retired December 31, 2014.

Ebert is the Oscar Boonshoft Chair and director of the Center for Global Health. He also is the lead physician for the Lipid Clinic at Dayton Children's Hospital.

In 2004, he came to Wright State to develop and launch the Physician Leadership Development Program. A graduate of the University of Cincinnati College of Medicine, he served his pediatric residency at Cincinnati Children's Hospital.

Ebert is a retired Air Force colonel who was chief medical officer of the Wright-Patterson Medical Center. He is the immediate past chair of the Council for Graduate Education, Association for Prevention, Teaching, and Research, and is a current member of the National Board of Public Health Examiners and an item writer for board examinations.

Igor Elman named chair of psychiatry

Igor Elman, M.D., was appointed professor and chair of the Department of Psychiatry, effective August 1, 2015. He replaces Jerald Kay, M.D., who retired after 24 years of service.

Elman comes to Wright State from Harvard Medical School (HMS), where he served as associate professor of psychiatry. Elman previously served as medical director for HMS-affiliated Community Mental Health Center and at the Providence VA Medical Center Substance Abuse Treatment Program in Providence, Rhode Island.

Elman earned his M.D. at Faculty of Medical Sciences Ben-Gurion University in Israel. He completed his residency in psychiatry at Albert Einstein College of Medicine, Bronx, New York. He also completed fellowships at the National Institute of Mental Health and Massachusetts General Hospital, HMS.

He is a diplomate of the American Board of Psychiatry. His research interests are focused on the role of reward and stress systems in the pathophysiology of neuropsychiatric disorders. Elman serves as editor-in-chief for the *Journal of Psychology Research and Behavior Management.*

John C. Duby named chair of pediatrics

John C. Duby, M.D., has been appointed professor and chair of the Department of Pediatrics, effective October 1, 2015. Duby comes to Wright State from the Northeast Ohio Medical University (NEOMED), where he served as professor of pediatrics since 2008 and professor of clinical pediatrics from 2000 to 2008.

Duby's research focuses on the interface between developmental-behavioral pediatrics and primary care. Since 2012 he has served as medical director for the Building Mental Wellness Learning



Collaborative of the Ohio Chapter of the American Academy of Pediatrics.

Before joining the faculty at NEOMED, Duby was a clinical professor in the Department of Pediatrics at the Boonshoft School of Medicine from 1990 to 2000.

Duby earned his M.D. at the Ohio State University College of Medicine and completed his residency in pediatrics at Baylor College of Medicine in Houston, where he also served as chief resident. He completed a fellowship in developmental and behavioral pediatrics at Boston University School of Medicine in Boston.

Future Docs



William Elder Jr., right, a fourth-year medical student at the Boonshoft School of Medicine, met Surgeon General Vivek Murthy at the White House during a press conference about precision medicine.

Medical student William Elder Jr. featured in President Obama's speech at White House press conference

President Barack Obama referred to William Elder Jr., a fourth-year medical student, as an inspiration and an example of how precision medicine can help deliver the right treatment to the right patient at the right time during a press conference at the White House last January 2015.

This was Elder's second visit to Washington, D.C., in less than two weeks. Elder attended the January 20, 2015 State of the Union Address as a guest of First Lady Michelle Obama.

During his State of the Union Address, the president announced that he is launching the Precision Medicine Initiative, an emerging approach to promoting health and treating disease that takes into account individual differences in people's genes, environments and lifestyles.

At the press conference, Obama unveiled details about the initiative, which will be launched with a \$215 million investment in his 2016 budget. The proposed initiative will pioneer a new model of patient-powered research that promises to accelerate biomedical discoveries and provide clinicians with new tools, knowledge, and therapies to select which treatments will work best for which patients.

Diagnosed with cystic fibrosis at the age of 8, Elder's life expectancy was low.

Now at 27, Elder is alive and thriving thanks to Kalydeco, the first oral drug that treats the underlying cause of cystic fibrosis in 4 percent of the people with the genetic disorder. When Elder first took the drug in February 2012, he was finally able to breathe out of his nose. Over the next few days, his sense of smell improved along with his sleeping habits and lung function. He had more energy and began to believe that he would live long enough to be a grandfather.

Elder was surprised that he was invited to the president's press conference. He was contacted before the event with a brief email. The Office of Science and Technology followed up with a phone call and urged him to attend the event.

"The Office of Science and Technology said I really needed to try to make it if I could," he said.

On the Thursday before, Elder booked a flight to Washington, D.C., but he couldn't tell anyone because the event was embargoed until 6 a.m. on Friday. "I knew I had to book a flight and a hotel, and I had to do it quickly because it was very important," said Elder, who chose the Boonshoft School of Medicine because he wanted a small school with a collaborative environment and a focus on family medicine.

He and several others, who have benefited from precision medicine, including six-time NBA Most Valuable Player Kareem Abdul-Jabbar, met with President Obama.

"I have to admit I was shocked that I was shaking the president's hand for the second time in my life," he said. "I'm still stunned."

Elder also met Surgeon General Vivek Murthy, M.D., and Francis Collins, M.D., Ph.D., director of the National Institutes of Health.

"There was a sense of hope in the room. This is something profound," said Elder, who was surprised when the president called him out by name during the press conference. "We'll be able to understand a lot more about diseases that are currently untreatable. This has a potential to change patients' lives."

Nicole Craker receives AMA Foundation Physicians of Tomorrow Award



The American Medical Association (AMA) Foundation announced in September that Nicole Craker is one of 19 medical students nationwide to receive the 2015 Physicians of Tomorrow Award. She is the fourth Boonshoft School of Medicine student to receive the award since 2012.

The award comes with a \$10,000 scholarship. Recipients were nominated by their medical schools and chosen based on academic achievement and financial need. The AMA Foundation is dedicated to improving the health of America through support of scholarships and medical education. The Physicians of Tomorrow Award rewards need and scholastic achievement in the form of tuition assistance to rising fourth-year medical students.

Craker is in her fifth year of a five-year dual degree program, the Physician Leadership Development Program. Through this innovative program, medical students can obtain a master's degree in business or public health while pursuing their medical degree over five years. When Craker graduates in May 2016, she will have earned both her M.D. and M.P.H. degrees.

At the Boonshoft School of Medicine, Craker cofounded the STEPS (Students Teaching Educational Plans for Success) Health Initiative, a student-led organization that addresses the health concerns of the homeless. Using motivational interviewing, students log health goals for each participant and empower participants to take steps toward a healthier lifestyle.

"Working closely and collaboratively with this multidisciplinary team has been a fantastic experience and one that I hope to recreate in my professional career," said Craker, who is from Willoughby, Ohio. "I want to be part of a multidisciplinary care team at an institution that celebrates research and innovation to enhance communication and efforts between the various health care professionals."

Craker also cofounded the Annual Leadership Conference for medical students to enhance their skills as leaders in medicine. She has hosted three successful conferences. She cofounded the Interdisciplinary Healthcare Council, which brings together faculty and students from the areas of medicine, nursing, psychology, engineering, business, social work, and health communication. She also held the positions of chapter chair and regional membership chair for the American Medical Association, Medical Student Section.

"I hope to utilize the knowledge I have gained through my education and continued research to advocate for my patients and for the health of my community on a state and national level," said Craker, who earned her undergraduate degree at DePauw University in Greencastle, Indiana, "Holding these positions in the American Medical Association allowed me a brief glimpse of the great work that physicians can do through their political advocacy. I hope to one day have a strong voice in the political conversation about health care in our nation."

She also has volunteered with Hospice of Dayton, where she and another medical student helped create a service learning opportunity that has allowed more than 70 medical students to volunteer with social workers and chaplains. She was involved in Phi Rho Sigma, a national social and community service organization represented by the Alpha Upsilon Chapter at the Boonshoft School of Medicine. She helped plan two canned food drives, a clothing drive, and a pancake breakfast to benefit various local groups, including The Food Bank and St. Vincent de Paul homeless shelters.

She has received numerous academic awards and recognitions, including her recent election to the Alpha Omega Alpha Honor Medical Society. In 2014, she was inducted into the Gold Humanism Honor Society. She also was recognized by the Wright State University Academy of Medicine with the prestigious Outstanding Third-Year Student Award.

Her love for the operating room has led her to aspire to a career in surgery. She wants to teach medical students and residents as a faculty member at an academic medical institution.

"A position in academic medicine will allow me to stay invigorated by my students, be at the forefront of my field and continue to contribute meaningfully to the conversations being held by the most influential minds in medicine through my research," Craker said. "My goal is to have a fulfilling career serving others with integrity and compassion, while advancing our field through research and education."



BULLPEN COLLABORATIONS

Collaboration in new NEC Building starts with star student researchers

Since its grand opening in the spring of 2015, the Neuroscience Engineering Collaboration (NEC) Building has enabled some of the university's brightest student researchers like Adam Deardorff and Emily Diller to work together to create innovations that improve people's lives.

"It's not just new lab space, it's not just a new building," Diller said. "This is an opportunity for great minds to come together and make really big things happen. And we have to take advantage of that opportunity." Diller is a graduate biomedical engineering student studying how tiny vibrations can improve a person's fine-motor skills.

Deardorff is an M.D./Ph.D. student studying neural control of movement.

They are among the top graduate and undergraduate students at Wright State who are working in the NEC Building's bullpen—an open area on the third and fourth floors connected by an open stairway.

The dynamic space can accommodate up to 30 students who are purposely mixed together to encourage connections and collaborative research—between students of different disciplines, including neuroscience, engineering, and psychology.

Filled with whiteboards, moveable desks and furniture, and areas where students can interact both professionally and socially, the bullpen plays a key role in promoting collaboration between researchers.

The space integrates the neuroscientists with the engineers, bringing interdisciplinary collaboration alive. Mixing students of different disciplines in the same space encourages them to establish relationships so they can better work together to bridge the distinct disciplines. Deardorff said students are excited to move into the bullpen. "We love talking to each other and learning from each other. That's why we're here," he said.

Wright State students have the freedom to pursue strong research ideas with support from faculty.

"Student ideas can contribute greatly to the direction of the research. The more opportunities we have to learn from and collaborate with one another, the better the ideas we bring to our professors," Deardorff said.

While their research originates in different disciplines and colleges, Deardorff's and Diller's studies have much in common.

"If we can develop a mutual understanding of each other's work, then we can collaborate more effectively. I think if we can combine principles of sensorimotor physiology and engineering to develop better experiments and better interventions, it will push our research to the next level. We have an opportunity to really make a difference in people's lives," said Deardorff.

He spent the first two years of the M.D./ Ph.D. program in medical school and the last five years pursuing his Ph.D. He returned to medical school this past summer for two more years. He also has a master's degree in anatomy from Wright State and received his bachelor's degree in zoology and environmental science from Miami University.

During his Ph.D. research, Deardorff has worked closely with Tim Cope, Ph.D., adjunct professor and former chair of neuroscience, cell biology, and physiology, studying spinal cord physiology and intracellular recording; with Robert Fyffe, Ph.D., vice president of research and dean of the Graduate School, studying spinal cord anatomy and quantitative confocal microscopy; and with Mark Rich, M.D., Ph.D., professor of neuroscience, cell biology, and physiology, and director of the WSU and Premier Health Neuroscience Institute, learning how laboratory research is translated into improved patient care.

"I'm just trying to learn as much as I can from them," Deardorff said.

Deardorff's research examines the neural basis for coordinated, purposeful movement. He examines motor neurons, which are cells in the spinal cord that fire electrical signals, known as action potentials, that cause muscles to contract, and sensory neurons that send electrical signals to the brain and spinal cord about body and limb position.

The nervous system can vary the excitability of a cell, and the more excitable a cell is the easier it is for the cell to fire an action potential, he said.

Deardorff is studying why healthy motor neurons work while other nerves are dysfunctional and whether they can be repaired through drugs or surgery.

"We're studying these pathways to understand not only how we move, but also what goes wrong in movement disorders," he said.

His research may be able to help people who have nerve injuries in their legs, arms, or spinal cord and chemotherapy patients experiencing discoordinated movements or an unstable gate.

Deardorff published his research in the Journal of Physiology in 2013 and Frontiers in Neural Circuits in 2014 and presented at the International Motoneuron Meeting in 2012 in Australia, where he received an award for best oral presentation by a student.



Milestones



In March 2015, 91 graduating Boonshoft School of Medicine students learned where they will pursue their residency training.

Gathered with family and friends at the Wright State University Student Union, the students took part in the national event that has become a rite of passage.

Wright State students matched in outstanding programs in Dayton, throughout Ohio, and across the country, including at Case Western Reserve University, Duke University, Stanford University, Cambridge Health Alliance (Harvard) and Johns Hopkins Hospital.

Brian Adkinson

University of Miami/Palm Beach Internal Medicine Ft. Lauderdale, FL

Brent Aebi Indiana University Ophthalmology Indianapoli, IN

Adam Altman Fort Sam Houston Surgery-General San Antonio, TX

Christina Anderson Barnes-Jewish Hospital Internal Medicine St Louis, MO

Amit Bansal WSU Boonshoft School of Medicine Internal Medicine Dayton, OH

Sonia Bennett WSU Boonshoft School of Medicine Internal Medicine Davton, OH

Kelsey Black Case Western/MetroHealth Medical Center Internal Medicine Cleveland OH

Jordan Brunswick University of Kentucky Medical Center Emergency Medicine Lexington, KY

Mitchell Camp Nationwide Children's Hospital Pediatrics Columbus, OH

Joseph Capichioni

Case Western/University Hospitals Case Medical Center Anesthesiology Cleveland, OH Betty Cheney

University of Florida COM-Shands Hospital Pediatrics Orlando, FL

Safoora Choudry SIU School of Medicine Vascular Surgery Springfield, IL

Jessica Clemons Summa Health/NEOMED Obstetrics & Gynecology Akron, OH

Kimberly Code Morehouse School of Medicine Internal Medicine Atlanta GA

Jonathan Corbett University of Cincinnati Medical Center Urology Cincinnati, OH

Brian Dinh WSU Boonshoft School of Medicine Internal Medicine Dayton, OH

Neal Dollin WSU Boonshoft School of Medicine Surgery-Preliminary Dayton, OH

Kevin Doyle Advocate Christ Medical Center Pediatrics Oak Lawn, IL Daniel Drake Allegheny General Hospital Orthopaedic Surgery Pittsburgh, PA

Michael Dressing University of South Florida Pediatrics Tampa, FL

Ayfer Ekiz Icahn School of Medicine Beth Israel Internal Medicine New York, NY

Mai El Gasim Einstein/Jacobi Medical Center Pediatrics Bronx, NY

Michael Elliott University of Kentucky Medical Center Emergency Medicine Lexington, KY

John Eppensteiner Duke University Medical Center Emergency Medicine Durham, NC

Ronald Erdelyi Riversitde Methodist Radiology-Diagnostic Columbus, OH

Katie Flower Medical University of South Carolina Urology Charleston, SC

Andrew Fong University of Southern California Pathology-Anatomic & Clinical Los Angeles, CA

Tracy Fong WSU Boonshoft School of Medicine Family Medicine Dayton, OH

Nicoletta Frankenstein Naval Medical Center Pediatrics Portsmouth, VA

Amanda Freeman WSU Boonshoft School of Medicine Pediatrics Dayton, OH

Cody Green Orlando Health Orthopaedic Surgery Orlando, FL Scott Gspandl Ohio State University Medical Center Psychiatry Columbus, OH

Laura Hallstrom University of Kentucky Medical Center Internal Medicine Lexington, KY

Sarah Hamilton Ohio State University Medical Center Psychiatry Columbus, OH

Michael Harakas Wayne State/Detroit Medical Center Emergency Medicine Detroit, MI

Jason Hehr Ohio State University Medical Center Plastic Surgery (Integrated) Columbus, OH

Christopher Heid University of Texas Southwestern Medical School Surgery-General Dallas, TX

Nicholas Hirth WSU Boonshoft School of Medicine Family Medicine Davton. OH

Steven Holfinger Riverside Methodist Internal Medicine Columbus, OH

Augustine Hong Case Western/MetroHealth Medical Center Internal Medicine Cleveland, OH

Audra Horomanski Stanford University Internal Medicine Stanford, CA

Matthew Huang Christiana Care Internal Medicine/Emergency Medicine Newark, DE

Ross Humes Walter Reed National Military Medical Center Internal Medicine Bethesda, MD



Paul Hutchinson University Hospitals Orthopaedic Surgery Columbia, MO

Zachary Il'Giovine Duke University Medical Center Internal Medicine Durham, NC

Samantha Imfeld Indiana University School of Medicine Psychiatry Indianapolis, IN

Jay Ingram Riverside Methodist Family Medicine Columbus, OH

Jennifer Jamison Medical College of Wisconsin Internal Medicine Milwaukee, WI

Kara Joseph Kettering Medical Center Anesthesiology Kettering, OH

Volodymyr Karpa University of Hawaii Psychiatry Honolulu, HI

Linda Katirji University of Kentucky Medical Center Emergency Medicine Lexington, KY

Omar Khan Kettering Medical Center Radiology-Diagnostic Kettering, OH

Joshua Klepinger WSU Boonshoft School of Medicine Emergency Medicine Dayton, OH

Stephen Knox Riverside Methodist Family Medicine Columbus, OH

Kyle Leggett Resurrection Medical Center Emergency Medicine Chicago, IL

Hau-Iun Liou Morristown Memorial Hospital Surgery-General Morristown, NJ Charles Lowrey University of Kentucky Medical Center Anesthesiology Lexington, KY

Matthew Mangini San Antonio Army Medical Center Orthopaedic Surgery San Antonio, TX

Andrew Martin Summa Health/NEOMED Surgery-General Akron, OH

Jayne Miely Rush University Medical Center Internal Medicine Chicago, IL

Nicholas Moore Indiana University School of Medicine Ophthalmology Indianapolis, IN

Greg Mott University of Cincinnati Medical Center Internal Medicine

Cincinnati, OH Jodi Mrosko Wayne State/Detroit Medical Center Emergency Medicine Detroit, MI

Lauren Myers University of Alabama Medical Center Anesthesiology

Birmingham, ÄL Matthew O'Neil WSU Boonshoft School of Medicine Family Medicine

Dayton, OH **Krupa Parikh** Cambridge Health Alliance Internal Medicine Cambridge, MA

Nataliya Pyatka Case Western/University Hospitals Case Medical Center Neurology Cleveland, OH

Jeffrey Reeves WSU Boonshoft School of Medicine Orthopaedic Surgery Dayton, OH Joseph Resch Medical College of Wisconsin Pediatrics Milwaukee, WI

Edward Roberto WSU Boonshoft School of Medicine Internal Medicine Dayton, OH

Sara Robertson University of Tennessee College of Medicine Pediatrics Memphis, TN

April Ruffin Morehouse School of Medicine Surgery-Preliminary Atlanta, GA

Sindhu Samba University of Michigan Hospitals Anesthesiology Ann Arbor, MI

Topaz Sampson Baylor College of Medicine Psychiatry Houston, TX

Ryan Schwieterman Ohio State University Medical Center Internal Medicine Columbus, OH

Ryan Shapiro WSU Boonshoft School of Medicine Plastic Surgery (Integrated) Dayton, OH

Elizabeth Shelley University of Cincinnati Medical Center Psychiatry Cincinnati, OH

Ralla Shrit Good Samaritan Hospital Surgery-General Cincinnati. OH

Chloe Sidley Ohio State University Medical Center Emergency Medicine Columbus, OH

Heather Skanes-DeVold Morehouse School of Medicine Obstetrics & Gynecology Atlanta, GA David Solarz University of Toledo Emergency Medicine Toledo, OH

Charles Spear Children's Mercy Hospital-UMKC Pediatrics Kansas City, MO

Brian Starr University of Cincinnati Medical Center Plastic Surgery Cincinnati, OH

Elizabeth Swartzwelder-Cozad WSU Boonshoft School of Medicine Family Medicine Dayton, OH

Jock Taylor Trident Medical Center Family Medicine Charleston, SC

Nardos Temesgen George Washington University Internal Medicine Washington, DC

David To Riverside Methodist Radiology-Diagnostic Columbus, OH

Mira Trivedi UPMC Medical Education Pediatrics Pittsburgh, PA

Jennifer Williams White Memorial Medical Center Obstetrics & Gynecology Los Angeles, CA

Zenar Yohannes WSU Boonshoft School of Medicine Pediatrics Dayton, OH

Jeffrey Zabinski Johns Hopkins Hospital Psychiatry Baltimore, MD

Milestones



Zraduation

Ninety-five members of the Boonshoft School of Medicine class of 2015 received their M.D. degrees during the school's commencement ceremony at the Benjamin and Marian Schuster Performing Arts Center on Friday, May 22.

John F. Donnelly, M.D., professor of family medicine and associate professor of community health, delivered the commencement address.

In addition to the degrees, several special awards and honors were presented during the ceremony:

Appreciation Award -

Robert E. W. Fyffe, Ph.D., vice president for research and dean of the Graduate School and professor of neuroscience, cell biology and physiology

For his exceptional leadership in support of students and medical education.

Dean's Award –

Augustine Hong

For demonstrating a commitment to academic excellence, embodying empathy and compassion toward others, exemplifying personal integrity and professionalism, and earning the respect and trust of classmates and faculty.

The Arnold P. Gold Foundation's Leonard Tow Humanism in Medicine Award—

Jeffrey S. Zabinski (graduate) and Larry Lawhorne, M.D., professor and chair of the Department of Geriatrics and professor of family medicine (faculty)

For consistently demonstrating compassion and empathy in the delivery of care to patients.

Teaching Excellence Award— Karen Kirkham, M.D., associate professor, internal medicine

For displaying outstanding professional skill and pride in discharging her instructional duties.



















Milestones



The Boonshoft School of Medicine welcomed 111 new students during the Convocation and White Coat Ceremony last July, formally marking the start of their medical education.

During the ceremony, students took their first oath of professional medical ethics, concluding with the words, "I commit myself to a lifelong journey of learning how to cure, relieve, and comfort with humility and compassion."

Each student received a white coat a traditional symbol of the medical profession—personalized with his or her name and the medical school patch.

This is the third year that each student also received a stethoscope engraved with the words, "Excel in Leaving a Mark," thanks to a generous donation from the Jason Madachy Foundation, Neal Barney, M.D., '83, alumni, and friends. The foundation has given thousands of stethoscopes to medical students nationwide in honor of Jason Madachy, who died tragically in June 2007 just before he was about to start medical school at Marshall University.

The class of 2019 was selected from a group of more than 3,700 applications. Educated at various universities across Ohio, including Case Western Reserve University, Miami University, Ohio State University, University of Cincinnati, and Wright State University, members of the incoming class also hail from Cornell University, Dartmouth College, Princeton University, University of Notre Dame, and Vanderbilt University, among others.

From volunteering at homeless shelters to building houses for Habitat for Humanity, they have shown a strong commitment to community service both at home and abroad. Several have taken mission trips. Others have volunteered with prison outreach programs, Alzheimer's patients, the Ronald McDonald House, children's hospital playrooms, and animal shelters. Some have volunteered as emergency medical technicians.

Fifty-one percent are women, while 49 percent are men. Sixty-six percent speak more than one language, including Arabic, Chinese, French, German, Hindu, and Spanish.





Evangeline Andarsio, M.D., ('84) delivers keynote address









Restoring circulation

Randall W. Franz, M.D., '92, on the forefront of advancing vascular care

When Randall Franz, M.D., was in college, his grandfather died suddenly during surgery to correct a vascular problem. His tragic death inspired Franz to become a vascular surgeon.

"I wanted to go into the field of vascular surgery to help people like my grandfather and to advance vascular care," said Franz, who is now known as one of the leading experts in the field of vascular surgery.

Today, Franz serves as chief of vascular and endovascular surgery at OhioHealth and director of Grant Medical Center's Vein and Vascular Center in Columbus, Ohio.

Practice ranked first

His work has not gone unnoticed. Ohio-Health/Grant Medical Center has been ranked first in the nation for quality and medical excellence for the past four years by CareChex, a division of Comparion Medical Analytics that provides clinical, financial, and patient satisfaction findings.

A typical day begins at 6:30 a.m. with the first surgery starting at 7:30 a.m. He does a minimum of three surgeries per day and a maximum of six. The rest of his day is filled with consults, research, and administrative responsibilities. However, he sees traumas throughout the day.

In addition to his clinical work, Randall serves as professor of surgery for Ohio University Heritage College of Osteopathic Medicine and assistant professor of surgery for Ohio State University College of Medicine.

"All of my research is based on my clinical practice," he said. "Our group is very busy. We're able to evaluate our own procedures to share the results with the world."

His research interests include vascular trauma, venous disease, aneurysmal disease, peripheral vascular disease, and stem cell therapy for limb salvage. His work has been published in the Journal of Vascular Surgery, Annals of Vascular Surgery, Journal of Cardiovascular Surgery, Vascular and Endovascular Surgery, International Journal of Angiology, Journal of the American College of Surgeons, and Vascular.

He has held numerous leadership positions, including treasurer of the International College of Angiology and chair of the Institutional Review Board at OhioHealth. He is an editorial board member and journal reviewer for 30 national and international publications. He also was one of 10 Wright State University alumni who received a 2015 College Outstanding Alumni Award, representing the Boonshoft School of Medicine.

Franz manages to balance all of his responsibilities and commitments through time management and efficiency. "As a community-based medical school, the Boonshoft School of Medicine was affiliated with seven major teaching hospitals," he said. "When I was a medical student and a resident, I learned how to be efficient at each location."

Franz chose to attend the Boonshoft School of Medicine because of its focus on primary care. "I wanted to be a surgeon," said Franz, "I felt I could be a much more well-rounded surgeon because of the school's primary care focus."

Path to medicine

His path to becoming a doctor actually started in high school with a sports injury. Franz, who grew up on the east side of Cincinnati playing football, basketball, and baseball, injured his leg during a game. The care that the orthopaedic surgeon provided him healed more than just his leg. It also inspired him to become a doctor.

"I was so impressed with the knowledge that the physician had," said Franz "His knowledge and care enabled my leg to heal and allowed me to return to sports."

Franz went on to volunteer at a local hospital. After graduating from high school, he attended the University of Cincinnati, where he majored in biology. Following graduation, Franz started medical school at the Boonshoft School of Medicine.

Robert P. Turk, M.D., was one of his mentors. When Franz had a ruptured appendix during his second year of medical school, Turk took him under his wing, helping him get through this very difficult time. Franz will never forget the lessons Turk taught him.

"He taught me the idea of learning the history of medicine in surgery, which I thought was intriguing," Franz recalled. "Before surgical techniques can move forward into the future, you need to understand the past."

Franz also completed his general surgery residency at the Boonshoft School of Medicine. He speaks highly of James B. Peoples, M.D., FACS; Margaret M. Dunn, M.D., M.B.A., FACS; Mary McCarthy, M.D., FACS; and William Rundell, M.D., FACS. "They were very instrumental in my general surgery residency training," he said.

After completing his residency in June 1997, he entered into private practice founding Union General and Vascular Surgeons in Dover and Canton, Ohio.

Vascular fellowship

In July 2000, he began a one-year vascular surgery fellowship at North Shore/Long Island Jewish Medical Center in New York.



The fellowship was at a hospital with 12 vascular surgeons. The patients had very complex problems. "The hospital was cutting edge," he said. "It allowed me to learn new techniques before other parts of the country were able to perform these techniques."

Franz formed long-lasting relationships with the people he trained with. He has served in several medical societies and has been able to propel his research forward and be involved in reviewing journal articles from around the world.

After completing his fellowship, Franz returned to Ohio and continued practicing there, where he also was an assistant professor of surgery for Northeastern Ohio School of Medicine from 2003 to 2005. He also served as the director of vascular surgery education from 2004 to 2005. In 2005, Franz was recruited to be chief of vascular and endovascular surgery for Ohio Health/Grant Medical Center in Columbus. Despite a full schedule of patients and teaching medical students, Franz has managed to balance his role as a surgeon, a husband, and father. He credits his wife, Dawn, a former school principal, with keeping his family organized as his two sons, Evan and Austin, were growing up. Even with his busy schedule, he coached his sons in multiple sports when they were younger. Today, his oldest son, Evan, is in graduate school obtaining an M.B.A. His younger son, Austin, is pursuing his undergraduate degree in business management. Both sons are attending the University of Cincinnati.

"The key to success as a surgeon is being efficient and employing time management," Franz said. "But most importantly, always doing what is best for the individual patient."

VS

-Heather Maurer

In Memoriam

Longtime Wright State researcher, ALS activist Roger Siervogel dies at 70

Roger M. Siervogel, Ph.D., retired director of the Lifespan Health Research Center and longtime faculty member at Wright State University Boonshoft School of Medicine, died on April 15, 2015, at the age of 70.

Diagnosed with amyotrophic lateral sclerosis (ALS), or Lou Gehrig's disease, in 2003, Siervogel served as director of the Wright State Lifespan Health Research Center and its predecessor, the Division of Biology, from 1993 until he retired in July 2013. He held faculty appointments in both pediatrics and community health as well as having the honorary title of Fels Professor during his tenure.

Siervogel received many honors in his 36 years with the university. In 2002, he was selected for the Wright State University Presidential Award for Faculty Excellence in Research.

In 2006, the Wright State Board of Trustees awarded him the title of Brage Golding Distinguished Professor of Research for having produced a significant body of work that brought distinction to the university and international recognition to his research.

He earned his Ph.D. in genetics at the University of Oregon in 1971 and conducted postdoctoral research in human genetics at the University of North Carolina, Chapel Hill, from 1971-73. He was enticed to leave a visiting professorship in genetic epidemiology at UNC by Alex Roche, M.D., Ph.D., then director of the Fels Research Institute, in Yellow Springs. The private, nonprofit Fels Institute was home to the Fels Longitudinal Study, the longest-running longitudinal study of human growth and development in the world.

"Alex Roche had the vision to see the potential for genetics to play a role in the Fels study, so I was brought onboard in 1974 to add a new dimension," Siervogel was quoted as saying in a profile published by the university in 2006. "Roche was an instrumental moving force in terms of getting the Fels study on the right track, getting research funding for it, and setting the direction that we have followed since he retired from WSU in 1994."

In 1977, the Fels Research Institute and the Fels Longitudinal Study became part of the School of Medicine, residing first in the Department of Pediatrics and later within the Department of Community Health in its Lifespan Health Research Center.

According to his wife, Renee Harber-Siervogel of Yellow Springs, following his diagnosis, Siervogel became very active as an ALS advocate at the local and national level. He participated in several ALS studies, was an ALS patient educator and helped organize Team Shiraz to participate in the Dayton ALS Walk held in Fairborn in 2014.

In a profile published in the *Dayton Daily News* in 2012, he called ALS the "wildest roller coaster ride you can ever imagine." He told the reporter that he tried to stay positive. In the summer of 2014, his wife posted a YouTube video of him participating in the ALS Ice Bucket Challenge.

In the 2006 university publication he said, "Once you get past the initial shock (of learning you have ALS), you decide whether you are going to make the most of the rest of your life, and that is what I am doing. It's not for me to lament what might have been, but to enjoy what I have today."

In addition to his wife, he is survived by a son, Jeffrey A. Siervogel, and a daughter, Wendy S. Siervogel, three granddaughters, and many other friends and relatives.

Heather Hostetler, Ph.D., 1973-2015

Heather Hostetler, associate professor of biochemistry and molecular biology at Wright State University, died August 5, 2015, at the age of 41.

She had been diagnosed with gastric carcinoma and died suddenly due to complications from aspiration pneumonia.

Hostetler joined Wright State University in September 2009 with a matrix position in both the Boonshoft School of Medicine and the College of Science and Mathematics and was awarded tenure in summer 2014.

Her research focused on nuclear receptor regulation in energy homeostasis, with a particular focus on diabetes. She had received funding from the National Institutes of Health, resulting in more than 15 publications during her time at Wright State and more than 28 publications during her scientific career. She also reviewed grants from agencies such as the American Heart Association and published manuscripts for numerous peer-review journals.

She is survived by her husband, Dean Rider, research assistant professor of biochemistry and molecular biology at Wright State, and their 3-year-old triplet daughters, Samantha, Mahala, and Autumn.

Alumni Notes

We're proud of our alumni and graduates of our residency programs and want to spread the word about your achievements. If you have professional news or personal updates to share—or simply want to stay in touch—please contact the Office of Advancement at som_adv@wright.edu or 937.245.7610.

1985

Donald Herip, M.D., is a Navy and Army veteran now practicing at Baptist Medical Park-Nine Mile in Pensacola, Florida. He provides care to Workers' Compensation injury patients, and received the Excellence in Instruction Award, nominated by physician residents.

1986

John Wey, M.D., and his wife, Laureen, currently reside Yakima, Washington. He is in private practice of psychiatry.

1027

Justin Trevino, M.D. has been appointed as assistant medical director at the Ohio Department of Mental Health and Addiction Services. He is licensed by the State Medical Board of Ohio and certified by the American Board of Psychology and Neurology in both General Psychiatry and Addiction Psychiatry.

J. Layne Moore, M.D., is at the Mayo Clinic Health System in Faribault and Owatonna, Minnesota, He completed his neurology residency at the University of Cincinnati, and two fellowships at the Mayo Clinic in Rochester.

1994

John Shockley, M.D., is practicing internal medicine with the Christ Hospital in Cincinnati, Ohio. He and his wife, Melissa Kaniaris, have four children: Ben, Emma, Sam, and Eva.

Brian Wells, M.D., is practicing family medicine and clinical informatics at Wake Forest University Baptist Medical Center in Winston-Salem, North Carolina. Jessica Wells (Schieltz), M.D., specializes in infectious disease at Wake Forest University Baptist Medical Center in Winston-Salem, North Carolina.

1996

Amy Carter, M.D., is practicing at New Castle Family and Internal Medicine in Indiana.

Rahul Mehta, M.D., was named president of the Oakland County Medical Society board of directors in Bloomfield Hills, Michigan. Dr. Mehta is chair of the Department of Emergency Medicine and deputy EMS medical director at St. Joseph Mercy Oakland.

William Wong, M.D., M.P.H., F.A.C.P., is the medical director for the Chicago Fire Department.

Aaron Patterson, M.D., M.B.A., is the

director of medical informatics and attending psychiatrist at Mount Sinai Beth Israel in New York City, New York.

2010

Tanay Patel, M.D., is in an Interventional Radiology Fellowship at Emory University Hospital in Atlanta, Georgia.

2011

Sarah Rossetter (Wilson), M.D., is a staff psychiatrist at Solutions Community Counseling & Recovery Centers. She currently resides in Tipp City, Ohio, with her husband and two children.

Mike Baria, M.D., M.B.A., will begin a one-year sports medicine fellowship at the Mayo Clinic after finishing his residency, also at the Mayo Clinic, in physical medicine and rehabilitation this spring. During his sports medicine fellowship he will gain advanced skills in diagnosing and treating injured athletes. **Benjamin Barlow, M.D.,*** Major, USAF, an emergency medicine resident graduate, is currently serving on the White House medical staff.

2012

Amy Manzo, M.D. is currently a pediatric intensive care unit fellow at the Johns Hopkins Hospital in Baltimore, Maryland.

Jonathan Staidle, M.D.,* is a recent resident graduate from dermatology and matched with Dr. Anthony Benedetto in Philadelphia, Pennsylvania, for a Mohs fellowship.

In Memoriam

Richard Christensen, M.D., '90, of Jacksonville Beach, Florida, passed away on November 26, 2015, in Lusaka, Zambia, while on a home-building project for Habitat for Humanity International. He was struck by a hit-and-run driver while on his morning run on Thanksgiving Day. Dr. Christensen is survived by his wife Kathy and son Christopher. He practiced and taught psychiatry. For more information: legacy.com/obituaries/dayton/obituary. aspx?pid=176768364.

William Roberts, M.D., '93, passed away on January 14, 2015, at Riverside Methodist Hospital in Columbus, Ohio. Dr. Roberts is survived by his wife, Jackie, and children Mychael, Julian, Griffin, Vincent, and Tamarssa. He practiced family medicine with Doctors House Call of Columbus. For more information: newcomerdayton.com/obituary/97794/ William-Boyd-Roberts/Dayton-Ohio.

* Residency graduates

Dream fulfilled Scholarship student garners national award

Ruth Claros' father never attended school, and her mother only completed the sixth grade. College was not an option for most people in the Los Angeles community where she grew up. Despite the odds, she was determined to graduate from high school and go to college. Medical school didn't seem possible.

"For me to dream about going to college was a really big thing," she said. "Applying for college was really scary. I felt alone. I did not have people to turn to when I had questions."

She persevered and was accepted into La Sierra University in Riverside, California. She worked three part-time jobs to help cover her expenses. Despite the hardship, she excelled and earned a B.A. in history and a B.S. in biology. She also realized she wanted to become a doctor to help others in the same way that she had been helped. Despite being told that she would not make it to medical school, she found a school that provided a supportive environment—the Boonshoft School of Medicine.

She was accepted and received the Boonshoft School of Medicine Underrepresented in Medicine Scholarship.

"This scholarship means that I can attend medical school," said Claros, a third-year medical student. "It means that someone believes in me and is offering a helping hand."

And the investment is paying off. Claros was one of 12 medical students nationwide selected for the American Society of Hematology 2014 Minority Medical Student Award Program, which allowed her to design and conduct a research project. She presented her research at the Hematology Society's annual meeting in San Francisco late last year.



Your support can give students like Ruth an opportunity to fulfill their potential, pursue their dreams, and prepare for a lifetime of service to their patients, their communities, and the world. The life-changing impact of your contribution is almost limitless. **So please visit medicine.wright.edu/giving to make your gift to the Boonshoft School of Medicine today.**



3640 Col. Glenn Hwy., Dayton, OH 45435-0001

Save the Dates

ACADEMY OF MEDICINE

2016 Distinguished Guest Lecture and dinner meeting



April 27, 2016 Sinclair Conference Center Reception: 5:30 p.m. Dinner: 7:30 p.m. Special Guest: Dan Patterson

Dan Patterson has been fascinated with flight his entire life. He employs his skills and talents as a designer and photographer to look at aviation in a different light.

Over 30 books with his photos have been

published meeting with international acclaim. Dan was honored in 2003 as the National Aviation Hall of Fame's first winner of the Harry B. Combs Award for Excellence in the Preservation of Aviation History. He was introduced by Neil Armstrong and Gene Cernan. He was also named Wright State University Alumni of Year in 2003.

Dan has had the opportunity to have several major exhibits, including a one-man show at the National Museum of the United States Air Force in 2005 and the creation of a Very Large Book for permanent exhibit at the Wright Brothers Museum in Pau, France. He was selected as a lecturer for the Smithsonian Journeys Programs.

For more information, or to attend, go to medicine.wright.edu/academy.

W.E.L.L. Weekend Marco Island Marriott Beach Resort Florida February 4-7, 2016

Dermatology Reception at the American Academy of Dermatology Annual Meeting Marriott Marquis Washington DC 901 Massachusetts Ave NW Washington, DC 20001 March 6, 2016

Medicine & Spirituality Conference Featuring Mimi Guarneri, M.D., FACC Sinclair Conference Center Dayton, Ohio April 14, 2016

Aerospace Medicine Reception at the Aerospace Medical Association Scientific Annual Meeting Atlantic City, New Jersey April 24, 2016

Academy of Medicine 2016 Distinguished Guest Lecture and dinner meeting Featuring Dan Patterson April 27, 2016

Reunion Weekend

Honoring the classes of 1981, 1986, 1991, 1996, 2001, 2006, 2011 Cincinnati, Ohio August 5-7, 2016

For information about other upcoming alumni events, visit medicine.wright.edu/ community/alumni