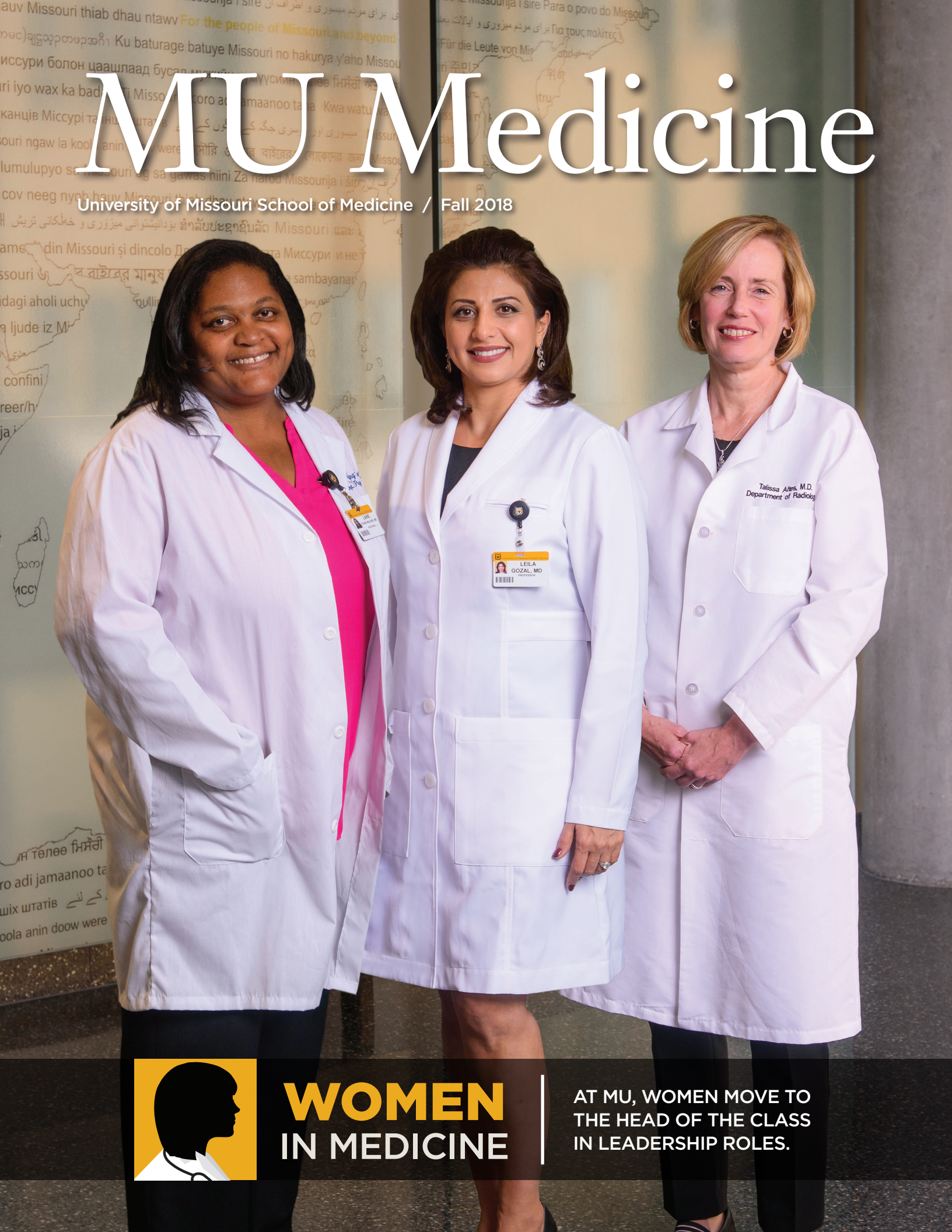
MU Medicine

University of Missouri School of Medicine / Fall 2018



WOMEN IN MEDICINE

AT MU, WOMEN MOVE TO THE HEAD OF THE CLASS IN LEADERSHIP ROLES.

LETTER FROM THE DEAN

Women have been an important part of the MU School of Medicine for more than a century. The first woman to graduate with a medical degree was Anna Searcy in 1900. She was followed over the next eight years by five more women. As we know from the extensive research of our own Elizabeth Garrett, MD, they were a remarkable group that left a lasting impact on the communities where each practiced.

Skipping ahead to the present day, we recently welcomed the Class of 2022 to the School of Medicine. After receiving a school-record 2,671 applicants, we chose a select group of 112 students. Fifty-three percent of them are women. That's a positive sign that we are training physicians whose diversity reflects the population they will be serving.

In this edition of MU Medicine, we highlight some of the contributions of women to the School of Medicine, both historical and present day.

You will learn more about three of our school's leaders — Talissa Altes, MD, the chair of the Department of Radiology; Leila Kheirandish-Gozal, MD, the director of the Child Health Research Institute; and Laine Young-Walker, MD '97, associate dean for student programs and chief of the Division of Child and Adolescent Psychiatry. You also will be introduced to two of our standout fourth-year students, Rebecca Aguayo and Aundria Eoff, whose commitment to community outreach has helped them become leaders of their class.

Increasing the number of the School of Medicine's women leaders remains one of my top priorities. The more diversity we have, the better the education, the better the training, the better the research opportunities and, ultimately, the better we take care of patients.

Patrick Delafontaine, MD
Hugh E. and Sarah D. Stephenson Dean
Professor of Medicine and Medical Pharmacology and Physiology
University of Missouri School of Medicine

MU Medicine

MISSION STATEMENT
MU Medicine is published twice yearly to share updates that highlight the accomplishments of the MU School of Medicine's community of researchers, clinicians, students and alumni.

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ON THE COVER:
Women have attended the MU School of Medicine for more than a century. Now, more women, such as Laine Young-Walker, Leila Kheirandish-Gozal and Talissa Altes, are advancing to leadership positions in the school.

TABLE OF CONTENTS

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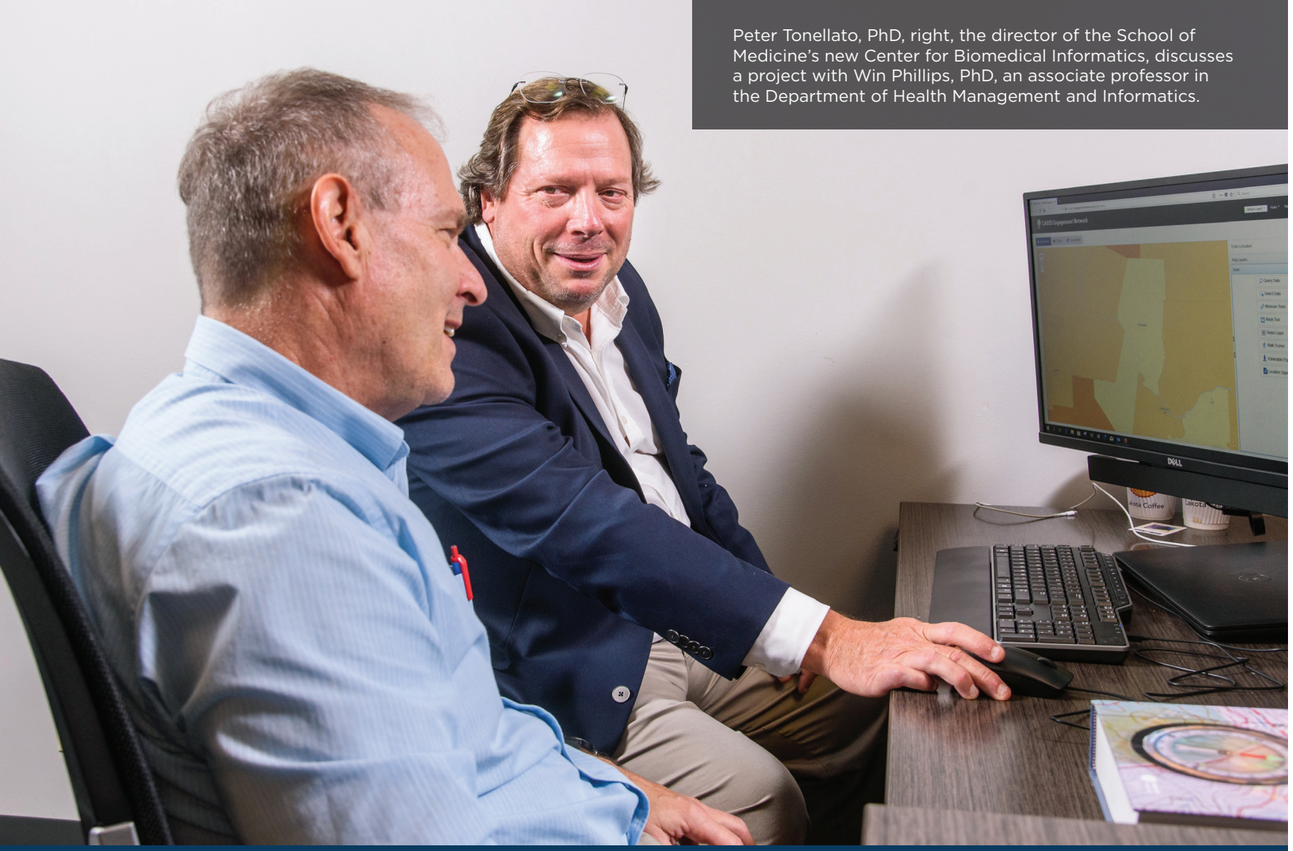


Peter Tonellato, PhD, right, the director of the School of Medicine's new Center for Biomedical Informatics, discusses a project with Win Phillips, PhD, an associate professor in the Department of Health Management and Informatics.

CBMI SOLVES MEDICAL PROBLEMS THROUGH COLLABORATION

> "The purpose of the participants in the forum is defining and clarifying the problem through writing a multi-page scientific statement on the problem, including a scientific hypothesis, objectives and a sense of how you might approach those objectives. That process and statement are the beginning of a multidisciplinary, collaborative project."
>
> — **Peter Tonellato, PhD**
> Director, Center for Biomedical Informatics

When patients need fractures repaired and wounds sutured in University Hospital's emergency room, the anesthetic of choice is propofol. But no matter how experienced a health care provider is, optimal dosing is tricky.

"You can make ballpark estimates of how much somebody needs, but the way we do it now is you take a syringe and start giving it to them until they get where you want, and then you kind of estimate when they're going to wake up and re-dose them, because each patient metabolizes and redistributes the drug differently," said John Yanos, MD, of the Department of Emergency Medicine.

Yanos knew there must be a way to improve the initial dosing and maintain an optimal dose during the procedure to reduce the likelihood of human error. In fact, researchers in Europe have created mathematical formulas that predict the appropriate dosage for patients based on their individual characteristics.

Yanos had clinical expertise but could not make sense of the mathematics, much less how to translate the math into a method and computer program that governed the pump. That's where Peter Tonellato, PhD, the director of the MU School of Medicine's new Center for Biomedical Informatics, came in handy.

"John provided a collection of papers with models and handed them over and said, 'I don't really know what these describe, but I think they're pertinent,' " Tonellato recalled. "I said, 'This collaboration and project is perfect for us.' "

The CBMI's purpose is to connect medical researchers who have problems to solve with quantitative specialists across campus who are experts in areas such as math, statistics, computer science and engineering. By tapping the collective brain power of the entire campus, MU medical researchers are more likely to create projects that lead to publications, grants and, most important, improved patient care.

The CBMI, located across the hall from the School of Medicine's J. Otto Lottes Health Sciences Library, is designed to be welcoming and collaborative. Floor-to-ceiling windows allow passersby to see what's going on inside. As the space was being redesigned, Tonellato requested all walls be removed so the interior was open and conducive to "palavers."

"The palavers — or forums — are pretty novel," Tonellato said. "They're not just lectures. There are tons of lectures. Quantitative people lecture at the School of Medicine, and medical scientists from the School of Medicine lecture to engineers, mathematicians and statisticians. That approach on its own does not create a connection. You attend the lecture, and it's very exciting, but what comes next?

"The forums CBMI launched have a collection of people from the departments you would like to engage. They participate in an assessment of a problem being presented. The purpose of the participants in the forum is defining and clarifying the problem through writing a multi-page scientific statement on the problem, including a scientific hypothesis, objectives and a sense of how you might approach those objectives. That process and statement are the beginning of a multidisciplinary, collaborative project."

The idea for the CBMI began with Eduardo Simoes, MD, the chair of the Department of Health Management and Informatics, and Jerry Parker, PhD, the associate dean of research. They thought modern precision medical research required better collaboration between the medical and informatics fields. Patrick Delafontaine, MD, the dean of the MU School of Medicine, agreed.

John Yanos, MD, sought a way to accurately determine the dosage of the anesthetic propofol. He connected with Peter Tonellato, PhD, of the new Center for Biomedical Informatics, and they began a multidisciplinary project.

"We've had an exponential increase in the data we get from all sources, including the patients themselves," Delafontaine said. "One of the key challenges in health care is to analyze this data, sort it and try to see what is more important and what is less important so we can actually make better-informed decisions. We have in Dr. Tonellato a real expert in biomedical informatics who participated in and started similar programs at Harvard, The Medical College of Wisconsin and the University of Wisconsin."

The CBMI fits into the University of Missouri's larger initiative to build the Translational Precision Medicine Complex. The goal of that program is to create a home for multidisciplinary research on disease treatment and prevention that accounts for the physiological, genetic, environmental and lifestyle differences in individual patients.

Yanos' propofol project is a perfect example.

The research team includes doctors and nurses collecting the data on the clinical side, two experts in mathematical modeling, two data analysts and a genetic counselor.

The math and data specialists are validating the European mathematical models against information collected from MU Health Care patients. If the results correlate, the health informatics computer experts of the Tiger Institute will write and integrate the code that regulates the pumps to deliver a baseline amount of the anesthetic that doctors could adjust slightly as needed.

As Yanos pointed out, if a formula could determine the right continuous dose of anesthetic, the same could be done with antibiotics or any other drug, which will lessen the possibility of errors and improve patient outcomes. This groundwork is being done using what Tonellato calls "clinical avatars" — virtual patients.

"The nice thing about informatics is you don't have to have a bench lab to do this," said Matt Robinson, MD, the chair of Department of Emergency Medicine. "We can take the information we get from clinical patients, and Peter does computer-based simulations. It's virtual research, if you will, instead of us doing it on a patient where we have to draw your blood, draw your blood, draw your blood. For a department like us, that's really helpful. We don't have to create all the research space. We have a collaborative group that can help us test theories before we do them on human subjects."

LEARN more about the Center for Biomedical Informatics at **medicine.missouri.edu/cbmi**.

FEMALE PIONEERS SET EXAMPLE AT SCHOOL OF MEDICINE

▲ Elizabeth Garrett, MD, professor emeritus in the Department of Family and Community Medicine, has done extensive research on the first women to graduate from the MU School of Medicine.

After years researching the first women to graduate from the University of Missouri School of Medicine, Elizabeth Garrett, MD '79, has considered how best to highlight their lives. A book? A documentary? Maybe even a play?

"It would start with the sound of a basketball dribbling off stage," Garrett said.

The six trailblazing women of MU medicine share some common traits. They were independent and goal-oriented, as you might expect of women who became doctors before they were legally allowed to vote. They were practical and plainspoken. They lived uncommonly long lives. And at least four of the six played basketball at Missouri — the gym was in Jesse Hall — in an era before MU sponsored men's basketball. One of them, Lake Brewer, was quoted in the 1902 Savitar yearbook as saying her career goal was to become a basketball coach.

Those details might have been lost to history if not for Garrett, who was the president of the MU Medical Alumni Organization at the time of the 100th anniversary of the first female MU medical school graduate. Tributes to important men from the school's past dotted the walls and halls, but Garrett knew nothing about that first female graduate — Anna Searcy — and her contemporaries.

So Garrett, now a professor emeritus in the Department of Family and Community Medicine, started what she called a quest. She tracked down relatives. She stopped perfect strangers on the streets of tiny towns to ask for their memories. She traveled as far as Montana in her efforts to know more about these women and bring their achievements to light.

"We often talk about our forefathers. These would be our foremothers," Garrett said. "These women paved the way for all of us and took care of their communities."

Here are small portions their stories, based on Garrett's research.

ANNA SEARCY, CLASS OF 1900: MU SCHOOL OF MEDICINE'S FIRST FEMALE GRADUATE

Searcy appeared, wearing an elaborate hat, in a group photo of freshmen medical students in the 1897 Savitar yearbook. The caption identified her as a secretary, and initially it was assumed she was a staff person. Further research proved her to be the School of Medicine's first female graduate.

After graduation, she practiced briefly in the small northern Missouri towns of Macon, Anabel, Clarence and Marceline. Little is known of the rest of her life. She died in Springfield, Missouri, and at the time of her death, there was no record of any surviving family members.

In 2018, MU's Women in Medicine and Medical Sciences group created the Anna B. Searcy Award for promoting women in medicine. The first award winner was, appropriately enough, Garrett.

JANE DUNAWAY
CLASS OF 1905

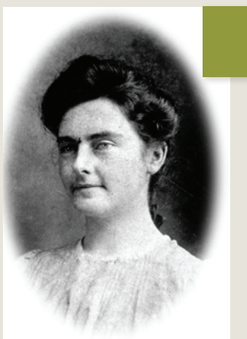
Not long after graduating, Dunaway spent two years practicing in Puerto Rico, where a clinic was named in her honor. She found her calling as a psychiatrist, first at Missouri's state mental hospital in St. Joseph and then in Pennsylvania. She retired in 1960 at age 81 and lived nine more years. In 1964, she authored a book, "Letters From Dr. Jane," which included a collection of letters she had written to a nephew who was interested in becoming a doctor.

LAKE BREWER
CLASS OF 1908

Brewer is believed to be the first baby ever born in the northwest Missouri town of Ridgeway and the last physician to practice there. She was the first woman to hold a bachelor's and medical degree from MU. After graduating from medical school, she returned to the town, although not as the basketball coach she had imagined. Brewer practiced medicine for 50 years in Ridgeway, where she not only cared for the citizens but also encouraged young people to pursue higher education.

GRACE SCHOLZ MOUNTJOY
CLASS OF 1906

Her father, who was a physician, encouraged her to return to her native St. Louis and practice with him after she graduated. He died in a streetcar accident within a year of her arrival, and Mountjoy took over his general practice and ran it for 50 years. In an era when delivering babies meant making house calls, she owned one of the city's first cars that didn't require a hand-crank start. She is believed to be the only one of the original six women who had children of her own. Mountjoy died at age 97.



CAROLINE MCGILL
CLASS OF 1908

McGill, whom Garrett calls "perhaps the most remarkable of these remarkable women," was the first person to earn a PhD from the MU School of Medicine. She briefly taught anatomy as the first female faculty member. A few years after graduation, she left for the rough mining town of Butte, Montana, where she became the state pathologist. She earned her MD from Johns Hopkins University and returned to Montana and practiced medicine until 1956.

McGill was an avid hunter and fisher, had a wonderfully curious mind and loved to entertain guests on her dude ranch on the Gallatin River. She founded the Museum of the Rockies in partnership with Montana State University and was its first curator. Her extraordinary collection of Montana historical objects was its beginning. McGill died at age 79, and her memory lives on at the MU School of Medicine, where the Caroline McGill Society meets quarterly over dinner to discuss books, articles and films and support each other's career development.

RUTH SEEVERS
CLASS OF 1906

She was the daughter of a general practitioner in Osceola, Missouri. Seevers initially was told she couldn't enter MU's medical school because she had taken only one year of Latin in high school instead of the required two years, but after challenging the admissions official to quiz her, she was deemed fit. Seevers went on to be president of her class. After graduation, she returned to Osceola and practiced for 70 years and made many contributions to her community. She delivered thousands of babies, some of whom were named Ruth in her honor. She was known to bring a dog with her on house calls to keep inebriated husbands in line while she helped their wives through childbirth. Seevers died at age 102.

The six female pioneers combined to practice for more than **265 years**, making an immeasurable impact on their communities and setting an example for the generations that followed them at the MU School of Medicine.

LEARN more about MU's Women in Medicine and Medical Sciences group at **medicine.missouri.edu/wimms**.

ALTES STEPS OUT OF COMFORT ZONE, INTO LEADERSHIP POSITION

▲ Talissa Altes, MD, Gwilym S. and Maria Antonia Lodwick Distinguished Professor in Radiology, spent 10 years as an electrical engineer before she decided to pursue a career in medicine.

Talissa Altes, MD, thought she had reached her final professional destination at the University of Virginia. She liked and respected her colleagues — some of whom had trained her as a resident — and was fond of the hospital, university and town of Charlottesville.

Altes was the UVA Department of Radiology's vice chair of research, a position that perfectly suited her skills and personality … or so she thought.

"She has great administrative skills. She has grown the clinical program, has stabilized the education program and has really jump-started the research in the department. She has turned out to be a wonderful leader."

— Patrick Delafontaine, MD
Hugh E. and Sarah D. Stephenson Dean, MU School of Medicine

"I felt I was a very good No. 2, but I didn't think I'd be the best No. 1," she said. "I'm very loyal and hard-working, but I'm not the show person."

Yet, when she had a chance to join the University of Missouri as the chair of the Department of Radiology in January 2016, she decided to accept. That step out of her comfort zone worked well for her and the institution.

"She has great administrative skills. She has grown the clinical program, has stabilized the education program and has really jump-started the research in the department. She has turned out to be a wonderful leader," said Patrick Delafontaine, MD, the dean of the MU School of Medicine.

A native of upstate New York, Altes spent 10 years as an electrical engineer before deciding to get out of the business of building satellites and get into medicine. While attending medical school at the University of Washington, the radiology clinical rounds were her favorites. She enjoyed solving medical mysteries by looking at imaging results, and the technology appealed to her inner engineer.

Her research niche is lung imaging. Because lungs are mostly air, MRIs aren't very effective in presenting a clear picture of what's going on inside. However, if a subject breathes in a hyperpolarized gas — helium or xenon — during an MRI scan, a clearer image of the lung emerges. Altes and her team can actually see the gas passing from the lung into the interstitium and then the red blood cells, which gives them clues to understand lung diseases.

Altes said she devotes about 20 percent of her time to research, although after doing the math on all her other obligations, she noted with a laugh that the total far exceeded 100 percent. That's the life of a department leader whose responsibilities now extend well outside her lab and clinical responsibilities.

"My focus is working with my department to become a very successful traditional academic radiology department," Altes said. "That means hiring and mentoring the people who want to do research and giving them the opportunity to be successful. That means giving the people who want to do education the opportunity to excel. And that means giving the people who want to be clinical experts and who can tackle the most difficult radiology cases the opportunity to provide outstanding care to our patients. I'm fortunate to have faculty who excel at all three of these missions."

STAY UP TO DATE on the latest happenings at the MU School of Medicine at **medicine.missouri.edu**.

PASSION FOR HELPING CHILDREN INSPIRES KHEIRANDISH-GOZAL

A successful medical researcher must have enthusiasm for the subject matter. Leila Kheirandish-Gozal, MD, an international expert on pediatric sleep disorders, is no exception.

"I love sleeping — it's true," she said with a laugh. "And as a person who loves sleeping, the science of sleep is sacred to me."

Kheirandish-Gozal is the director of the MU School of Medicine's new Child Health Research Institute. She was recruited from the University of Chicago along with her husband, David Gozal, MD, the new chair of the Department of Child Health, to build a productive pediatric research program.

Kheirandish-Gozal comes from a family of physicians, but she has carved a distinct path. As a native of Iran, she was raised speaking both Farsi and English, but when she enrolled in the medical school at the University of Damascus in Syria, she had to learn Arabic. That made the experience challenging while being a "wonderful adventure." The next stop was the United States.

"I had an immense curiosity for medical cases," she said. "Reading about others' research discoveries in medical textbooks, I always felt I'd rather be the one that wrote the book, not the one who just reads it."

She landed at the University of Louisville, where she met her future husband and found her calling in the study of pediatric sleep disorders and their impact on cognition and the cardiovascular system. She was part of a research team that compared children with obstructive sleep apnea to unaffected peers and found that if they memorized the same material at night, the children with sleep apnea performed worse on the test the next day.

"Our body is like a computer," Kheirandish-Gozal said. "All the information that is gathered throughout the day, during the deepest stage of sleep gets organized into compartments. Our memory consolidates when we sleep. That's why a good amount of sleep and a good quality of sleep is extremely important for our day-to-day function."

For the last decade, one branch of her research has dealt with non-surgical treatments for mild sleep apnea caused by enlarged adenoids and tonsils. Her team found that using a nasal spray containing corticosteroids can shrink those tissues in the upper airway and improve a child's sleep. Kheirandish-Gozal is the principal investigator of a National Institutes of Health R01 grant titled "Exosomes, Blood Brain Barrier, and Cognitive Function in Pediatric OSA."

"She has expertise that will not just impact research but really the care of children," said Patrick Delafontaine, the dean of the MU School of Medicine.

Her enthusiasm for sleeping aside, Kheirandish-Gozal's real motivation is helping children.

"For me, real meaningful research is where you can actually help somebody," she said. "As a mother, I'm passionate about my own kids, and I have the same passion for others' children. I believe in order to have a healthier society, we need to start investing with the young ones."

▲ Leila Kheirandish-Gozal, MD, has done extensive research on pediatric sleep disorders. Now, she is the director of MU's Child Health Research Institute.

"I had an immense curiosity for medical cases. Reading about others' research discoveries in medical textbooks, I always felt I'd rather be the one that wrote the book, not the one who just reads it."

— Leila Kheirandish-Gozal, MD, Director of the Child Health Research Institute

YOUNG-WALKER **SAYS YES** TO IMPACTFUL MENTAL HEALTH PROGRAMS

▲ Laine Young-Walker, MD, has helped create and maintain numerous child psychiatry outreach programs in addition to performing her duties as associate dean for student programs, chief of the Division of Child and Adolescent Psychiatry and professor in the Department of Psychiatry.

"If you look at my programs, they're about access to child psychiatry or they're about early intervention. What can we do at an early age to help that parent-child relationship, to help with social-emotional development? Studies show that a more positive, well-adjusted child will enter kindergarten more successful and ready to learn."

— Laine Young-Walker, MD
Division Chief, Child and Adolescent Psychiatry

When asked to list all the child psychiatry outreach programs she has had a hand in creating or maintaining, Laine Young-Walker, MD '97, for the sake of brevity, unleashes an acronym storm that leaves few corners of the alphabet untouched. There is SOAR, which includes EC-PBS and CPP, and there is Triple P, SWYC, MO-CPAP and MOCHILD. And that list doesn't even include her fully spelled-out endeavors, such as the Bridge Program.

Which begs a second question: If her schedule is already packed with her duties as the MU School of Medicine's associate dean for student programs, chief of the Division of Child and Adolescent Psychiatry and professor in the Department of Psychiatry, why is she creating even more responsibilities?

"The inability to say no is the biggest thing," Young-Walker said. "The second thing, though, is because I really want to feel like I've made an impact. If you look at my programs, they're about access to child psychiatry or they're about early intervention. What can we do at an early age to help that parent-child relationship, to help with social-emotional development? Studies show that a more positive, well-adjusted child will enter kindergarten more successful and ready to learn."

Growing up in Kansas City, Young-Walker knew she wanted to be a doctor and assumed she would be an obstetrician. She was always interested in human behavior, though, and minored in psychology as an undergraduate at MU. In her third year of medical school, Young-Walker realized her heart was in psychiatry.

"If you look at mental health, in general there's a stigma, but in particular in the African-American culture it's not seen as valid or real, that it's all in your head and you should be able to pull yourself up," she said. "Not a lot of talk about psychiatry in my world growing up. I didn't even know what a psychiatrist was."

After graduation and five years of additional training, she went into practice as a child psychiatrist. In 2009, after John Lauriello, MD, took over as the chair of the Department of Psychiatry, he offered her the role as chief of the Division of Child and Adolescent Psychiatry. The responsibilities only grew from there as she climbed the administrative ladder.

Young-Walker said she never expected to plant roots in Columbia. In college, her friends used to joke about never becoming one of the locals they called "CoMos." She and her husband, Ray, married while she was in medical school and then got busy establishing their careers and raising their children. She never got around to leaving.

Now, Young-Walker is fully invested in the university and committed to helping local children have the best chance to succeed.

"I am officially a CoMo, my husband is a CoMo and my kids are CoMos," Young-Walker said. "I think it's a great place to be, and I can't see being any place else."

SPRINGFIELD STUDENTS FLOURISH IN OUTREACH ACTIVITIES

▲ Fourth-year medical students Rebecca Aguayo and Aundria Eoff became leaders of their class by always doing more than was required.

"Medicine is too often going to the doctor and saying, 'Hey, I'm sick,' or, 'I've got this problem. Solve it.' Medicine, especially in primary care, should also focus on being proactive rather than reactive."

— Aundria Eoff, fourth-year medical student

Rebecca Aguayo and Aundria Eoff got to know each other three years ago when Aguayo and her husband assisted with a medical Spanish class to help students who wanted to do outreach in Latin America. Eoff eagerly signed up.

Their habit of taking the initiative and doing more than is required has become a recurring theme for the fourth-year MU School of Medicine students.

"They are wonderful representatives of the School of Medicine," said Michael Hosokawa, EdD, the senior associate dean of education and faculty development. "Rebecca has had a strong commitment to diversity and was a leader in the Student National Medical Association as well as other humanistic endeavors. She also found time to have a baby. Aundria is the class president for the students in Springfield and, during her years in Columbia, she was the business manager for the MedZou clinic."

Aguayo's history as an achiever started early. Growing up in the St. Louis area, she participated in youth gymnastics. When her parents couldn't afford it any longer, she funded herself for a year by using all the birthday money she had saved. When that cash ran out, she stayed involved in the sport by becoming a coach — at age 14.

Aguayo developed an interest in medicine when she was exposed to global health problems while on a study-abroad trip to Panama during her sophomore year at Truman State. She later transferred to Missouri State to complete her undergraduate biology degree and also enrolled at Ozarks Technical Community College to earn her emergency medical technician certification.

After choosing MU for medical school, she opted to spend her third and fourth years at the Springfield Clinical Campus. Along the way, she got married and had a daughter.

Aguayo, who plans to go into family medicine, doesn't have much free time, but when she does, she enjoys mentoring. She spent two years as the liaison to MU's Minority Association of Pre-Medical Students and now helps high school students through the Greater Ozarks Center for Advanced and Professional Studies.

"Mentoring is something I enjoy, and perhaps it's because I didn't have the best mentors when I first started thinking about pursuing medicine," Aguayo said. "It's nice to reach back and remember how I was feeling then and see if I can help others."

Eoff, who was described by Aguayo as "friendly and bubbly," is a Springfield native who initially studied biomedical engineering at the University of Arkansas before deciding she was too much of a people person to spend most of her time in a lab.

Eoff has a competitive streak that surfaces while playing board games or basketball and a compassionate side that pervades her views on medicine. Eoff, who plans to practice family medicine, said it's her goal now and during her professional career to train medical workers in developing countries to improve care for their patients. That attitude is one of the reasons she is so involved as a student.

"Medicine is too often going to the doctor and saying, 'Hey, I'm sick,' or, 'I've got this problem. Solve it.' Medicine, especially in primary care, should also focus on being proactive rather than reactive," she said.

This principle motivates her to participate in community and outreach events.

"Just reading and studying all the time wasn't going to cut it during medical school," she said. "I enjoy being a part of something bigger than myself and hope to stay this involved in my future career as well. It can get overwhelming, but in the grand scheme of things, it's why I enjoy medicine."

High school and undergraduate students interested in medicine can get a head start. Visit **medicine.missouri.edu/premed**.

ACHIEVEMENT

WIMMS IS STRONG ADVOCATE FOR MU'S WOMEN FACULTY

ALISA HAYES, MD

Five years ago, the MU School of Medicine's interim dean, Les Hall, sent Richelle Koopman, MD, to a women's faculty development conference hosted by the Association of American Medical Colleges. It was a very productive conference.

After attending a workshop on how to start or energize a women's faculty group, Koopman returned to Missouri and did just that, creating a robust organization called Women in Medicine and Medical Sciences (WIMMS).

"That conference had a waterfall effect," said Koopman, the director of research in the Department of Family Medicine and the Jack M. and Winifred S. Colwill endowed professor in Family Medicine. "Support for that kind of faculty development can really pay dividends."

Koopman served as the WIMMS chair for four years before Alisa Hayes, MD, took over for a two-year term beginning this year. Hayes said the group's functions have had healthy turnouts of 75 to 100 participants from a pool of 200-plus total women faculty at the School of Medicine.

The WIMMS mission statement — "To advance the full and successful participation and inclusion of MU women in all roles within academic medicine" — covers a lot of ground.

- The group aims to provide support and networking, which is particularly helpful to women in male-dominated departments. WIMMS' Caroline McGill Society holds quarterly meetings at local restaurants to discuss pertinent books, articles, films or podcasts.

LEARN more about WIMMS, including how to join the group, at **medicine.missouri.edu/wimms**.

▲ Richelle Koopman, MD, right, presents Elizabeth Garrett, MD, with the Anna B. Searcy Award for promoting female faculty at the Women in Medicine and Medical Sciences' annual meeting in April 2018. Koopman founded WIMMS five years ago.

- WIMMS provides practical advice at its annual faculty development meeting on topics such as how to prepare for promotions and advocate for yourself and others. Last year's meeting included a "life hacks" fair, which showcased the services of local women-owned businesses that could help faculty save time or maintain a healthy personal/professional balance.
- Lastly, WIMMS is an agent for change. Among the organization's action items: adopting a zero-tolerance policy for sexual harassment, ending the School of Medicine's gender pay gap by 2021 and committing to hiring more women for leadership positions.

"We're trying to tackle big issues, and we're doing it with people who already have achieved some things in their career, so they might feel a little safer in doing that," Koopman said.

Aside from Hayes and Koopman, the WIMMS' executive council includes Kristina Aldridge, PhD; Talissa Altes, MD; Sue Boren, PhD; Kimberly Brandt, DO; Carla Dyer, MD; Karen Edison, MD; Elizabeth Garrett, MD; Virginia Huxley, PhD; Leila Kheirandish-Gozal, MD; Maike Krenz, MD; Elizabeth Malm-Buatsi, MD; Susan McKarns, PhD; Susan C. Nagel, PhD; Elizabeth Parks, PhD; Tomoko Tanaka, MD; Amy S. Williams, MD; and Laine Young-Walker, MD.

"We are committed to ensuring the MU School of Medicine is a welcoming and productive home for our women faculty," said Patrick Delafontaine, the Hugh E. and Sarah D. Stephenson Dean of the School of Medicine. "We applaud the work of the WIMMS group to support this cause."

Mahilet Assefa receives her white coat from Kevin Kane, MD, the associate dean for education improvement.

STUDENTS TAKE **FIRST STEPS** IN MEDICAL EDUCATION

The University of Missouri School of Medicine officially welcomed the 112 students of the Class of 2022 in the annual White Coat Ceremony on Aug. 3, 2018, at Jesse Auditorium.

Two days before receiving their white coats, the students were given stethoscopes branded with the MU Medicine logo during the Stethoscope Breakfast ceremony at the School of Medicine hosted by the Medical Alumni Organization.

The white coats and stethoscopes are funded by donations.

In the Class of 2022, 34 percent of the students self-identified as an ethnic minority. A goal of medical schools across the nation is to increase enrollment of traditionally underrepresented students. Nearly 19 percent of the students self-identified as underrepresented minorities, a category that includes black, Latino and American Indian students.

To give to this cause, visit **medicine.missouri.edu/alumni/supporting-students**.

▲ Stephanie Allred and her fellow Class of 2022 medical students received their white coats in a ceremony on Aug. 3 at Jesse Auditorium.

▲ Patrick Delafontaine, MD, the dean of the MU School of Medicine, presents first-year medical student Busha Hika with his stethoscope on Aug. 1.

FACULTY SPOTLIGHT

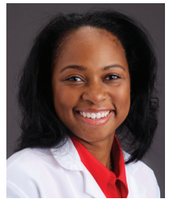
NEW APPOINTMENTS

WILLIAM FAY, MD, has been appointed senior associate dean for research. Fay will lead the School of Medicine's physician-researchers and PhD investigators in the development of outstanding research and educational programs in biomedical, clinical and translational sciences. Fay is the J.W. and Lois Winifred Stafford Distinguished Chair in Diabetes and Cardiovascular Research.

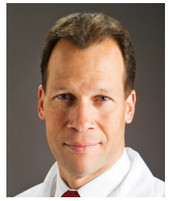
Fay's research focuses on the cellular and molecular processes that determine thrombosis, vascular stenosis and atherosclerosis. He currently serves as principal investigator of a National Institutes of Health R01 award, an American Heart Association Grant-in-Aid and a Veteran's Administration Cooperative Research Development Agreement, and he is clinical lead investigator of a recently awarded MU Coulter Award. Fay has authored more than 75 peer-reviewed articles, 15 book chapters and 90 abstracts, and he has given 50 extramural invited presentations.

FREDERICK W. FRAUNFELDER, MD, the Roy E. Mason and Elizabeth Patee Mason Distinguished Professor of Ophthalmology, has been appointed assistant dean for faculty affairs. Fraunfelder will continue as chair of the Department of Ophthalmology and director of the Mason Eye Institute as he helps in a variety of areas, including faculty development and leadership trainings. He will work alongside Michael Misfeldt, PhD, senior associate dean for faculty affairs.

DAVID GOZAL, MD, is the new Marie M. and Harry L. Smith Endowed Chair of the Department of Child Health. Gozal is an international expert in the field of sleep medicine. He is a pioneer in the study of childhood sleep problems and the relationships between sleep disorders and neurobehavioral, cardiovascular and metabolic disease. His research has been funded by multiple NIH grants and focuses on translational approaches to pediatric sleep disorders, such as childhood obstructive sleep apnea and sudden infant death syndrome. He has published more than 600 peer-reviewed articles, more than 150 book chapters and reviews, edited three books and has extensively lectured at scientific meetings around the world.

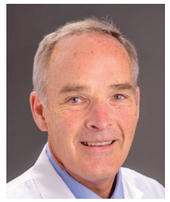


LAURA HENDERSON KELLEY, MD, has been appointed assistant dean for diversity and inclusion. Henderson Kelley succeeds Warren Lockette, MD. Henderson Kelley has served as the faculty liaison for student programs in Diversity and Inclusion at the School of Medicine since 2016. She co-founded Pathways to Success (PAWS), an undergraduate pipeline program to help underrepresented minority and economically disadvantaged students become competitive medical school applicants.



STEPHEN KEITHAHN, MD, has been appointed as chief wellness officer for MU Health Care and the School of Medicine. Keithahn will be responsible for creating and leading the Office of Physician Well-being to optimize physician wellness and engagement. The chief wellness officer works with physicians to ensure that their unique concerns are heard and addressed to improve their professional and personal well-being. Keithahn is an associate professor of clinical medicine and pediatrics and serves as the medical director for the Woodrail General Internal Medicine and Pediatrics Clinic.

DOUGLAS MILLER, MD, PHD, has been selected as the interim chair of the Department of Pathology and Anatomical Sciences. Miller is a clinical professor of pathology and the director of the department's residency program. He replaces Lester Layfield, MD, who stepped down as chair to focus on clinical and academic work.



JAMES STANNARD, MD, the Hansjörg Wyss Distinguished Chair in Orthopaedic Surgery, has been appointed associate dean at the School of Medicine and chief medical officer for clinical strategic initiatives at MU Health Care. Stannard will be responsible for the identification, development and execution of strategies to further the school's mission as a statewide resource and nationally recognized academic health center.

ACCOLADES

RAGHAV GOVINDARAJAN, MD, assistant professor of neurology, received the American Association of Neuromuscular and Electrodiagnostic Medicine's Advocacy Award. Govindarajan was honored for advocating on behalf of electrodiagnostic medicine and teaching electrodiagnostic and neuromuscular medicine to students. As a member of the organization's State Liaison Committee, Govindarajan has educated members of Congress on the issue of electrodiagnostic medicine and has served as a speaker at recent AANEM meetings.

ALISA HAYES, MD '05, received the Hidden Gem Award from the Academy of Women in Academic Emergency Medicine (AWAEM). The award honors female faculty members with outstanding contributions in clinical work, teaching, mentorship, role modeling or administration who have made a great impact locally or regionally.

CHRISTOPHER SAMPSON, MD, associate clinical professor of emergency medicine, was the recipient of the 2018 ACEP National Faculty Teaching Award. The National Faculty Teaching Award recognizes superior teaching activities, including didactic lectures, clinical instruction and the development of innovative educational programs, as well as the endorsement by faculty, residents and students.

STEVEN SEGAL, PHD, was recognized at the World Congress for Microcirculation with the prestigious Benjamin W. Zweifach award. It is the greatest honor bestowed by microcirculation societies around the world and is given once every four to six years. Segal serves as Curator's Distinguished Professor, Margaret Proctor Mulligan Professor in Medical Research and professor of medical pharmacology and physiology.

LAURIELLO

YOUNG-WALKER

JOHN LAURIELLO, MD, and **LAINE YOUNG-WALKER, MD '97**, were honored as distinguished fellows of the American Psychiatric Association. Distinguished fellows are nationally recognized for their demonstrated skill in administrative, educational and clinical settings. They are also noted for volunteering in mental health and medical activities of social significance and involvement in community activities. Lauriello is the chair of the Department of Psychiatry, and Young-Walker is the chief of the Division of Child and Adolescent Psychiatry. Two other MU faculty members — Muaid Ithman, MD, and Jessica Nittler, MD — earned the APA honor of fellow.

STAY UP TO DATE on the latest happenings at the MU School of Medicine at **medicine.missouri.edu**.

FIVE TEAMS RECEIVE PLANNING GRANTS

Five research teams received Program Project Planning Grants from the School of Medicine to encourage their application for grants from the National Institutes of Health.

Each team received approximately $75,000. The grants are provided to teams of investigators who conceptualize a well-coordinated research application that addresses a compelling scientific need.

The award-winning team leaders were Kerry McDonald, PhD, studying therapies for dystrophic cardiomyopathy; Luis Martinez-Lemus, DVM, PhD, studying vascular stiffening in Type 2 diabetes; Kevin Staveley-O'Carroll, MD, PhD, studying therapies for hepatocellular carcinoma; Debra Parker Oliver, PhD, studying caregiver engagement in advanced cancer care; and Edward T.H. Yeh, MD, studying therapies for heart failure.

MU TEAM REFINES 'KITCHEN SINK' ATTACK ON HEPATOCELLULAR CANCER

ERIC KIMCHI, MD

Hepatocellular cancer is one of the leading causes of cancer deaths worldwide, and in the United States it disproportionately affects military veterans. By the time most patients are diagnosed, their liver is too damaged to recover from surgery and chemotherapy is relatively ineffective.

Eric Kimchi, MD, the John A. Growden Distinguished Professor in Surgery and the chief of the Division of General Surgery and Surgical Oncology, recently received a Veteran's Administration Merit Award — a four-year grant worth more than $1.8 million — to study a new treatment strategy on mice combining radio-frequency ablation, chemotherapy and immunotherapy.

"What we found is that when we are treating these tumors and manipulating the immune system, we can get long-term survivors," Kimchi said.

Radio-frequency ablation destroys tumors directly via a probe that emits radio waves. This therapy releases proteins from the tumor that should be identified by the immune system as threats, prompting an attack on the tumor. However, the cancer previously had flipped the checkpoint switch, tricking the immune system into ignoring that particular antigen, which allowed the tumor to grow in the first place.

That's where the other agents come into play. Kimchi and his team have shown that sunitinib, a therapy that targets specific molecular receptors, attacks tumors and prevents tumor-induced immunotolerance. They've shown that a nanoliposome called LipC6 created by the University of Virginia's Mark Kester, PhD — a research partner of the MU team — effectively delivers an additional treatment to the tumor. The last piece of the puzzle is resetting the checkpoint switch with a new class of drugs, checkpoint inhibitors. When the brakes are removed, the tumors in mice shrink or disappear.

Kimchi's team has two special weapons of its own creation in this research — a mouse model that accurately mimics the way liver cancer develops in humans and an ablation probe scaled from human to mouse size.

"We're kind of throwing the kitchen sink at these problems," Kimchi said. "That's a huge part of the grant. It's not just, 'Oh, we can make the tumors go away.' It is, 'What are the exact parts of the molecular pathways we are affecting, and can we refine our treatments even more?' If you hit any pathway too early or too late, you might be missing out or you might be affecting too many different systems. By understanding the actual mechanisms that are being used to stimulate the immune system and destroy these tumor cells, we can develop better therapies."

TO LEARN MORE about new discoveries by University of Missouri scientists, visit **medicine.missouri.edu/research**.

EXPLORING IMPACT OF TBI ON THE HEART

WARREN LOCKETTE, MD

Traumatic brain injuries (TBI) contribute to almost 30 percent of all injury-related deaths in the United States, according to the Centers for Disease Control and Prevention. While the effects of TBI on behavioral and cognitive function are widely studied, the effects such injuries might have on the heart have yet to be determined.

A research team led by Warren Lockette, MD, professor of medicine, pharmacology and physiology and Thomas W. Burns Distinguished Professor in Diabetes at the University of Missouri School of Medicine, has been awarded a four-year, nearly $4 million grant from the U.S. Department of Defense to study the cardiovascular consequences of TBI.

"We know that head injuries have been shown to activate our fight-or-flight stress response," Lockette said. "We also know that chronic stress increases our likelihood of developing cardiovascular disease. What we don't yet know is how stress caused by traumatic brain injuries affects our heart health. It's an ambitious question that our research team hopes to answer through this study. We believe this may yield major implications for our dedicated military service members, athletes and the general public who experience TBI."

Lockette, who previously served as a senior adviser to the Commander of the Naval Special Warfare community, is joined by three co-investigators in the multisite study.

- **Daniel Perl, MD**, is a professor of pathology at the Uniformed Services University of the Health Sciences in Bethesda, Maryland. Perl is among the world's foremost authorities on the effects of impact or blast injuries on the brain.
- **Paul Fadel, PhD**, is a professor of kinesiology and associate dean for research and director of clinical translational science at the College of Nursing and Health Innovation at the University of Texas at Arlington. Fadel is an international expert on cardiovascular baroreceptor function and sympathetic nerve activity in humans in health and disease.
- **Kalev Freeman, MD, PhD**, is an assistant professor of surgery and pharmacology at the Larner College of Medicine at the University of Vermont in Burlington. Freeman is a leading cerebrovascular research scientist who studies mechanisms by which nutrient blood flow is altered in brain injury.

The researchers will study athletes, such as hockey players, who have experienced a TBI who are otherwise healthy and athletes who have not had a TBI. The researchers will study the autonomic nervous system — which controls bodily functions such as breathing and heart beat — and how physical exertion and stress affect blood pressure and heart rate.

Luis Polo-Parada, PhD, and Maria Fidalgo, PhD, are developing the T-Meter, a mobile testosterone tester. The research group, which also includes Liliana Garcia-Vargas, MD, was one of three three teams of physicians and engineers that earned a Coulter award for multidisciplinary research.

COULTER PROGRAM HONORS **INNOVATORS**

LILIANA GARCIA-VARGAS, MD

The minds behind the T-Meter, a device that accurately and inexpensively provides an on-the-spot testosterone test, approached the project from three directions.

Liliana Garcia-Vargas, MD, is a practicing endocrinologist who cares for patients with hormone imbalances, including those undergoing hormone therapy as part of the sex reassignment process. They often cannot afford the cost of testing their hormone levels four to eight times per year in a lab.

Maria Fidalgo, PhD, is an associate professor of civil and environmental engineering, with expertise in developing sensors that detect contaminants in water. She's developing a sensor strip that can absorb the testosterone in blood.

Luis Polo-Parada, PhD, is an associate professor of medical pharmacology and physiology and a resident investigator at the Dalton Cardiovascular Research Center. He has a background in physics, mathematics, nuclear engineering and electronics. He is developing the unit that reads the sensor's test results and the mobile phone app that interacts with it.

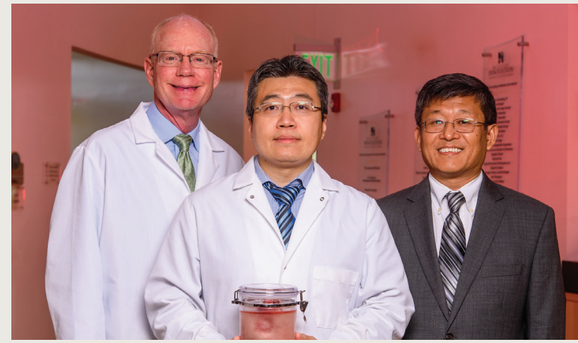
When it's finished, the T-Meter will be a mobile testosterone-testing device similar to a blood glucose meter used by diabetics.

The team was one of three recipients of a Coulter award, presented Oct. 22 at the Reynolds Alumni Center. Each year since 2012, MU's Coulter Translational Partnership Program has awarded grants to multidisciplinary teams of physicians and engineers to help get their biomedical innovations to market. This year, the program issued grants worth a total of $302,000.

The team of Talissa Altes, MD, the chair of the Department of Radiology; Robert Thomen, PhD, assistant professor of bioengineering and radiology; and Stephen Van Doren, PhD, professor of biochemistry, won a Coulter award for HeartSpeed. The software removes respiration artifacts, allowing patients to breathe normally during cardiac MRIs, which currently require multiple breath holds of 10 to 20 seconds.

The team of William Fay, MD, senior associate dean for research and professor of internal medicine and medical pharmacology and physiology; Mike Hill, PhD, the interim director of the Dalton Cardiovascular Research Center and professor of medical pharmacology and physiology; Xu Han, PhD, assistant professor of cardiovascular medicine; and Yuwen Zhang, PhD, chair of the Department of Mechanical and Aerospace Engineering, won a Coulter award for Frozen Hearts. The cryopreservation medium would maintain the viability of donated hearts for days or weeks longer than current standards.

MULTIDISCIPLINARY TEAMS AWARDED RESEARCH GRANTS



▲ William Fay, MD; Xu Han, PhD; and Yuwen Zhang, PhD, were joined by Mike Hill, PhD, on the team that created Frozen Hearts, a cryopreservation medium for donated hearts.

▲ Robert Thomen, PhD; Talissa Altes, MD; and Stephen Van Doren, PhD, developed HeartSpeed, a software application that allows patients to breathe normally during cardiac MRIs.

WATCH the video of the 2018 Coulter Program awards ceremony at **medicine.missouri.edu/coulter**.

Ted Groshong, MD '67, senior associate dean emeritus of alumni affairs, delivers the welcome address at the medical alumni banquet on Oct. 26 at the Country Club of Missouri.

GRADUATES RETURN TO CAMPUS FOR **PHYSICIANS ALUMNI WEEKEND**

The 61st annual Physicians Alumni Weekend was held Oct. 26-27, providing alumni an opportunity to reconnect with classmates and the School of Medicine.This year's event featured a guest appearance by Mizzou's new Nobel Laureate in Chemistry, George P. Smith, PhD. Alumni participated in tours of the medical school, a banquet on Friday night, a reunion brunch on Saturday morning and MU's football game against Kentucky on Saturday afternoon.

The Ted Groshong, MD, Alumni Lecture was presented by Michael Hosokawa, EdD, and the Milton D. Overholser Memorial Lecture was delivered by Jerry Kruse, MD '79. Scientific program lectures were provided by Kristin Hahn-Cover, MD; Peter Tonellato, PhD; and David Gozal, MD. Dean Patrick Delafontaine, MD, presented the State of the Medical School address.

Anyone wishing to donate to a fund devoted to the Ted Groshong, MD, Alumni Lectureship should contact the MU School of Medicine's advancement office at 573-882-6100 or schoolofmedicinedev@missouri.edu.

STAY connected with the School of Medicine's alumni activities by visiting **medicine.missouri.edu/alumni**.

▲ Jerry Kruse, MD '79, is honored by Patrick Delafontaine, MD, the dean of the MU School of Medicine. Kruse, the dean and provost of the Southern Illinois University School of Medicine and the CEO of SIU Healthcare, delivered the Milton D. Oversholser Memorial Lecture.

▲ The Class of 1998 had the most alumni in attendance at Physicians Alumni Weekend. The group included, front row: Tara Flynn, Gema Simmons, Lori MacPherson, Kimberly Spence, Mary Feldman, Andrea Greiner and Carla Dyer; back row: Toni Laskey, Larry Burton, Alicia Schumacher, Jim Simmons, Mary Faller, Carey Waters and Jon Dyer.

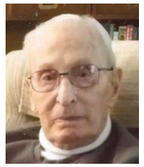
▲ Missouri State Medical Association scholarships were announced by MSMA executive vice president Patrick Mills, top left. Winners included, front row: Allison Hall, Brittney Dioneda, Lauren Lester and Kelsey Knobbe; middle row: Liga Blyholder, Brian Blankenship and Humza Ahmed; top row: Eric Grisham, Shelby Harris and Chance Walker.

▲ George P. Smith, PhD, winner of the 2018 Nobel Prize for Chemistry, speaks at the morning welcome session in Acuff Auditorium. Smith, the MU Curators Distinguished Professor Emeritus of Biological Science, won the Nobel Prize for his work developing bacteriophage display technology.

▲ Michael Hosokawa, EdD, the senior associate dean of education, delivers the Ted Groshong, MD, Alumni Lecture on the history of medical education.

▲ Members of the Class of 1968 received medals commemorating their 50-year reunion. The group included Bob Hall, Chuck Otto, Walter Dembitsky, Charles Crumb, Bill Buckingham, Bob Cash, Stan Sides, Jerry Cupp, Bob Oldham and Lynn McCanse.

In Memoriam



ELBERT CASON, MD BS MED '40, of Chesterfield, Missouri, died on Oct. 2, 2017, at the age of 103. Cason served in the Army in World War II, receiving the Bronze Star and Purple Heart. He practiced occupational medicine and was chief of staff at Lutheran Hospital.

WILLIAM REGAN, MD BS MED '45, of Richmond, Virginia, died on Oct. 6, 2017, at the age of 93. He served in the Navy in World War II and in the Air Force during the Korean War. Regan practiced internal medicine and gastroenterology.

WILLIAM FAIR, MD BS MED '49, of Chillicothe, Missouri, died on Aug. 5, 2018, at the age of 93. He served in the Philippines and Okinawa with the Army during World War II and ran a family practice in his hometown.

GERARD BERNDSEN, MD BS MED '50, of Kirkwood, Missouri, died on April 14, 2018, at the age of 96. Berndsen was a World War II pilot and a family practitioner at St. Joseph's, St. Luke's and Missouri Baptist Hospitals.

MARY MATTESON CEDERBERG, MD BS MED '50, of San Diego, died on Feb. 8, 2018, at the age of 90. Cederberg worked in the field of pediatric public health in Boston, San Diego and Santa Barbara, California, where she served as the director of child health for 18 years.

ROLLAND OAKES, MD BS MED '51, of Dennis, Texas, died on June 23, 2018, at the age of 92. Oakes served in the Naval Flight Corps in World War II and as a flight surgeon in the Air Force during the Korean War. He was the head of radiology at Harris Hospital in Fort Worth for 29 years.

FRANK MOHS, MD RES '58, of St. Louis, died on Apr. 9, 2018, at the age of 89. Mohs practiced in Billings, Montana, and was chief of staff at VA hospitals in Montana, Texas, Idaho and Ohio. Mohs served as the director of medical affairs at DePaul Health Center and the Medicare medical director with General American Life Insurance and Arkansas Blue Cross/Blue Shield. He served in the Air Force and Army National Guard, retiring as a colonel.

MARVIN GOLDSTEIN, MD '59, of Kansas City, died on July 3, 2018, at the age of 84. Goldstein served as a captain in the Army in Vietnam and was an ophthalmologist.

HENRY CLEVER, MD '60, of St. Charles, Missouri, died on Nov. 6, 2017, at the age of 88. He was a pediatrician in St. Charles, where he practiced for 35 years and served as chief of staff at SSM St. Joseph Hospital.

EUGENE CAPPS, MD RES '62, of Prairie Village, Kansas, died on April 15, 2018, at the age of 83. Capps began his 40-year career at Baptist Memorial Hospital practicing anesthesia and was the youngest physician to serve as president of the hospital.

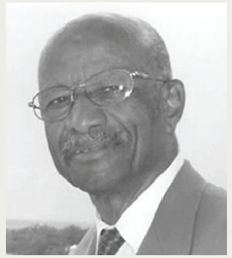
LARRY MOSBY, MD '62, of Columbia, Missouri, died on Feb. 8, 2018, at the age of 84. Mosby was a pathologist, serving the Columbia area for more than 30 years. He was a founding partner of Boyce and Bynum Pathology Laboratories and served as chief of staff of Boone Hospital Center.

MARY WOOD, MD '63, of San Antonio, died on May 17, 2018, at the age of 81. Wood was a cytopathologist and served as a public health physician for the San Antonio Metropolitan Health District from 1977 until her retirement.

KENNETH CORWIN, MD '64, of Franklin, Tennessee, died on Jan. 22, 2018, at the age of 79. Corwin was a plastic surgeon in the St. Louis area, practicing for 30 years at DePaul Hospital, where he served as chief of staff. On multiple mission trips to Haiti and Kosovo, he performed surgeries on children. He is credited for inventing both a scalpel handle and wire-twister instruments that are used by surgeons worldwide.

JOHN EZZARD, MD RES '65, of Tiger, Georgia, died on Nov. 2, 2017, at the age of 81. Ezzard practiced urology in Denver for 27 years and returned home to north Georgia and continued his practice. He was the founder of Tiger Mountain Vineyards.

SMITH WAS TRAILBLAZER



ROBERT SMITH, MD BS MED '53, of Memphis, Tennessee, died on Feb. 12, 2018, at the age of 88. Smith was the first African-American graduate of the MU School of Medicine.

Smith was born and raised and Hayti, Missouri, and graduated as the valedictorian of his senior class. After going to Southern Illinois University as an undergraduate, he entered the MU School of Medicine in 1951. At the time, MU offered a two-year medical curriculum. After graduating in 1953, he completed his MD at Meharry Medical College in Nashville, Tennessee.

He was a leading civil rights activist in the state of Arkansas and practiced as a surgeon in Pine Bluff for more than 20 years before relocating to Murfreesboro, Tennessee, where he served as chief of surgery at the VA hospital.

In 1989, he and his wife, Dorothy, who proceeded him in death, moved to Memphis, where he was a prominent member of the community. Smith is survived by six children.

DAVID MCMILLAN, MD '65, of Neosho, Missouri, died on Oct. 19, 2017, at the age of 78. McMillan practiced internal and family medicine in Kansas City and Colorado and for 22 years in Neosho, where he served as president and chief of staff of the Sale Memorial Hospital and facilitated the hospital's transition to the Freeman Health System.

KENNETH LAMBERT, MD '66, of Providence, Rhode Island, died on Dec. 23, 2017, at the age of 79. Lambert was an educator and orthopaedic surgeon who pioneered the repair of the ACL ligament. He was a doctor for the U.S. national ski team, co-founder of Nanova Biomaterials and consulted on the development of biomaterials for orthopaedic trauma.

PAUL GATENS, MD '69, of Dublin, Ohio, died on Nov. 3, 2017, at the age of 73. Gatens worked in physical medicine and rehabilitation at MU, Ohio State University and Mount Carmel West Medical Center, where he was medical director of the rehabilitation unit. He also served as a consultant and medical expert for Social Security hearings.

TCHANG KIM, MD RES '71, of Anthem, Arizona, died on Jan. 19, 2018, at the age of 79. Kim was a radiation oncologist.

JOHANNES SCHOKKER, MD RES '71, of Altoona, Pennsylvania, died on July 18, 2018, at the age of 86. Schokker practiced general and trauma surgery for 46 years and served as president of St. Mary's Hospital in Jefferson City, Missouri. After his retirement, he provided urgent care services in Pennsylvania.

JEFFREY BECKER, MD '76, of Englewood, Colorado, died on Dec. 5, 2017, at the age of 67. Becker was an investigative dermatologist, practicing in Illinois, Colorado and New Mexico.

MARLOU DAVIS, MD '75, of St. Louis, died on May 24, 2018. He served patients in private practice for 30 years in the St. Louis area.

LYNN SHAFFER, MD '79, of Branson, Missouri, died on June 24, 2018, at the age of 67. Shaffer practiced in the fields of family practice, obstetrics/gynecology and gastroenterology. He served as chief of staff for Skaggs Community Health Center and was the 2000 AAFP Missouri Family Practitioner of the Year.

GORDON BERG, MD RES '80, of Cedar Rapids, Iowa, died on Apr. 22, 2018, at the age of 67. Berg was a resident and assistant professor in radiology at MU and practiced vascular and interventional radiology from 1986-2016 in Cedar Rapids. Berg was instrumental in designating vascular and interventional radiology as its own specialty.

NICHOLAS SHOULTS, MD '83, of Springfield, Missouri, died on Dec. 10, 2017, at the age of 62. Shoults was a practicing general surgeon at Mercy Health.

JAMES BRICK, MD RES '84, of Morgantown, West Virginia, died on Nov. 12, 2017, at the age of 65. Brick's career was served in the Department of Medicine at West Virginia University School of Medicine, where he served as a department chair, interim dean and board president. Brick was instrumental in developing MDTV, a telemedicine system for West Virginia.

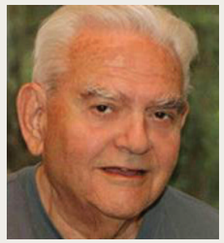
ANGELA LANDERS KEELE, MD '97, of Cape Girardeau, Missouri, died on Mar. 3, 2018, at the age of 46.

JOHN MEDLEY, MD '04, of Columbia, Missouri, died on Feb. 20, 2018, at the age of 44. Before pursuing a medical degree, Medley was a physical therapist. He was in a private practice prior to serving as an assistant professor of clinical anesthesiology at the MU School of Medicine.

MICROBIOLOGIST LEFT LEGACY

ABRAHAM EISENSTARK, PHD, professor emeritus of the Division of Biological Sciences, died on Aug. 28, 2018, at the age of 98. Eisenstark's research career in microbiology spanned seven decades. His work defined the nature of the poultry Newcastle virus and the observation of incomplete viral particles usable in vaccines. He was instrumental in the development of "recombinationless" strains of Salmonella typhimurium, as well as other discoveries of importance to our understanding of molecular genetics.

GOLDBERG DEVOTED FOUR DECADES TO MU



HERB GOLDBERG, PHD, an associate dean emeritus of MU School of Medicine, died on July 19, 2018, at age 91 from complications of Alzheimer's disease.

Goldberg, a native of the Bronx, New York, was a medic in the Navy before earning a bachelor's degree at St. John's University, a master's degree from the University of Missouri and a PhD from Ohio State University.

Goldberg began his career at MU in 1953 as an assistant professor of bacteriology and preventative medicine. He was appointed full professor by 1966 and was recruited to the dean's office later that year. He filled various roles as assistant then associate dean for 30 years. During this time, he led research and academic affairs. He established the School of Allied Health, where he was the founding director. He led in the building of a new medical library.

Goldberg was an expert on anaerobic gut flora and did foundational work on the microbiome. He raised awareness about the excessive use of antibiotics and anti-microbial resistance as early as the 1960s. His work took him around the world, including a sabbatical at the University of Cambridge.

Mark Costley, a lifelong resident of southwest Missouri, is the interim associate dean of MU's Springfield Clinical Campus.

RURAL ROOTS RUN DEEP FOR NEW LEADER IN **SPRINGFIELD**

The MU School of Medicine opened the Springfield Clinical Campus in 2016 to address the state's physician shortage, which is most dire in rural areas. If Springfield Clinical Campus students need proof that a fulfilling life in medicine can be found close to home, they have a role model in their new interim associate dean and chief academic officer, Mark Costley, MD '81.

He was born in the small southwest Missouri city of Monett. His family roots there stretch back to 1895 — just eight years after the town settled on a name — when his great-grandmother bought the land where he was raised and his mother still lives. He practiced family medicine in Monett for 32 years. He and his wife raised three children there. Since becoming the medical director of CoxHealth Springfield in 2016 and now the SCC's leader, he has commuted about 50 miles each weekday morning and evening rather than leave his hometown behind.

"I love small-town life," Costley said. "I love the idea of taking care of friends and being a part of the community. I was the chamber of commerce president and was on various committees. It's been a joy to see the community grow and thrive."

At the SCC, he will nurture another growing community. MU medical students spend their first two years in Columbia and then have the option to relocate to Springfield for their third and fourth years. The Springfield class sizes have been increasing and could reach full capacity by next year. Costley looks forward to guiding the SCC as it becomes a permanent fixture in Springfield.

"The thought is to do the best for the school with the decisions we make, and if they're good decisions, they'll be long-term decisions," Costley said. "One of our early challenges was to recruit faculty and raise the community profile of the school. We now have enough momentum and enough of a bullpen that when we come down here next year with 30 students, we'll be successful."

Costley takes over for Andrew Evans, MD, who returned to private practice after a two-year stint as the leader of the SCC. Costley had remained connected to MU since he earned bachelor's, master's and MD degrees from the school.

"He was always very much tied to the school, had students working with him in his practice and is a big supporter overall of the school," said Patrick Delafontaine, MD, the dean of the MU School of Medicine. "Also, he is very connected to the community in Springfield. So he is a perfect fit for the position."

When he's not busy in Springfield, Costley enjoys working on his family's 180 acres in Monett. He builds fences and clears brush. He has restored habitat for wild turkey and quail. His latest project is planting milkweed that sustains butterflies and other pollinators. His two granddaughters love those butterflies.

"They live in Monett," Costley said of his grandchildren. "How wonderful is that?"

LEARN about more about the Springfield Clinical Campus at **medicine.missouri.edu/springfield**.

GRATEFUL TIGER CONVERSATION
PETER ESKANDER

MEDICAL MINORITY SCHOLARSHIP RECIPIENT

▲ Los Angeles native Peter Eskander has worked since he was in sixth grade, but receiving the Medical Minority Scholarship has allowed him to focus on his studies at the MU School of Medicine.

HOW HAS THIS SCHOLARSHIP ASSISTED IN YOUR EDUCATION?

As a first-generation college and medical student, this scholarship has enabled me to enjoy luxuries that no one in my family has ever been afforded. The privilege to relentlessly pursue this incredible career without the looming pressure of financing the journey has put me in such a strong position to succeed and highlights why this scholarship is so important to my education. Since the sixth grade, I was always employed in one way or another — contributing to the financial stability of my household was simply expected. I knew that committing to a part-time job in medical school would be practically impossible so that, in conjunction with a few career uncertainties, delayed my eventual matriculation. The financial support awarded to me through this scholarship has allowed me to remain completely focused and engulfed in my work as a full-time student for the first time in my entire life.

WHAT ARE YOUR CAREER GOALS?

My career goals have always remained focused on medically underserved and marginalized communities. As a product of these communities, I have stood on the shoulders of many people who have sacrificed so much before me. My career aspirations revolve entirely around repaying these debts.

WHAT EXTRACURRICULAR ACTIVITIES AND HOBBIES DO YOU ENJOY?

Throughout my undergraduate career and even beyond it, I volunteered extensively with an organization called Troy Camp, where I served as the "Mad Scientist." My position required that I use my wacky personality and captivating experiments to excite our inner-city students about the sort of potential the science, technology, engineering and mathematics fields hold. I would love to continue this type of volunteering, and I look forward to doing so with the CALEB Science Club.

My hobbies include playing sports with my classmates, watching my favorite sports teams compete and cooking fun, exciting meals. At one point in my life, I was working part-time as a voice-over actor, and I would love to resurrect that passion in any way that is not only fun for me but also beneficial for others. I once voiced a few characters in a video game designed to help autistic children with social interactions.

WHAT INFLUENCED YOUR DECISION TO ATTEND THE MU SCHOOL OF MEDICINE?

The most influential facet in my decision to attend MU was the university's distinct and unwavering dedication to medically underserved communities. As the face of public medical education in the state of Missouri, Mizzou uses its platform incredibly well with an outright pledge to serve neglected citizens. This sort of dedication was very attractive to me. While researching the university, there was no shortage of ways for me to get involved in important volunteer work, and this fact was the largest driving force in finalizing my decision to attend MU. From a free medical clinic to weekly ways to get involved outside of medicine, I knew I could have the sort of impact I desired without spending time searching for opportunities.

The patient-based learning curriculum at MU is an additional reason that drew me to this school. As someone who once operated a tutoring company in Los Angeles, the idea of constantly collaborating with my peers to learn the dense material of medical school was very exciting. I spent many years developing ways to optimize teaching difficult material, and inserting myself into the PBL curriculum really is the ultimate test of what I have learned. It's been a spectacular experience so far, and I look forward to so much more learning.

Anyone interested in donating to the School of Medicine can do so online by visiting **medicine.missouri.edu/giving**.

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