LETTER FROM THE DEAN

At the close of another academic year, it’s a good time to reflect on what makes the MU School of Medicine distinct and successful.

The foundation for our students is patient-based learning (PBL), the curriculum we adopted 25 years ago. At a key moment in the School of Medicine’s history, Dean Lester Bryant entrusted Michael Hosokawa to lead a team of forward-thinking faculty to find a better way to teach our students. They decided on PBL, a system in which first- and second-year students work in small teams to learn from real clinical cases.

The results have been impressive. Since the second year using the curriculum, our United States Medical Licensing Examination (USMLE) scores have exceeded the national average. We will be conducting a fundraising campaign for the 25th anniversary of PBL and to honor Dr. Hosokawa’s contributions to the field of medical education.

Sadly, we learned in May that Bryant had passed away at age 87. He was a towering figure in the School of Medicine’s history, and his legacy includes PBL and the Rural Track Pipeline Program.

In May, our graduating class included the nine pioneer students of the Springfield Clinical Campus. These students took a chance on a new environment for their third and fourth years of medical school. The students benefitted from receiving one-on-one attention from physicians at CoxHealth and Mercy Hospital Springfield and gave glowing reports about their experiences.

Subsequent Springfield graduating classes are scheduled to have up to 32 students, which allows us to increase our overall class size and do our part to address the physician shortage nationwide and in the state of Missouri.

The highlight of every spring is Match Day, when our fourth-year students learn where they will serve their residencies. This year, 99 percent of our graduating class matched with a residency, 27 percent selected residency programs in high-need primary care fields, including internal medicine, pediatrics and family medicine. Fifty-nine percent of those students will stay on the MU campus for their residency training, 39 percent will remain in the state and 41 percent selected residency programs in high-need primary care fields, including internal medicine, pediatrics and family medicine.

We are proud of our accomplishments this year, and we want to give special thanks to our alumni who have helped build our reputation and supported us financially with generous gifts.

We will be conducting a fundraising campaign for the 25th anniversary of PBL and to honor Dr. Hosokawa’s contributions to the field of medical education.

Patrick Delafontaine, MD
Professor of Medicine and Medical Pharmacology
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.

EDITOR
Joe Walljasper

DESIGNER
Ann Ellebracht

PHOTOGRAPHER
Justin Kelley

WRITERS
Jesslyn Chew, Jennifer Coffman, Joe Walljasper and Hli Yang

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ON THE COVER:
In this issue of MU Medicine, we spend a week in the life of first-year medical students as they go through a week of patient-based learning. The students are, bottom row, Jake Hartwig, Pooja Hair and Chance Walker; middle row, Mary Murphy, Miranda Fabian and Clea Chu; back row, Ryan Akin and Taylor Ross.

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MU Medicine
University of Missouri School of Medicine / Summer 2018
LESTER BRYANT, 1930-2018
A Towering Figure in School of Medicine History

During his tenure as dean of the University of Missouri School of Medicine from 1989-98, Lester R. Bryant's powers of persuasion were legendary. He was a skillful otorhinolaryngologist who knew what made people tick in more ways than one. “Les would go to a meeting, and everyone would introduce themselves. The first time we met, he walked out, turned around, and about a half an hour later, he’d say, ‘Joe, don’t you agree with that?’” recalled Michael Hosokawa, EdD, senior associate dean of education. “Somehow, he had all the names down.”

The trick, Bryant once told Ted Groschong, MD, senior associate dean emeritus of alumni affairs, was to say each name out loud three times. He would repeat it immediately after an introduction, bring it up again soon thereafter and say it a third time after the meeting.

Bryant remembered the name, and the person in question felt more important … and more likely to agree with the dean. Bryant died at age 87 on May 2, 2018, in Jonesborough, Tenn. He left behind his lasting legacy of molding accomplishments at MU.

“I started medical school in 1963. I’ve known, one way or the other, every dean since that time,” Groschong said. “He’s had more influence on the medical school than any dean in my memory.”

Soon after taking over as dean, Bryant started the process of changing MU’s lecture-based curriculum. He appointed a group, led by Hosokawa, that recommended changing to problems-based learning, a more interactive style in which students learn from real clinical cases. Some faculty members hated the idea.

“The new curriculum, he stuck his neck out, and I have to tell you, Les Bryant had a very long neck,” Groschong said. “A number of faculty said it wasn’t going to work and actively opposed it. He stuck to it.”

After the switch to PBL — which is now referred to at MU as problem-based learning — the new dean recognized the importance of attracting students to the medical school. “I have estimated with the new curriculum; 2, convince the faculty the new curriculum would not be acceptable, the early majority,” who were at least willing to give it a fair shot. The second-year medical students.

With the strong backing of Bryant, Hosokawa divided and conquered. He called the people who planned the system “early adopters,” who were eager to try something new, and then the “early majority,” who were at least willing to give it a fair shot. The stragglers, he hoped, would fall in line once the success of the new system was obvious.

With the new curriculum, Hosokawa said, about half of what we taught them is out of date, because science is changing so rapidly. We decided we had to teach students to live in a world we couldn’t even imagine. That meant we had to look at problem-solving rather than large amounts of information.”

Hosokawa and the members of the curriculum design committee became intrigued with problem-based learning — a practice that had spread from its Canadian birthplace of McMaster University to a handful of American colleges — as the best way to teach first- and second-year medical students.

“We decided we had to teach students to live in a world we couldn’t even imagine. That meant we had to look at problem-solving rather than large amounts of information.”

— Michael Hosokawa, EdD

In PBL, students work in teams of eight to learn from real clinical cases. They teach each other by researching and reporting back on topics related to that week’s case. The teacher in the room is referred to as a faculty facilitator, and his or her role is to keep the students on the right track and provide guidance.

Hosokawa recalled a nervous group of administrators gathering for the opening of the envelope. It revealed Step 1 scores that were a bit lower than the national average but were better than the previous year. That was a relief. The next year, MU’s Step 1 scores exceeded the national average, and they have remained above average ever since.

MU has become a model program for universities from as far away as Taiwan, where all 12 medical schools use a version of Missouri PBL.

Along the way, MU adjusted the curriculum’s name from problem-based learning to patient-based learning. Not much else has changed.

Now, Hosokawa and his colleagues are thinking about the future, lest MU be accused of using a perfectly preserved 1996 curriculum. “We want to begin a process to update our curriculum, if not join some other schools to look at the next major change in medical education,” Hosokawa said. “It might involve PBL, because PBL has been so successful, but it might be totally different. Again, we need to prepare our students to practice in a world we can’t imagine.”
“How you learn the knowledge is a lot more self-driven. In undergrad, I felt like everything was a lecture, and everything you needed was in that. Whereas now, you have to look for the information and don’t always know what you need.”

— Taylor Ross, first-year medical student

This is patient-based learning (PBL), the curriculum the MU School of Medicine has used for the last 25 years to train its first- and second-year students. It is nothing like a traditional lecture model in which the professor is the fount of information and the students dutifully take notes.

In PBL, students are assigned revolving leadership roles. Mary Murphy, this week’s quarterback, leads the discussion. Chance Walker, the dictator, provides definitions to unfamiliar medical terms. Pooja Nair, the scribe, peeks away at her computer, listing the man’s problems and potential diagnoses on the screen.

It is Monday morning, and the eight first-year University of Missouri medical students seated around the table have just been introduced to their latest patient. It is a man with changes in his thinking ability. The students have access to his symptoms and medical history; but which details are valuable tidbits among all the red herrings? The childhood accident, an illness years ago, aging in his ears—do any of them matter?

The group’s faculty facilitator, Luis Polo-Parada, PhD, knows but isn’t saying much. In fact, once the students start digging into the case, he doesn’t say a word for the first 12 minutes. When he does speak, it is often to redirect a conversation wandering too far in the wrong direction. Sometimes Polo-Parada plays the devil’s advocate—the devil, in this case, being an insurance company—retrieving a requested lab test on the grounds that the students have not justified its necessity.

It is Wednesday morning, and judging by his polished breakdown of the patient’s written mental status exams, Hartwig got his homework done before relaxing with his wife. As soon as he finishes speaking, Hartwig ears open a package of Pop-Tarts and heads straight for the classroom’s coffee maker, so perhaps some of the polish was applied at the expense of breakfast this morning.

As the students report on their research, they reveal a bit about themselves.

Hartwig and Taylor Ross, another new dweller, mix wedding photos into their PowerPoint slides. Walker incorporates humor into his findings on the impact of recreational drugs on the brain, concluding with, “Don’t do drugs.” Ryan Akon sprinkles in sports references to his examination of memory. Miranda Fahland’s slides are decorated with purple flowers. Murphy, Clarence Chu and Nair include memes, memes and more memes to break up the highly scientific material they are conveying.

After each presentation, the students applaud politely. This is their fifth week together, and they have developed a casual rapport. After eight weeks, there is a week of exams and a week off. Then a new block starts with the students shuffled into different groups.

After two years, each student will have worked closely with nearly half of his or her class and will have learned the most important—knowledge in a way that has kept MU above the national average in board scores for more than two decades.

“How you learn the knowledge is a lot more self-driven,” Ross says. “In undergrad, I felt like everything was a lecture, and everything you needed was in that. Whereas now, you have to look for the information and don’t always know what you need.”

Not every objective the students research is relevant to this week’s case, but each one helps the students build a base of science knowledge. As the wilder diagnostic guesses about the patient’s condition are eliminated from consideration, the students, with gentle nudges from Polo-Parada, start to hone in on a brain disease causing dementia.

When they finally get a look at a key test result, they identify Alzheimer’s disease as the most likely diagnosis.

With the mystery solved, the students learn what happened next to their patient. Then they are assigned another set of presentations to be given Friday. After class, Polo-Parada joins the 15 other faculty facilitators in a meeting with MU Health Care neurologist Joel Shenker, MD, PhD, a clinician who helps lead the neurophysiology block of PBL. He treated the actual patient discussed this week and wrote the case for the PBL student sessions after receiving permission from the patient and family.

Shenker discusses the important points of next week’s case with the facilitators, many of whom are basic scientists. He reminds them a special guest will be here Friday.

It is Friday morning, and the smell of bacon fills the fifth floor of the Patient-Centered Care Learning Center. It is tradition for quarterbacks to cook or buy breakfast for their classmates on Fridays. Murphy picks up treats from Dunkin’ Donuts on the way to class.

This round of student presentations focuses specifically on dementia—from diagnosis to medication options to pathology. Afterward, the results of an autopsy are shared.

The final business of the week takes place downstairs in the PCCLC’s second-floor classroom. All the first-year medical students gather as Shenker reviews the key points of the case. He then turns the floor over to the special guest.

The patient’s real name is revealed — again, he and the family had given permission to do so years earlier. His wife stands before the students, dressed in purple, the color of Alzheimer’s awareness. She holds up a poster board that has the couple’s engagement photo next to another one in the same pose taken in the last year of his life. She asks how many of them have been affected by Alzheimer’s. About half the students raise their hands.

She speaks bluntly — but not without humor — about the tragedy of watching her brilliant husband deteriorate, losing pieces of him like a peeled onion, until he forgot her name and no longer wanted to give her a kiss.

“There is nothing rewarding about being a caregiver,” she says flatly.

As soon as she filled that role. She tells the students that she gave her job, reorganized her home so her husband could navigate it and ultimately had to care for his basic needs as if he were an infant. Around the room, there are some moist eyes.

At the beginning of the week, the students learned about a patient who was the sum of his symptoms, a scientific mystery on paper. By the end, they got to know a person and his caregiver, seeing the human consequence of the five-syllable words on a medical chart.

The students are training for complex jobs that will require them to be detectives: scientists and social workers and to rely upon curiosity, intelligence and compassion. In one week of PBL, they practiced each part of that job description and prepared themselves for the full spectrum of their future.
NEW APPOINTMENTS

**PETER J. TONELLATO, PHD**

The director of the new Center for Biomedical Informatics, Tonellato brings more than 30 years of mathematics, bioinformatics and precision medicine expertise to the role. He successfully initiated similar multidisciplinary centers at other academic medical institutions. Tonellato is a professor in the Department of Health Management and Informatics with secondary appointments in several clinical departments. “Peter’s expertise will be a wonderful addition to the medical school and to our university as a whole,” said Jerry Parker, PhD, interim senior associate dean for research. “He understands the challenges of implementing transformative programs and has experience working through these issues to move initiatives forward.”

Tonellato brings an applied mathematician and scientific approach to biomedical informatics initiatives with a specialty in simulations and mathematical modeling. As director of the Center for Biomedical Informatics (CBMI), Tonellato will work across disciplines to connect basic science, quantitative disciplines and health care research across campus while defining and providing momentum to Mizzou’s precision medicine initiative.

“Here, I am one of several individuals all with a common purpose, each leading a group with its own expertise,” Tonellato said. “Together, we form a tremendous multidisciplinary team solving a collection of beautiful problems requiring the collective team’s effort. In spite of this complexity, our efforts, like those of the larger MU Health system, are clearly focused — to use genomics and the sophisticated methods of translational, precision medicine for the singular purpose of improving patient outcomes.”

**ZHENGUO LIU, MD, PHD**

Liu is an associate professor in the Department of Biochemistry, effective July 16, 2018. Biochemistry is a joint academic unit within the College of Agriculture, Food and Natural Resources and the School of Medicine at MU. Chapman comes from Oregon Health and Science University, where he was interim chair of Biochemistry and Molecular Biology. Before that, at Florida State University, he was director of the Center for Excellence: Biomolecular Computer Modeling and Simulation and associate director of the Institute of Molecular Biophysics.

**JAMES COOK, DVM, PHD**

Cook holds 18 patents, including the Missouri Osteochondral Allograft Preservation System (MOAPS) technology, and has seen four biomedical devices through FDA approval to human clinical trials. He is also the co-founder of Be The Change Volunteers, an organization dedicated to building schools in remote villages in the developing world.

**MICHAEL CHAPMAN, PHD**

was selected as the chairman of the Department of Biochemistry, effective July 16, 2018. Biochemistry is a joint academic unit within the College of Agriculture, Food and Natural Resources and the School of Medicine at MU. Chapman comes from Oregon Health and Science University, where he was interim chair of Biochemistry and Molecular Biology. Before that, at Florida State University, he was director of the Center for Excellence: Biomolecular Computer Modeling and Simulation and associate director of the Institute of Molecular Biophysics.

**BETSY GARRETT, MD**

professor emeritus in the Department of Family and Community Medicine, is the first recipient of the Ama B. Scary Award for promoting female faculty. The award is named in honor of the first woman to graduate from MU with a medical degree in 1900.

Garrett created the Legacy TeachersSM program, in which medical students honor patients who have taught them valuable lessons, and it has become a model for other universities. Garrett is also an avid medical historian who brought to light the accomplishments of early women in medicine at MU, such as Scary. “Betsy isn’t the kind that you would find shouting about women faculty from the rooftops,” said Richelle Koopman, MD, who presented the award to Garrett. “She led with her ideas and her presence.”

**BARBARA GRUNER, MD**

associate professor of clinical child health at the MU School of Medicine, was selected to serve on the National Cancer Institute’s pediatric clinical institutional review board. Members of the review board are dedicated to protecting the rights and welfare of pediatric oncology patients participating in clinical trials.

**ABU MOSA, PHD**

director of research informatics and assistant research professor of health informatics, was accepted to the Data Science Rotation for Advancing Discovery: Trip fellowship program. The RoAD-Trip program accepted only 10 fellows. Mosa traveled to Tsha, Okin, in May to collaborate with other junior biomedical researchers and established data scientists to address the challenge of translating complex data into new knowledge. Mosa is currently conducting data science research using a National Cancer Institute database to discover the deep prognostic factors that lead to poor cancer survival rates.

**WILLIAM SALZER, MD**

professor of clinical medicine, won the highest honor in medical education bestowed by the University of Missouri — the Jane HickmanTeaching Award — on Feb. 8 during the School of Medicine’s annual Education Day. “He has been a huge contributor to the patient-based learning curriculum as a case and exam writer since the inception of PBL 25 years ago,” said Kevin Kane, MD, the associate dean for education improvement. “He also serves as an attending physician in internal medicine in both inpatient and outpatient settings and has mentored hundreds of students, residents and fellows over the years.”

**SUMMER 2018 / 9**
MATCH DAY

Each fall, fourth-year medical students apply to their desired residency programs. After interviews throughout the fall and winter, students and program directors rank each other and send their lists to the National Resident Matching Program. The NRMP uses a formula to match students with programs. On March 16, 2018, students nationwide — including 96 at the University of Missouri — simultaneously learned where they would spend the next three to seven years as resident physicians.

MATCH DAY BY THE NUMBERS:

- 96 STUDENTS
- 99% MATCH RATE
- 39% WILL REMAIN IN MISSOURI
- 27% WILL STAY AT MU
- 41% WILL GO INTO A HIGH-NEED PRIMARY CARE FIELD

Bri Herriott and Jeff Shuler show their excitement after learning they were chosen for their top-choice pediatric residency at Cincinnati Children’s Hospital Medical Center. Herriott and Shuler met in their first year of medical school and were married in April.

Molly Johnson and husband Galen Johnson show off her match letter. She is headed to the University of New Mexico for an emergency medicine residency.

SEEN ALL THE EXCITEMENT from Match Day at youtube.be/c3oDjBB7Kg.
When Jakob Allen interviewed for plastic surgery residencies, he described medical school experiences at the University of Missouri’s Springfield Clinical Campus that put him years ahead of the competition.

“I can speak a lot about doing plastic surgery,” Allen said. “I’ve gotten to do a lot more than other students across the whole U.S. This is a unique situation and something all my interviewers wanted to ask me about. I have a lot of examples of being in surgeries and telling them some of those basic fundamental skills that first-year residents or second-year residents would usually do.”

Allen is one of nine MU medical students in the first Springfield graduating class. MU partnered with the CoxHealth and Mercy Hospital Springfield health systems to open the Springfield Clinical Campus in 2016. The idea was to help address the statewide and nationwide physician shortage by expanding MU’s class size from 96 to 128.

All MU medical students spend their first two years in Columbia and then have the option of choosing Springfield or Columbia for the final two years. After the initial nine “pioneers” — as recent graduate Kelsey Clary refers to her SCC classmates — subsequent classes are slated to have as many as 32 members.

The experiences of the pioneers could inspire others to choose Springfield.

“It’s worked out quite well,” said Andrew Evans, MD, associate dean and chief academic officer of the Springfield Clinical Campus. “We’ve had great faculty engagement from Springfield. We’ve had over 250 of the local Springfield docs participate. Student experience has been excellent, but we kind of expected that. The difference is they get closer one-on-one relationships with attending physicians, more of a hands-on experience. That’s really proven out.”

Joining Allen and Clary in the Class of 2018 were Ashley Albertson, Jeffrey Dorhauer, Murphy Martin, Leo Maurer, Scott Miller, Devin St. Clair and Chris Weil.

“I was a little hesitant at first because it had not been established,” said Albertson, who is specializing in general surgery. “But any time there was an issue, our opinion was heard and it was remedied almost immediately. I also work much better in a smaller environment, so being down here, I really thrived.”

The Springfield students are able to do rotations in Columbia and other locations, but the advantage of doing them in Springfield is they aren’t sharing attending physicians’ attention with residents.

“I’ve had a lot of teachers tell me they would have liked to have had students for ages, and there just haven’t been many students come through Springfield,” said Clary, who is specializing in pediatrics. “That’s a shame because Cox and Mercy are such large hospital systems with amazing doctors and good teachers, and we just weren’t using those resources. I’ve had teachers tell me that not only were they excited to have students but were excited to have Missouri students, because they felt like we were good, quality learners.”

Ashley Albertson, Jakob Allen and Kelsey Clary were three of the nine students who formed the first MU graduating class from the Springfield Clinical Campus. Albertson will be serving a general surgery residency at the University of Kansas-Wichita, Allen will do his plastic surgery residency at the University of Tennessee Health Science Center in Memphis and Clary will go to Children’s Mercy Hospital in Kansas City for a pediatrics residency.
Molecular Clues Aid Fight Against Heart Complication

While being treated for a heart attack, patients are in danger of suffering what is known as reperfusion injury — damage to the heart caused in part by a sudden rush of calcium ions into muscle cells that previously were starved of oxygen-rich blood. This can trigger fatal arrhythmia, particularly in older patients.

The laboratory of Timothy Domier, PhD, has discovered molecular clues into how calcium enters cardiac muscle cells during reperfusion in aged mice. He hopes to use that knowledge to find an inhibitor that shuts off one of the leaky culprits — a subtype of the Transient Receptor Potential ion channel — to prevent reperfusion injury and ultimately save human lives.

Domier has received a five-year, $1.9 million R01 grant from the National Institutes of Health (National Heart, Lung, and Blood Institute) for his study.

Recovery Could Help Cantu Syndrome Sufferers

Cantu syndrome is a rare genetic disease characterized by distinct facial features, excessive hair growth, low blood pressure, and an enlarged heart. About half of Cantu sufferers also have lymphedema — fluid retention and swelling in the limbs caused by a malfunctioning lymphatic system — and that is why Michael Davis, PhD, of the MU School of Medicine’s Department of Medical Pharmacology and Physiology, was drawn into the fight against the disease three years ago.

Cantu is caused by mutations in a hyperactive potassium channel. When a Washington University clinician team studying Cantu sought answers about the lymphedema issue, they connected with Davis, an international expert on the lymphatic system.

Through his study of mice with mutations causing hyperactivity of a potassium channel, Davis found that dysfunction in lymphatic muscle pumping causes their lymphedema.

Davis recently received an R01 grant from the National Institutes of Health worth $1 million over four years to study, in part, whether a potassium channel-locked drug called ciclosporin applied topically to the legs of afflicted mice could rescue lymphatic system dysfunction without affecting other system functions, such as insulin production. If so, the treatment could help humans with Cantu.

“What was appealing to me about this is it’s a specific cohort of patients and nobody knew anything about why they developed lymphedema until we started,” Davis said. “Plus, my other projects are disease-related — because they are related to lymphedema — but they don’t actually involve any direct relationship to patients. This one, I’m into in clinics, and I can go every year to the clinic they have and actually meet some of these patients. That’s quite rewarding for somebody who studies mice as a basic scientist.”

Scholarship Gives Bulger Head Start on Future

It’s a big world with almost limitless possibilities for a bright young medical student, but Ben Bulger can imagine only one destination.

“When I was a kid, I would think, ‘I want to live in New York City’, or, ‘I want to live in the mountains,’” he said. “Now, I think about practicing medicine in Springfield and being with my family. There’s nothing else I want.”

Bulger grew up the seventh of 10 children in crowded houses where the kids outnumbered the beds at times. He and his siblings were mostly home-schooled by their mother. The family bond grew so tight that Bulger and his brothers now share a dream of buying homes in the same neighborhood.

The reality that intruded on his dreams was the expense of medical school. Bulger, the first member of his family to graduate from college, was accepted to the MU School of Medicine last year, but he worried that student loans would follow him into middle age and hamper his ability to help family members in need and serve his patients. A weight was lifted when he received a full scholarship.

“I am so grateful to get this kind of out-of-nowhere gift from people I haven’t even met,” Bulger said.

The gift came from Michael DePriest, MD ’80, a St. Joseph plastic surgeon, and his wife, Barbara Braznell, a recently retired attorney who specialized in elder law and estate planning. Both are MU graduates. In 2011, they started an endowment that would fund a scholarship for all four years of medical school for a student in every other incoming class.

“The debt often associated with years of university and medical school can be extremely burdensome to a young doctor starting out,” DePriest said. “It might even affect decisions about practice area or positions. Hopefully, with less debt, the young doctor will have more options to pursue the medical practice he or she is truly interested in and be able to focus more energy to that pursuit.”

The average MU medical student’s debt at graduation is $171,292. That is more than $9,000 below the national average,

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Bulger said mounting debt is a frequent topic among his colleagues.

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The average MU medical student’s debt at graduation is $171,292. That is more than $9,000 below the national average. Funding for scholarships to offset that cost falls mostly on private donors such as DePriest and Braznell. Approximately two-thirds of the $1.8 million in MU medical scholarships awarded this year came from private donors.

Bulger said mounting debt is a frequent topic among his classmates. He is spared that distraction, allowing him to focus on his studies and, in rare moments of free time, play chess, read and ride his bicycle.

Bulger didn’t realize his aptitude for science until he got to Missouri State University, where he majored in cell and molecular biology. He is now considering a specialty in emergency medicine and fully expects to return to Springfield,

where he can serve his hometown and help support his family.

“At first, I was embarrassed to admit I was interested in medicine, because I didn’t think I could do it. It seemed like a big, daunting thing,” Bulger said. “I started shyly looking into it without telling anybody, but when I would think about it, I just really felt right. ‘It felt like the best possible way I could spend my time. Just knowing myself and knowing my strengths, this is the best way I could help people.”

Jerry Parker, PhD

“Researchers often have a major challenge finding participants for research studies, and, conversely, consumers who would like to contribute to new discoveries often do not know how to do so,” said Jerry Parker, PhD, associate dean for research at the MU School of Medicine. “The Participate in Discovery project addresses this issue by allowing potential volunteers to identify studies that are of interest to them so researchers can more easily find them.”

Parker is the principal investigator for the Participate in Discovery project, which includes several interdisciplinary collaborators across the MU campus. Parker and his colleagues recognized the need to more easily connect researchers with interested participants.

To address this issue, the team developed a form that gathers basic demographic data from volunteers and allows them to designate their interest in certain areas of research, such as weight loss, autism or breast cancer. By acknowledging their interest, volunteers can designate their interest in certain areas of research, such as weight loss, autism or breast cancer. By acknowledging their interest, volunteers can actually meet some of these patients. That’s quite rewarding for someone who studies mice as a basic scientist.”

TO LEARN MORE about the program or to get involved, visit medicine.missouri.edu/research/participate-in-discovery.

If you would like to help students like Ben, contact Yvoonne Miller in the MU School of Medicine’s Office of Development at 571-882-0100 or at millerym@health.missouri.edu.

VISION
The Mizzou BioJoint® Center recently received two grants totaling more than $2.5 million from the U.S. Department of Defense to research how surgeries performed at the center can help soldiers and civilians with knee and ankle injuries.

The biological joint restoration surgeries performed at the Mizzou BioJoint® Center use natural tissue grafts of cartilage, menisci and/or bone to improve joint function in young, active patients. Knee and ankle injuries often lead to post-traumatic osteoarthritis (PTOA). That condition is the primary reason the procedure works for military personnel and other highly active patients with injuries to their knees or ankles that inevitably result in PTOA.

Knee and ankle injuries often lead to post-traumatic osteoarthritis (PTOA). That condition is the primary reason the procedure works for military personnel and other highly active patients with injuries to their knees or ankles that inevitably result in PTOA.

“Preliminary applications of the proposed treatment on soldiers and veterans have allowed them to return to high levels of activity and even active military duty,” according to the DOD’s written review of the funding proposal. “The proposed study can potentially have a positive impact and provide relief to military personnel diagnosed with PTOA.”

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“During my 10-year active-duty career that included tours with the 82nd Airborne Division, I saw firsthand how big a problem PTOA is for soldiers,” Stannard said. “It is an honor to be able to work with the Department of Defense to solve this critical medical issue.”

The BioJoint team will collect and analyze data to further document how well these biological joint restoration surgeries can work for patients. Additionally, the team will continue to follow all patients who receive surgeries at the Mizzou BioJoint® Center for the rest of their lives.

“Based on the reviewers’ comments, our grant proposal was successful, in part, because of the translational and collaborative nature of our program,” said James Cook, DVM, PhD, OTSC, director of the Orthopaedic Research Division and Mizzou BioJoint® Center at MU Health Care. “We have a multidisciplinary team of engineers, veterinarians, physicians, surgeons and scientists working side-by-side to make the treatments we provide at BioJoint as safe and effective as possible.”

This is a second-series grant awarded to the Mizzou BioJoint® Center by the DOD. The first was a $800,000 grant in 2013. “The DOD sought phase-two grant applications only from projects that showed success in phase one. The acceptance process included a rigorous evaluation, including written reviews from scientific and bioethics experts at the DOD. “Preliminary applications of the proposed treatment on soldiers and veterans have allowed them to return to high levels of activity and even active military duty,” according to the DOD’s written review of the funding proposal. “The proposed study can potentially have a positive impact and provide relief to military personnel diagnosed with PTOA.”

“The BioJoint team was also awarded a $750,000 grant last year as part of a collaborative study with the mechanical engineering department at Columbia University in New York. Researchers will study the effectiveness of bending and shaping donor grafts to further optimize the fit for individual patients. Engineering researchers will bend and shape grafts. Then, they will send those grafts to the Mizzou BioJoint® research team for further testing on how long the grafts remain viable and functional in a model that simulates what is done for patients.

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When Gerard Fischer was looking for a place to study hospital administration, he sought the brochures of every accredited program in the nation. He was so convinced the University of Missouri was the best choice, he didn’t apply anywhere else.

After Fischer received his master’s degree in health administration in 1984, the quality of that education was put to the test. At age 25, he became the administrator of Prosser Memorial Hospital in Prosser, Wash.

“That was kind of jumping into the deep end of the pool,” Fischer said. “I’ve had just a terrific career. One of the major things that launched that career was my degree from the University of Missouri.

“What you learn in the books is one thing. Actually being in the reality of the world and working with people is a little bit different, but I think I was as prepared as I could be. Definitely without that degree of education, I would never have made it.”

Fischer is now the vice president for ancillary services at Kaiser Permanente in Seattle. After more than 30 years in management, and with his children almost done with college, Fischer’s thoughts turned to philanthropy.

One of his lifelong passions has been the arts. When he was younger and had more free time, he strummed the banjo for fun. As he got older, the banjo got less use, but Fischer’s appreciation of music and music directors have continued. He also appreciated the role MU played in launching his career.

So he selected the Spokane Symphony and MU’s Department of Health Management and Informatics as the beneficiaries of his estate.

“That was good, but what was kind of gravy on me was that this was not going to do anything until I die, and hopefully that is a long ways off,” Fischer said.

Eduardo Simoes, MD, the chair of the MU Department of Health Management and Informatics, stayed in touch with Fischer and kept him aware of the challenges the department was facing during hard financial times at the university.

Fischer decided to make a $50,000 donation to the MU’s HMI department, earmarked mostly for scholarships. Then he decided to do even more, offering to match up to $25,000 if the department could raise that much money in 2017. The matching grant is expected to help fund the salaries of graduate research assistants.

The total money raised, including Fischer’s matching grant, exceeded $97,000. Fischer hopes his gifts will help the next HMI student be ready for a plunge into the deep end after graduation.

“It’s a well-known program, but there’s a lot of competition, and to be able to secure this gift to give to the students when they come here, it goes a long way toward attracting the best student,” Simoes said. “That’s very important. The good programs nationwide have graduate research assistants. This year we will be able to continue funding the level of GRAs that we had, thanks to Gerard.

“Donations like the one Gerard gave with this matching gift are critical at any time, especially in tough years economically for the university. It becomes like a life-saver.”

FISCHER TAKES THE PLUNGE, DONATES TO HMI

GERARD FISCHER

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Distinguished graduates and supporters were honored on April 20, 2018, at the University of Missouri School of Medicine and Medical Alumni Organization awards at Reynolds Alumni Center in Columbia.

CITATION OF MERIT
Terry Smith, MD '75
The Frederick G.L. Huetwell Professor in Ophthalmology and Visual Sciences at the University of Michigan: The Frederick G.L. Huetwell Professor in Medicine and Medical Alumni Organization awards on April 20, 2018, at the University of Missouri School of Medicine.

HONORARY MEDICAL ALUMNI
Michael Ashley, MD: Surgeon, Springfield, Mo.
Joseph Corrado, MD: Surgeon and president of the Missouri State Medical Association, Mexico, Mo.

IN MEMORIAM
IRA HUBBELL, MD '63, a fourth-generation physician, died at age 90 on Jan. 8, 2018. Dr. Hubbard served as a captain in the Navy and Naval Air Force before earning a bachelor’s degree from Yale and master’s and doctor of medicine degrees from MU. He practiced anesthesia in Columbia and was a faculty member at the University of Missouri School of Medicine.

DIANE BRUKARDT, MD, died at age 88 on Feb. 17, 2018. She earned a bachelor’s degree from MU and an MD from Harvard. She served as the director of MU’s Student Health Service and as an assistant professor of medicine until her retirement in 1990.

DAVID PAYNE, MD '64, died at age 79 on March 23, 2018. Payne was a native of Kansas City and was a long-time dermatologist in Columbia.

JARROD DYE, MD '15, died at age 30 on Feb. 28, 2018. Dye was a third-year resident physician in internal medicine at University of Nebraska Medical Center in Omaha, Neb.

Distinguished Alum Enjoying Practicing ‘Purist Medicine’
Greg Mundis, MD ’83, takes four weeks per year off from his practice as a spine surgeon at Scripps hospitals in Southern California to volunteer for Global Spine Outreach, providing free treatment for children with spinal deformities.

“The other fun thing is just the environment you’re operating in. You have to adapt your skill set to a different environment. You try to help impart Western standards to a culture that is not accustomed to that level of care. To be able to elevate the game for the whole team around you is pretty cool.”

The exchange of knowledge between a health care professional and a patient isn’t a one-way street. In its 13th year, the Legacy Teachers’ program offers third-year medical students the opportunity to honor a patient who has been one of their greatest teachers. This year, 36 medical students singled out 18 of these teachers for praise.

Rebecca Aguayo said her Legacy Teacher taught her how to embody patient-centered care. She met Kelly Bailey while serving in Rogersville, Mo., as part of her Family Medicine rotation through the MU School of Medicine, spending four weeks per year volunteering with Global Spine Outreach, performing free spine surgeries for children.

“I’m a spine surgeon, and I can do the techniques,” Mundis said. “But it’s the care that makes the surgery possible.”

“I will always be grateful for the time and effort she committed to my education.”

The Legacy Teachers luncheon at Reynolds Alumni Center.

The volunteer work has occasionally required him to be a medical MacGyver, cobbling together surgical solutions from the materials at hand. For example, on one of his first trips to Mexico, some of the GO 5 team’s equipment was stopped at the border. The doctors were forced to postpone several surgeries, but one child had such severe scoliosis, he was in danger of paralysis.

“We said, ‘OK, literally, we have four screws and that’s it, and we have to do this 14-level fusion,’” Mundis recalled. “So we’re in the middle of the surgery, and we needed more stuff, because this kid needed more fusion. So we said, ‘Bring anything you have in the room.’ They brought in all these different wires, things the heart surgeons were using years ago.

“We jury-rigged this construct using Mersilene tape, wires from cardiac surgery and the four screws and two hooks that we had. The cool thing is, the patient did phenomenal and three years out from surgery is doing great.”

Mundis received one of three Outstanding Young Physician awards at the 2017 Alumni Awards Ceremony. He will be featured in the feature on Drs. Mark J. Pigg-Shields and Annette C. Horne.

The workers in the middle of the spine range, who must work with the operating room and work with local doctors and staff to treat children with conditions such as scoliosis, kyphosis and cerebral palsy.

OUTSTANDING YOUNG PHYSICIANS
Benson Hsu, MD ’05, MBA, FAAP: Chief Medical Analytics Officer of Sanford Health, Sioux Falls, S.D.
Christine White, MD ’04: Associate professor of Pediatrics at University of Cincinnati College of Medicine, Medical Director of the Division of Hospital Medicine, Burnet Campus, Cincinnati Children’s Hospital Medical Center, Cincinnati, Ohio
Lana Zerrer, MD ’99: Chief of Staff, Harry S. Truman Memorial Veterans’ Hospital, Columbia, Mo.

Dakota attended the Legacy Teachers luncheon on April 12, 2018, at the Reynolds Alumni Center to learn more about the program.

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The Legacy Teachers luncheon at Reynolds Alumni Center.
61st Annual
PHYSICIANS ALUMNI WEEKEND

Alumni from all classes are welcome to attend the annual Physicians Alumni Weekend.
• Tour the new medical education building
• Participate in CME sessions
• Socialize at the annual alumni dinner
• Watch the MU vs. Kentucky football game

SAVE THE DATE | OCT 26 - 27, 2018

QUESTIONS? Please call (573) 882-5021 or email mumedalumni@health.missouri.edu or visit medicine.missouri.edu/alumni.