THE UNIVERSITY OF TOLEDO
COLLEGE OF MEDICINE AND LIFE SCIENCES

spotlight

2018



COLLEGE OF MEDICINE AND LIFE SCIENCES
THE UNIVERSITY OF TOLEDO

The future faces of medicine

18

Students help at home

Students volunteer their time to assist in local clinics even when they might have exams the next day.



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Supporting our community, fulfilling our mission



Welcome to *Spotlight*, an annual snapshot into the wonderful work going on here at The University of Toledo College of Medicine and Life Sciences. Inside, you will find a glimpse of how we are supporting our community and fulfilling our three mission pillars of education, clinical care and research.

In education, we recently launched Rocket Medicine, a major curriculum change with emphasis on a competency-based curriculum with early clinical experience and seamless integration of foundational and clinical sciences. This integrated curriculum includes system-based learning, a focus on clinically relevant material, collaboration between clinicians and foundational science faculty, more emphasis on clinical medicine preparation and skills, and early clinical experiences.

These changes were implemented last fall and our second medical class will experience these changes this fall. More than 75 percent of these students are Ohio residents, and one-third are from northwest Ohio. Importantly, more of our graduating students are also choosing to stay in Toledo for residency, a reflection of their academic experience, the clinical opportunities available through our Academic Affiliation with local health system ProMedica, and the quality of life the Toledo region offers to young professionals and their families. Of all of our accomplishments, the fact that UT students are choosing to stay in Toledo for residency will likely have the greatest impact on our medical community in the years to come.

In clinical care, our students are receiving clinical experience at home and abroad. Each week, students run a local clinical program, the CommunityCare Clinic, one of the largest free clinics in Ohio. They also travel around the world to remote villages in such countries as Puerto Rico, Haiti, Guatemala, Honduras and the Philippines, sharing their knowledge and expertise.

Water quality is a major research focus at The University of Toledo. With more than $14 million in active grants underway, experts from across the university are studying algal blooms, invasive species such as Asian carp, and pollutants. Within the College of Medicine and Life Sciences, our faculty are innovating to remove the algal toxins from the water system, develop diagnostic tests to assess those exposed, and determine whether people with pre-existing conditions are at greater risk of algal exposure. These researchers are looking for pathways to restore our region's greatest natural resource, Lake Erie, for future generations to ensure our communities continue to have access to safe drinking water.

As part of our Academic Affiliation with ProMedica, we are expanding research and learning opportunities for our faculty and students, as well as capital investments to improve equipment and facilities.

Philanthropy plays a vital role to ensure the continued advancement of medical science and our mission to improve health in the communities and region we serve. Our Medical Research Society, which awards a $50,000 grant annually, is helping faculty with promising research be competitive for national grant awards and creating opportunities for their trainees.

Our donors also have helped to ensure the dream of a medical education is within reach for many of our new and continuing students by providing scholarship opportunities. Our students benefit significantly from this philanthropy with nearly $1.9 million in scholarships awarded this fall.

In closing, I would like to thank the faculty, staff, students, alumni, donors, supporters and trustees who have contributed to our remarkable achievements and successes and I'm looking forward to continued success in the future.



Christopher J. Cooper, MD
Executive Vice President for Clinical Affairs
Dean of the College of Medicine and Life Sciences



By the numbers

ENTERING CLASS SIZE

Ohio residents (72%): 126

Students from northwest Ohio (30%): 38

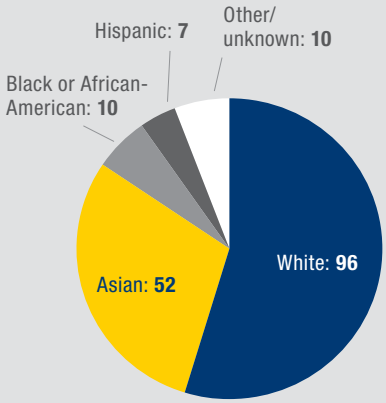
Non-Ohio residents (28%): 49

TOTAL 175

Male (46%): 81

Female (54%): 94

ETHNIC DISTRIBUTION OF CLASS



72%

Students who are Ohio residents

75

Colleges represented, including Duke, Emory, Ohio State, UC-Berkeley, Notre Dame, Pittsburgh, Vanderbilt and Yale

21

Ohio colleges represented

STUDENTS

715

medical students

277

graduate students

24 dual-degree:

17 MD/PhD

2 MD/MBA

3 MD/JD

2 MD with certificate in pathology

List of Basic Science and Clinical Departments

- Anesthesiology
- Cancer Biology
- Emergency Medicine
- Family Medicine
- Internal Medicine
- Medical Microbiology and Immunology
- Neurology
- Neurosciences
- Obstetrics and Gynecology
- Orthopaedic Surgery
- Pathology
- Pediatrics
- Physiology and Pharmacology
- Psychiatry
- Radiation Oncology
- Radiology
- Surgery
- Urology

RESEARCH SUPPORT

FY18 research data for the College of Medicine and Life Sciences

FY18 TOTAL EXPENSES	$15,623,044
FEDERAL	$10,792,965
STATE	$466,997
OTHER	$4,363,083

76
# of new awards for FY18

69
# of principal investigators

134
# of active awards

201
# of grant proposals submitted and pending for FY18

Medical student class profile

22 STATES REPRESENTED

Ohio (126)

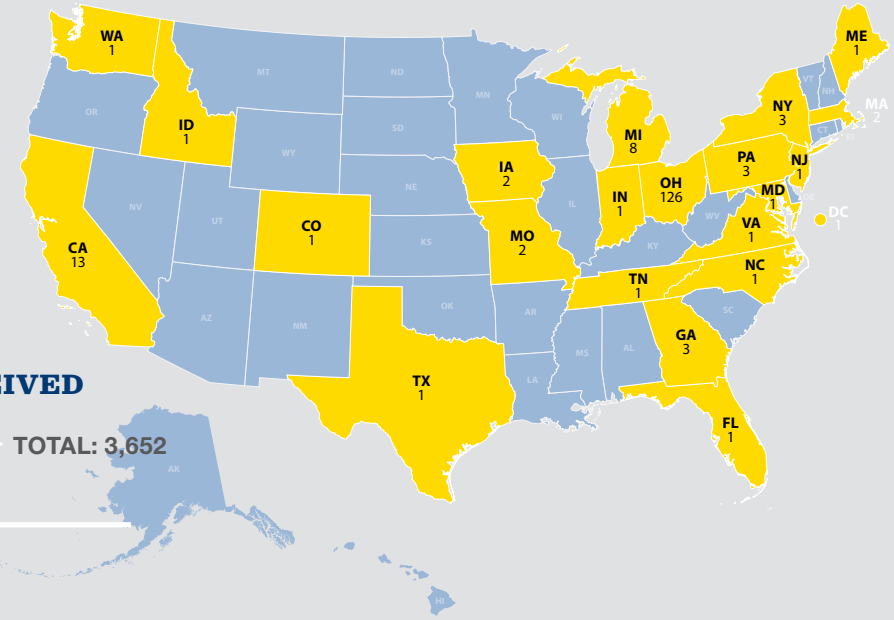
California (13)

Michigan (8)

Georgia (3)

New York (3)

Pennsylvania (3)



APPLICATIONS RECEIVED

Ohio residents: 1,118

Non-Ohio residents: 2,534

TOTAL: 3,652

ACADEMICS & TEST RESULTS

3.62

Average total GPA

MCAT results

509

Average total MCAT (80th percentile)

HIGHEST DEGREE AWARDED

175

Bachelor

1

PhD

45

Master

$1.9 Million

This fall, 186 scholarships totaling $1.9 million were awarded to our students.

$3.3 billion

The University of Toledo's economic impact to the region, according to a 2017 comprehensive study by UT economists. That is equivalent to 9.7 percent of the region's gross metropolitan area product.

DEPARTMENTS

14

Clinical

4

Basic science

FACULTY AND STAFF

77

Basic science

295

Clinical

1,041

Community-based

240

Staff



Our history

1872
The University of Toledo is established.

1964
On Nov. 11, the Ohio House of Representatives passes a bill creating Toledo State College of Medicine. The Senate would vote next (33-0) on Dec. 17, with Gov. James Rhodes then signing the bill into law. The college would become a legal entity with the governor's signature on Dec. 18.

1967
The Ohio Senate passes a bill changing the name of the Toledo State College of Medicine to the Medical College of Ohio at Toledo. The bill also authorized cooperation between the school and The University of Toledo and Bowling Green State University.

The University of Toledo becomes a member of the state university system.

1969
The Medical College of Ohio at Toledo admits its first small class. The 1969 class of 32 was chosen from 400 applicants and includes three women and two black students. Early on, students were given clinical experience in local doctors' offices, with an ear, nose and throat practice being particularly helpful.

2006
The Medical University of Ohio merges with The University of Toledo.

2015
The UT Board of Trustees approves a proposed Academic Affiliation between the College of Medicine and Life Sciences and local health system ProMedica.

the year in photos



Students from the MedStart program volunteer in the community, spending the day gardening in the community vegetable garden. The two-week program provides a medical school experience for rising college seniors who have been recruited and accepted to start medical school here in August 2019.



Biomedical Science Graduate Program students receive their lab coats at an annual ceremony. College of Medicine and Life Sciences alumni purchase white coats given out to all students.



Scholarship recipients personally thank sponsors of their awards at an annual dinner. Last fall, there was a 20 percent increase in the number of students receiving scholarships.



Culinary MD is a new cooking class led by medical students geared toward other medical students and residents. The classes teach recipes that are not only healthy and delicious, but also easy and quick to prepare. At one class, students learned about low carb diets and practiced their knife skills while making chicken stir-fry.



The 2018 Medicine Ball in January brought in more than $12,000 for Students for Medical Missions and the CommunityCare Clinic. The annual event raises funds for scholarships and to expand local clinics where students care for patients.



Students from the men's a capella group, Docapella, sing during the annual talent show, which showcases the talents of UT's physicians-in-training as well as faculty and staff. Proceeds were donated to support a scholarship fund.



Students, including those in the MD and PA programs, join Dean Christopher J. Cooper and his dog, Kaikoa, for an evening stroll in downtown Perrysburg.



PA program students Maria Paulett and Katie Fontaine with new patches they received for their white coats as they transition to clinical rotations for the last part of their 27-month program. The class will graduate in December.



Faculty members are honored annually for their dedication and commitment to the University. In June, Dr. Mehmood Rashid, center, received the Junior Faculty Teaching Award.



Rising third-year medical students experience a one-week Bridge Course, designed to introduce them to clinical rotations. They practiced skills such as IV, NG, Foley insertion, suturing and ultrasounds in the Lloyd A. Jacobs Interprofessional Immersive Simulation Center.



Students join Dean Christopher J. Cooper for a monthly Run with the Dean, which promotes a healthy school-life balance and access to College of Medicine and Life Sciences leadership.



Students and faculty are active in national organizations throughout the year. In June, medical students attended the 2018 American Medical Association conference in Chicago with advisor Dr. Donna Woodson.



Unveiled in May, The University of Toledo Women & Philanthropy Genetic Analysis Instrumentation Center accelerates research in disease prevention, detection and treatment. The center was created with the help of nearly $60,000 from Women & Philanthropy, the largest grant ever awarded by the volunteer organization that supports UT initiatives.



Graduating medical students, Drs. Samantha Kay and Smit Shah, celebrate at commencement.



New graduate Dr. Joseph Collins was hooded by his grandfather, Dr. James Collins, Sr. and his father, Dr. James Collins, Jr., making him a third-generation doctor. The new graduate matched in Child Neurology at Saint Louis University School of Medicine.



— Education —

The University of Toledo College of Medicine and Life Sciences is teaching and training future physicians and world-class researchers who will lead the way to a new model of health care. Facing an aging population and an increased need for health-care providers, this work is even more relevant.

By fostering new partnerships for academic excellence and expanded opportunities for clinical training and residency placement, UT is on a long-term mission to recruit top-performing students, educate them to be the best doctors, advanced practitioners and research scientists, and retain them in northwest Ohio as they build their careers.

Rocket Medicine takes off with major curriculum change

The University of Toledo College of Medicine and Life Sciences implemented a redesigned curriculum beginning with the class of 2021. This curriculum emphasizes clinically relevant material and application with collaboration between clinicians and foundational science faculty.

Officially called "Rocket Medicine," this major curriculum change puts an emphasis on a competency-based curriculum with early clinical experience and seamless integration of foundational and clinical sciences. This integrated curriculum includes system-based learning, a focus on clinically relevant material, collaboration between clinicians and foundational science faculty, more emphasis on clinical medicine preparation and skills, and early clinical experiences.

The motivation behind this important initiative is multifaceted with the end goal to develop professional, compassionate and competent physicians with a lifelong commitment to improving health.

"The leadership of the College of Medicine and Life Sciences recognized the transformational change that is taking shape across the landscape of medical education throughout the country and the need to evolve the educational and clinical experience of our learners," said Dr. Imran Ali, vice dean and chair of the Department of Medical Education, which oversees curriculum.



"The reform process is not based on the ideas of one person, but a summation of experiences and suggestions that started from the dedicated teaching faculty," he said. "This important collaboration has been instrumental in building a curriculum that is integrated across the basic and clinical sciences."

The basis of the integration is to foster and promote long-term retention to build the competence that is needed to groom future health care providers.

"This important collaboration has been instrumental in building a curriculum that is integrated across the basic and clinical sciences."

"Since implementation, we have seen a combination of mini and large-scale successes as well as opportunities for continued growth and development," said Dr. Jeremy J. Laukka, associate dean for Foundational Sciences.

"The students have endured through the new curriculum in a positive way, collaborating with faculty to continue the process of building an impactful educational experience."

ICE program

There is a variety of new teaching methods being utilized and a greater emphasis on clinical medicine preparation and skills beginning in the first year.

An important part of the new curriculum is the Integrated Clinical Experience (ICE), which provides the opportunity for first-year medical students to begin getting experience in the clinical setting. The goals of the program include demonstrating the relevance of material being learned in the classroom as well as providing an opportunity to begin developing and practicing skills.

(continued on next page)

Rocket Medicine (continued)

"This helps promote an early understanding of the patient experience and includes early exposure to different specialties and career paths," said Dr. Shirley M. Bodi, assistant dean for curriculum integration. "It's also opportunity for students to get to know physicians in our community as well as College of Medicine alumni."

The ICE program successfully launched in February of this year. Students are assigned to physician faculty preceptors in either a primary care specialty, non-surgical sub specialty, or a surgical specialty.

At 10- to 12-week intervals, students rotate assignments so they have exposure to all three areas over the course of the year.

Unique pathology clinical clerkship

Clinical undergraduate medical education in pathology is strong. The new curriculum for medical students includes, for the first time, a required core curriculum clinical clerkship in pathology. This new, required clerkship, one of the first in the nation, is built on many years of popular and highly rated, elective clinical clerkships in pathology. For fiscal year 2017, for example, 3rd- and 4th-year students completed 472 rotations in our elective clinical clerkships, and gave these clerkships an overall rating of 3.94 on a scale of 1-4.

Second-year medical students recall their experiences with the new curriculum as incoming students.



TRISHA KHAMBADKONE

I wholeheartedly believe that the integration of clinical experiences and a system-based learning is not only preparing my classmates and me for board exams, but it is also giving us the opportunity to use our classroom knowledge in a real-world setting before we even start in the wards.

During my time with these physicians, I'm able to apply concepts I've learned from lectures and textbooks in a real-life setting that I wouldn't have been able to do in the old curriculum before third year.

Opportunities like these remind me why I chose to pursue a career as a physician – and this makes me grateful to be in a school that helps me rediscover my passion for service and working alongside people.



JAKE LENNERT

I've been impressed overall with the faculty's ability to implement this change in way less time than other med schools who have done curriculum revamps. It's a great feeling to know that your administrative faculty has your performance and competence as its focus.

I've had tremendous clinical experiences. The exposures have been priceless in helping me link our lectures to the broader purpose and utility that awaits us in the future.

UTCOMLS is one of the few medical schools where we have such a direct and open connection to our faculty and administration. Our input and feedback are formative in shaping our curriculum and the curriculum of future classes.



ALEX PETRAK

The field of medicine is undergoing great change, and I was looking to attend a medical school that will better prepare me for the realities of navigating medicine in today's age.

UTCOMLS has made it its mission to both prepare students for the board exams and beyond. Test prep is important, but our material expands beyond board knowledge with a greater emphasis on important cases that our faculty have experienced in the clinic.

I was surprised upon matriculating here to discover how intently UTCOMLS values the well-being of students. I now sit on the board of our Student Health & Wellness Group, which has teamed up with faculty to spearhead wellness initiatives and class discussions surrounding physician wellness.

Right now, we are in the middle of a crisis with burnout and even suicide. UTCOMLS recognizes this and opened up doors for conversation early in our time here with resources and strategies to assist us. I am very thankful for this and feel that the school has indirectly provided me with the best perspective possible for succeeding in medical school. It truly is a privilege to do what we do.

Medical student receives prestigious Sarnoff Fellowship for cardiovascular research

A third-year medical student was selected as a 2018-19 Sarnoff Fellow.

Rahul Mital, who is studying to work in the field of pediatric cardiology, is one of nine students across the United States awarded the honor.

"This is a very competitive, prestigious award," said Dr. Christopher J. Cooper, dean of the UT College of Medicine and Life Sciences and executive vice president for clinical affairs. "We are proud of Rahul and look forward to his achievements in cardiovascular research."

"This is a very competitive, prestigious award."

The Sarnoff Fellowship program offers medical students enrolled in accredited U.S. medical schools the opportunity to spend a year conducting intensive work in a biomedical research facility in the U.S. other than the medical school in which they are enrolled.

"I'm humbled by the opportunity that lies ahead of me and plan to make the most of it," Mital said. "Being a member of the Sarnoff Cardiovascular Research Foundation and partaking in world-class research while receiving mentorship and guidance is truly an invaluable step in achieving my goals."



Mital plans to study cardiogenesis, which is the development of the heart in the embryo, and how to use gene therapy as a potential treatment for congenital heart disease, at the University of California San Francisco — Gladstone Institutes.

"No child deserves to be born with a congenital heart disease, but the unfortunate truth is that congenital heart disease is the most common type of birth defect, affecting 40,000 births per year in the United States alone," Mital said. "If a greater understanding of the underlying pathophysiology is achieved, patient care can move away from expensive surgeries and lifelong follow-ups, and instead be focused at the molecular level."

The full-time Sarnoff Fellowship is a one-year award of $32,000 for the 2018-19 academic year. Fellows also receive financial support for travel and moving expenses.

The 2018-19 Fellows were introduced in May at the Sarnoff Foundation's 38th Annual Scientific Meeting in Boston.



Student selected for Global-Health Fellowship

Third-year medical student Ayla Cash was selected for a prestigious Anne C. Carter Global Health Fellowship from the American Medical Women's Association (AMWA).

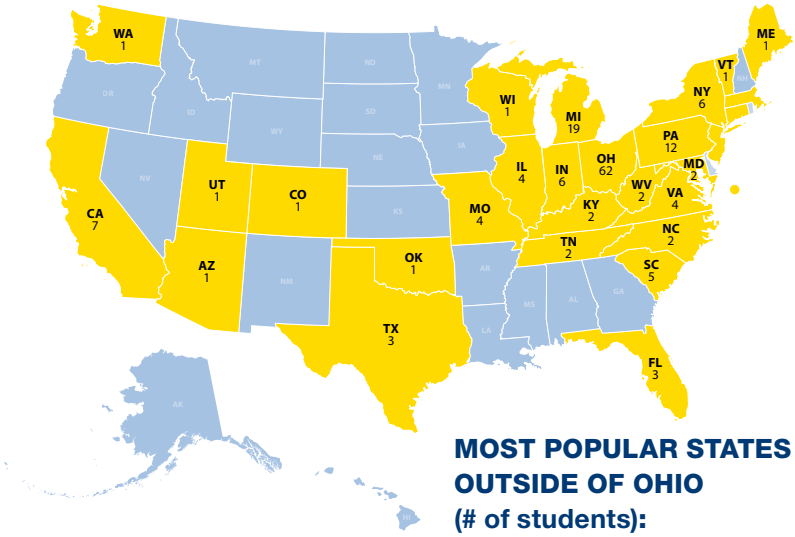
The Anne C. Carter Global Health Fellowship awards four AMWA student members with a two-year fellowship focused on global health. The Carter Fellowship is both dynamic and multidisciplinary. The first year focuses on a global-health curriculum, local project development and mentorship. The second year focuses on in-depth planning and preparation for a medical service-learning trip to Engeye Clinic in Uganda. The Carter Fellowship culminates in a capstone global-health project in Engeye. The Fellows selected for 2017-19 will be the fifth cohort of Fellows and will be expected to actively work with their predecessors, as well as assist the subsequent class in their transition, to provide good continuity within the fellowship.

Each Fellow will have $1,000 to fund her local project planning and to subsidize expenses for her international global-health project and trip to Uganda. Fellows will not be required to travel abroad if medical school scheduling does not allow; however, all Fellows must plan a capstone project, even if the project addresses a more local global-health issue. Throughout the two-year tenure, Fellows also will serve as active members of the AMWA Global Health Committee.

Match Day brings excitement, life changes to medical students

Congratulatory cheers, hugs and tears were on full display at the annual Match Day celebration, when the next generation of physicians opened envelopes that revealed their residency placements.

"Match Day is a pivotal moment in the lives of medical students," said Dr. Christopher J. Cooper, dean of the UT College of Medicine and Life Sciences and executive vice president for clinical affairs. "Our students work tirelessly during their medical school career to reach this point. It is humbling to witness this day and experience the excitement of our students when they open their envelopes."



MOST POPULAR STATES OUTSIDE OF OHIO (# of students):

Michigan (19)
Pennsylvania (12)
California (7)
Indiana (6)
New York (6)

Retaining top talent in the area continues to trend in a positive direction, with 10 percent of the graduating medical students staying in northwest Ohio to continue their training.

Christina Camick matched to The University of Toledo for her residency in general surgery, her top choice.

"I woke up a little nervous, but excited," Camick said. "Toledo is a strong program, and I knew if it was meant to be it would work out. The faculty members are outstanding. They are approachable and knowledgeable. I am very excited."

Grace Maltbie will go to Case Western/University Hospitals close to her parents, where she will be a resident in the radiology department.

"I really enjoyed radiology and would be able to spend more time with my daughter," said Maltbie, who attended the event with her daughter in matching outfits. "I am a single mom and have been dreaming of this day. Whenever things would get hard, I would just think about Match Day and being here with my daughter. It means a lot."

Mike Maltbie, Grace's father, was particularly excited with his daughter's placement.

"I work at Case Western Reserve University doing information security, so I will be able to walk to a Starbucks and bring my daughter coffee after she's had a long shift," he said.

In addition to getting matched to the University of Pittsburgh in obstetrics and gynecology, Latima Collins also personally "matched" to her significant other when she became engaged at Match Day.

"I am excited because I matched and I got engaged to the love of my life," Collins said. "I am in shock! I am on cloud nine and thank God for everything that has happened today."

UT medical students matched to institutions across the country, including Yale New Haven Hospital, Massachusetts General Hospital and Duke University Medical Center.

This year, students matched into 23 specialties, with 71, or 46 percent, in primary care fields, and 50, or 31 percent, entering other specialties. The top specialties for this graduating class were internal medicine, pediatrics, emergency medicine and anesthesiology.

Ohio was the most popular state with 61 students matching here. The second most popular state was Michigan with 19, followed by Pennsylvania with 12. Overall, students matched with programs in 29 states.

157 FOURTH-YEAR MEDICAL STUDENTS MATCHED INTO POSITIONS IN 23 MEDICAL SPECIALTIES:

71
Students matched into primary care specialties

61
Students matched in Ohio

15
Students matched at UTCOMLS

29
Total number of states where students will train





Christina Camick was matched to her top choice, UT, in general surgery.



Latima Collins celebrated her match to the University of Pittsburgh and her engagement to Andrew Anamanya, who waited to pop the question at the ceremony.



Grace Anne Maltbie and her 3-year-old daughter, Anna Maria, celebrated her match to Case Western/University Hospitals.



MOST POPULAR INSTITUTIONS (# of students):

The University of Toledo (15)

Case Western/University Hospitals (12)

Ohio State University (11)

University of Michigan (8)

University of Pittsburgh (7)

Indiana University (5)



Launching new, joint Neurosciences Center with local health system ProMedica

The University of Toledo College of Medicine and Life Sciences and Toledo-area health system ProMedica are collaborating on a joint Neurosciences Center that will advance education, research and care for patients with neurological disorders.

Open in April, the new facility is a state-of-the-art, three-story, 122,000-square-foot building on the north campus of ProMedica Toledo Hospital. It features academic facilities for students, residents and faculty, as well as centralized services for neurology and neurosurgery, including physician clinics, radiology, diagnostics, rehabilitation therapy and a research clinic.

The innovative partnership, which is an expansion of the Academic Affiliation between the University and ProMedica, will bring together UT faculty, physicians and researchers with ProMedica physicians in a single location to improve the quality of life for people living with disorders of the brain, spine, nerves and muscles.

The direct interaction between scientific researchers and clinical staff will provide patients the latest and most promising treatments for their conditions and provide students, residents and Fellows a wide variety of experiences to enhance their education in an interdisciplinary setting. The joint Neurosciences Center will advance treatment for common disorders, including stroke; epilepsy; headache; movement disorders such as Parkinson's, Alzheimer's and other dementias; multiple sclerosis; and vestibular disorders that cause dizziness.

The center is led by UT's Dr. Gretchen Tietjen, Clair Martig Chair and Distinguished Professor of Neurology, and ProMedica's Darrin Arquette, senior vice president for Neurosciences, Heart and Orthopaedics Institutes at ProMedica.

The joint Neurosciences Center builds on successful previous collaboration between UT and ProMedica to create a comprehensive stroke program in the region that provides lifesaving interventional therapies for patients with acute stroke and non-surgical treatment of brain aneurysms.

Internal medicine residents rank in top 5 percent for medical competency

The UT College of Medicine and Life Sciences' internal medicine residents outscored 95 percent of their peers on a national exam by the American College of Physicians.

The 2016 Internal Medical In-Training Exam, which is modeled after the American Board of Internal Medicine Certification Exam, is an annual self-assessment available to residents to assess their progress.

"To achieve these high of marks is a real testament to the outstanding internal medicine residents we have here at UT," said Dr. Ragheb Assaly, UT professor of medicine and director of the Internal Medicine Residency Program. "They have proven their academic capability through their exam scores and are able to apply this knowledge and effectively treat the patients they see every day."

UT's Internal Medicine Residency Program is a three-year, fully accredited program designed to provide the best of academic medicine with community-based clinical training for a high-quality education for future physicians. Residents receive hands-on experience in a variety of medical specialties.



The 2016 internal medicine residency graduating class matched to many different specialty fellowships at Johns Hopkins University, Mayo Clinic, the University of Michigan, Case Western Reserve, Baylor College, Georgetown University, George Washington University and the University of California.

UT's internal medicine residents also have shown tremendous dedication to teach and conduct research.

During the past four years, the internal medicine residents have published more than 100 articles in medical journals and made numerous presentations at local and national conferences such as the American College of Physicians, the American College of Gastroenterology, Digestive Diseases Week, American Heart Association and American College of Cardiology.

New medical physicists residency program



The Department of Radiation Oncology has established a new residency program for medical physicists. The program is a fully accredited residency program by the Commission on Accreditation of Medical Physics Education Programs, Inc. (CAMPEP). Medical physicists must become board certified by the American Board of Radiology (ABR).

There is a severe shortage of accredited medical physics residency programs in the United States. As a result, the current national medical physics residency match rate for medical physics graduates is less than 40 percent. UT's new two-year training program will contribute to post-graduate medical physicists training. This is in addition to the UT medical physics graduate program, which also is CAMPEP-accredited and currently has 10 master's degree and five PhD students.

Northwest Ohio students experience medical school at CampMed



Each year, 39 students from northwest Ohio experience what it's like to study medicine at The University of Toledo's CampMed program.

The high school freshmen visit the Health Science Campus for two days each June.



From preparing to dress for the operating room to learning how to make a cast and suture, the students participate in several hands-on lessons during the program.

"CampMed is a wonderful program for underserved high school students from northwest Ohio to be exposed to careers in medicine and health care while learning about the educational opportunities available to them on The University of Toledo Health Science Campus," said Courtney K. Combs, director of the UT and Ohio Area Health Education Center programs.

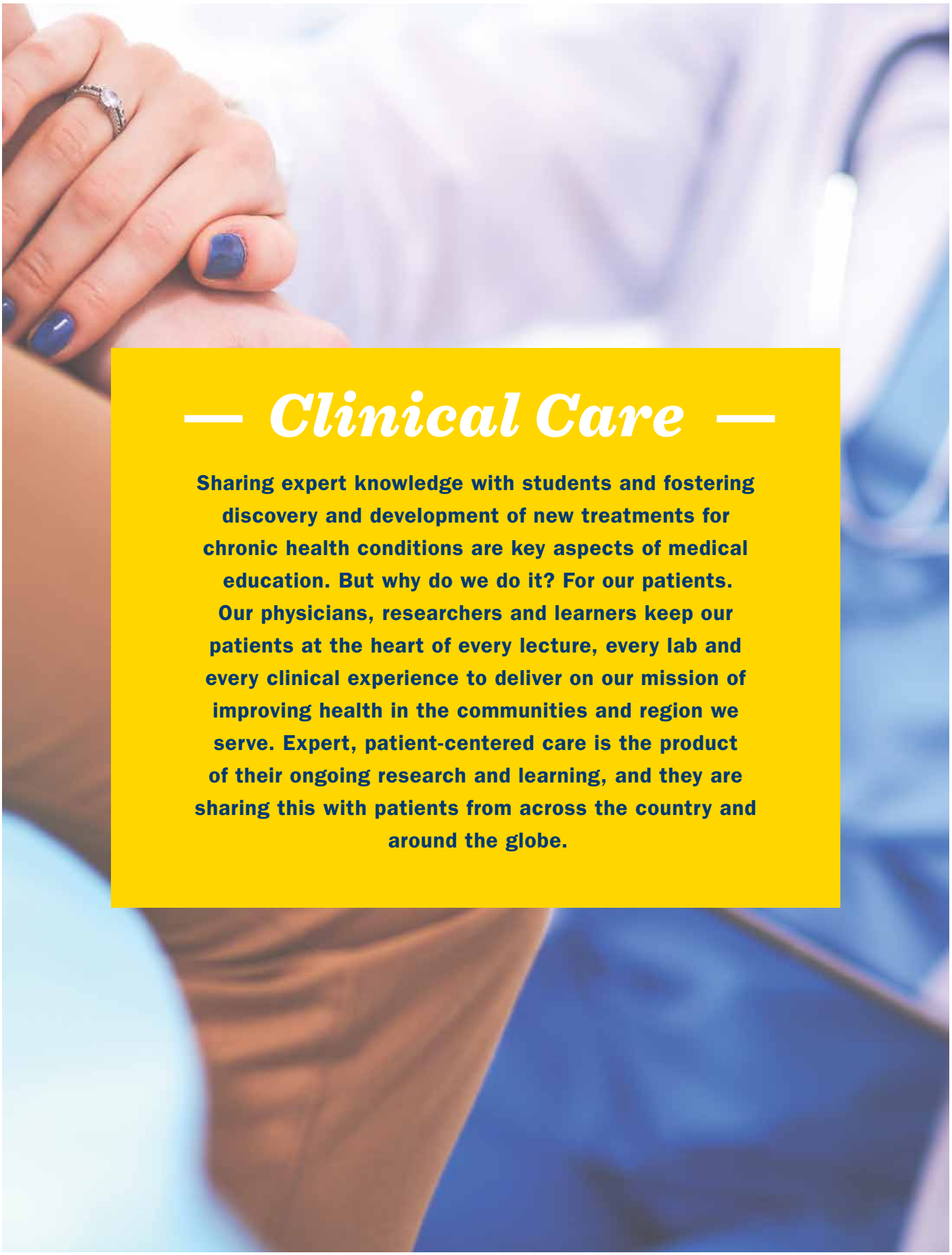
The students begin the first morning after the welcoming ceremonies with a tools-of-the-trade session, where they will learn to use medical instruments, including blood pressure cuffs and stethoscopes. Lessons continue for two days with opportunities to tour a gross anatomy lab, the Lloyd A. Jacobs Interprofessional Immersive Simulation Center and a plastination museum.

"Campers are often first-generation college, underrepresented minorities, and/or live in rural or urban underserved communities," Combs said. "They are all high-achieving individuals who show an interest in STEMM, and CampMed provides the exposure and inspiration needed to pursue a career in medicine or health care."

CampMed, which began in 1998, is coordinated through the UT Area Health Education Center program, which works to improve the well-being of individuals and communities by developing the health-care workforce.

The competitive scholarship program requires students to submit a letter of recommendation, a nomination from a science or math teacher or counselor, and a personal essay to be chosen to participate.

First- and second-year UT medical students serve as camp counselors, and the campers also interact with physicians and faculty members.



— Clinical Care —

Sharing expert knowledge with students and fostering discovery and development of new treatments for chronic health conditions are key aspects of medical education. But why do we do it? For our patients. Our physicians, researchers and learners keep our patients at the heart of every lecture, every lab and every clinical experience to deliver on our mission of improving health in the communities and region we serve. Expert, patient-centered care is the product of their ongoing research and learning, and they are sharing this with patients from across the country and around the globe.

Students help at home *By Laurie Davis*

University of Toledo medical students can receive clinical training throughout their degree programs as part of the Students for Medical Missions program led by Dr. Richard Paat, current Maumee internist and a 1986 alumnus.

Students working toward degrees in all areas of the College of Medicine and Life Sciences, as well as the colleges of nursing and pharmacy, can travel to remote villages in such countries as Puerto Rico, Haiti, Guatemala, Honduras and the Philippines. There, they assess patients as a team and devise care plans with the advice of an attending physician.

Paat, who started the program at UT, knows that poverty and homelessness are not exclusive to developing countries, but exist in the United States and here in Toledo.

"After the Haiti earthquake, we decided to start a medical mission here in our own backyard," Paat said. "So, I started up a free clinic in Perrysburg, in a Latino area with 80 percent poverty."

"We want to provide health care with dignity."

After the clinical program, called the CommunityCare Free Medical Clinic, was established, Paat moved the location to Cedar Creek Church near campus. "Every Thursday night, we see about 50 to 60 patients. It's one of the largest free clinics in Ohio. We take care of 4,000 patients now," he said.

The team approach is used for all of the medical care programs Paat has helped to establish, allowing for interdisciplinary solutions.

Students volunteer their time to assist in the clinic even when they might have exams the next day, and they help fundraise. A call goes out to the different programs in the college, asking if anyone wants to volunteer. Those who do attend a meeting at which Paat and other physicians and nurses help train student volunteers in basic skills. They learn how to check blood pressure, take temperature and about the clinic's processes for seeing patients.

"Almost the entire medical school shows up," Paat said.

The CommunityCare Clinic uses the same interdisciplinary team approach to care as global medical missions do. The free clinic offers social services, nutrition education, phlebotomy draws, and HIV and women's health clinics. Medical and nursing students, as well as students from respiratory therapy, physical therapy, occupational therapy, social work and pharmacy, are part of the local team.

"And, not just students," Paat said, "but also practicing physicians."

Paat and his team also set up tables and chairs on the street in Toledo to reach out to the homeless and others living in poverty.



A medical exam is provided to a young child traveling with migrant family members who work on area farms.



A physician and students gather around a patient to hear what is ailing her and determine how they can help alleviate her pain. The team approach is used for all medical care programs Paat has helped to establish, allowing for interdisciplinary solutions.

And at the end of an evening, which can go until midnight or later, students can talk about their interactions with the patients.

"We sit down with the students each night and discuss cases and experiences. For a lot of the first and second years, it's the first time they've interacted with a

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Community care (continued)



Dr. Richard Paat and his team of volunteer medical staff set up tables and chairs on the street in Toledo to reach out to the homeless and others living in poverty.



Nutrition education is another part of the CommunityCare Clinic.

patient, so we teach them how to talk to them properly," Paat said. "We want to provide health care with dignity. Nobody wants to come to a free clinic."

At the CommunityCare Clinic, additional services are listed for patients who need these resources. Patients also can pick up medications at a temporary pharmacy.

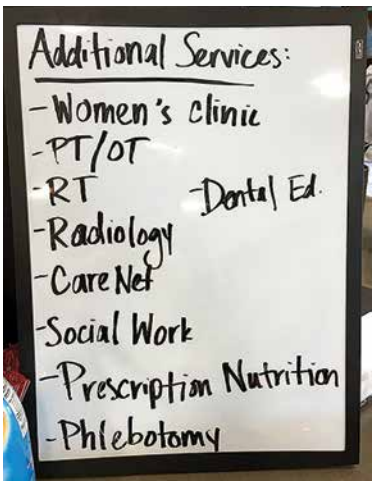
The volunteers treat diabetes, hypertension and infections, and provide food for homeless patients who come by.

Doing this work has helped first-year students understand the kind of immediate impact they can have in the community.

"You don't have to be a full-fledged MD now, you just have to care," Paat said. "This is our backyard. I'm going to a place in Puerto Rico where they haven't had running water in seven weeks, but every single Monday, I'm at a house that hasn't had running water in seven weeks."



At the CommunityCare Clinic, patients can pick up medications at a temporary pharmacy.



At the CommunityCare Free Medical Clinic, additional services are listed for patients who need these resources.

Medical students get clinical experience at home and abroad *By Laurie Davis*

Dr. John Wells remembers the first time he heard the sound of a heart murmur.

"You listen to so many heart sounds that when you hear that first murmur, you think, I don't know why this is different," said the 2008 graduate and current family practitioner at Uintah Basin Healthcare in Roosevelt, Utah, "but I know it's not normal."

His exam of the child with the abnormal heartbeat took place when Wells was a first-year medical student — a clinical experience he had while in Honduras on a global medical mission with Dr. Richard Paat, a 1986 graduate.

In February, the two physicians returned to Honduras with another group of medical students who are part of the College of Medicine and Life Sciences' Students for Medical Missions program. Another dozen or more alumni joined them.

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Paat places drops in a patient's eye in Puerto Rico.

Medical mission (continued)

Paat started the global medical missions program at the University in 1998. He had been going on missions to the Philippines since 1994 as a way to give back to people who shared his Philippine roots. Both of Paat's parents are from the Philippines, and his father also is a doctor. At the end of his first mission there, Paat decided to connect with his own contacts in the country and work with a group of expatriate Filipinos in Toledo to strengthen the missions.

He continued to visit the Philippines every other year. During one of those trips, a Filipino medical student who was at UT joined Paat on a mission. "That's when we said it would be great to have a mission program in existence for students in order for them to have a service learning opportunity to gain mission experiences, serve the underserved, go to different countries under guidance," Paat said.

That notion was furthered when two PhD/MD students, 1999 graduate Dr. Scott McLean and 2002 graduate Dr. Todd Brickman, formed a student organization and asked Paat to be the faculty advisor.

"They had their first meeting and 100 students showed up," Paat said. "When Hurricane Mitch hit Honduras, the city of Toledo asked me to take a medical team in to assist, and I said I would if I could bring the medical students."

First- and second-year students work in teams with third- and fourth-year students who have more clinical experience. They teach younger students how to interview patients and perform basic physical exams.



Dr. John Wells holds a Sawyer water filter, which is distributed to villagers in remote areas. They can use the filters to produce clean water for drinking. The filters can aid in stopping the spread of intestinal parasites.

Paat said someone on the team also serves as a translator. Wells fell into that role during his first student mission to Honduras. Today, 30 or more students have the opportunity to travel as part of the team.

Disaster missions

Hurricanes Mitch, Katrina, Matthew, Harvey, Yolanda and Maria are just some of the storms that have devastated areas where Paat has traveled in the wake of their destruction. Countries in which medical care is among the lacking services, infrastructure, and even basic needs of food, clean water and sanitation, are on a list of repeat missions.



Paat and his wife, Myra, stand in front of a bathroom facility in Honduras.



In Honduras, Emilee Wells, Paat, Wells and Olivia Wells pose for a selfie.

"I brought in six students to Honduras in 1998. We were there in November after Hurricane Mitch on Oct. 22. Besides our routine mission to the Philippines, we made a commitment to keep going there," Paat said.

(continued on next page)

Mission trip to Guatemala

Dr. Coral Matus, assistant professor of family medicine, traveled with students in May on a medical mission trip to Petén, Guatemala.

"We worked at a clinic operated by SewHope (a not-for-profit group in Toledo), as well as a birthing center nearby. We also traveled to some more isolated villages to provide care for patients there," Matus said. "The students gave talks about handwashing, clean water and healthy relationships, and provided dental fluoride and antiparasitic medication to many children in the villages."



Medical mission (continued)

"The following year, we started bringing teams into Guatemala through our St. John's Jesuit organization; that's where I graduated from high school in Toledo. Then we started bringing teams into Tanzania through the Toledo Sister City organization. After the Haiti earthquake, we started bringing teams into Haiti."

Since his first mission to Mindanao, Philippines in 1994, Paat has traveled across the globe for 75 missions. He returned to Yabucoa, Puerto Rico, during the 2017 Thanksgiving holiday to help students from the San Juan Bautista School of Medicine build their own in-country mission program. Yabucoa was one of the first towns hit by Hurricane Maria.

A sustainable network of care

When Paat and the medical team depart for home, they leave with the knowledge that a number of villagers can fill some of the gaps in their absence. They train local villagers who can read and write basic health care.

"We leave them with a cache of medicines that they know how to use; things like Tylenol, Motrin, some antibiotics, creams. We leave them with a blood pressure cuff, stethoscope and a training certificate that they're really proud of, and with wound care materials and their book."



Recently graduated medical students Jake Holzemer, left, and Clinton Metzger, right, help Paat hold up the Toledo Rockets flag during a mission to Houston after Hurricane Harvey.

It seems that with every new contact Paat makes, the network of medical missions expands, giving more students clinical experiences and more patients access to medical care.

"Though initially a way to give back to my parents' home country, the medical missions program has kind of morphed into a way of teaching students and providing a service learning opportunity, to bringing in clean water, to a training program; we do it all."



Diane Cappelletty sorts through medicines for patients the team will see in Houston.



Holzemer, a recent graduate, gives a patient an injection at the clinic the team set up in Houston after Hurricane Harvey swept through the city.

Students travel to the Philippines on medical/ surgical mission trip

Medical students Kalee Royster, Allison Gerren, Samantha Seibel and Brandon Rosolowski traveled to the Philippines in June on a medical/surgical mission trip through Students for Medical Missions.

"We joined various surgeons, physicians and medical students from the University of Santo Tomas, along with various other local volunteers. The clinic was set up in a high school in Capoocan, Leyte. More than 2,000 patients were seen in clinic, 1,265 in ophthalmology, 301 in dental, 186 minor surgeries and 53 major surgeries were performed over four days," Royster said. "To be a part of this team, which provided health care and surgical care to those who would have never had access otherwise, was inspiring beyond words."





Alumnus given highest honors by University

The University of Toledo Alumni Association recognized College of Medicine and Life Sciences alumnus Dr. Julian Kim at its annual Homecoming Alumni Gala last October, presenting him with one of its most prestigious awards.



Dr. Julian Kim, '86, was honored with the Alumni Association Gold T Award.

The Gold T is presented to a UT graduate in recognition of outstanding achievement in his or her field of endeavor while providing leadership and noteworthy service to the community.

Winner of the 2017 Gold T is Kim of Shaker Heights, Ohio, a renowned expert in the treatment of patients with melanoma, breast cancer, soft tissue sarcomas and gastrointestinal malignancies. He graduated from the College of Medicine and Life Sciences in 1986. Chief of oncologic surgery and chief medical officer at the Seidman Cancer Center of University Hospitals Cleveland Medical Center and the Charles Hubay Professor of Surgery at Case Western Reserve University, Kim holds the U.S. patent for novel research discovery in adoptive immunotherapy of cancer.

His breakthrough process takes immune cells from a cancer patient and activates them in a laboratory to infuse them back into the patient to treat the cancer. Clinical trials in patients with advanced melanoma have proven successful, with the treatment helping slow the advance of the cancer. His treatment process is being used to assist pancreatic cancer patients. Prior to joining the Seidman Cancer Center in 2006, Kim was director of the melanoma program at Cleveland Clinic. Seidman Cancer Center is one of only 42 cancer hospitals nationwide.

His breakthrough process takes immune cells from a cancer patient and activates them in a laboratory to infuse them back into the patient to treat the cancer.

At the same ceremony, Dr. Samir Khleif, a 1990 graduate, received the College of Medicine and Life Sciences Distinguished Alumnus Award. He is an internationally famous pioneer in the field of immuno-oncology, the process of using the body's immune system to fight cancer. He has held positions at the National Institutes of Health, where he was medical oncology Fellow, senior investigator and chief of the Cancer Vaccine Section.



Honoree Dr. Samir Khleif, '90, during the Homecoming parade

Urology alliance in Nigeria

The Department of Urology has made an alliance with the urology faculty at the teaching hospital Federal Medical Centre in Umuahia, Nigeria. This alliance was broadcast in Nigeria media and featured Dr. Obi Ekwenna, assistant professor in urology, who went there to perform and teach kidney transplantation last November.



The department is planning to continue to grow this partnership.

"I think this is a proud moment for us as an institution, that we are serving the underserved and making a name for UT," said Dr. Puneet Sindhwani, chair and Kenneth A. Kropp Endowed Professor of Urology.

"I think this is a proud moment for us as an institution, that we are serving the underserved and making a name for UT."

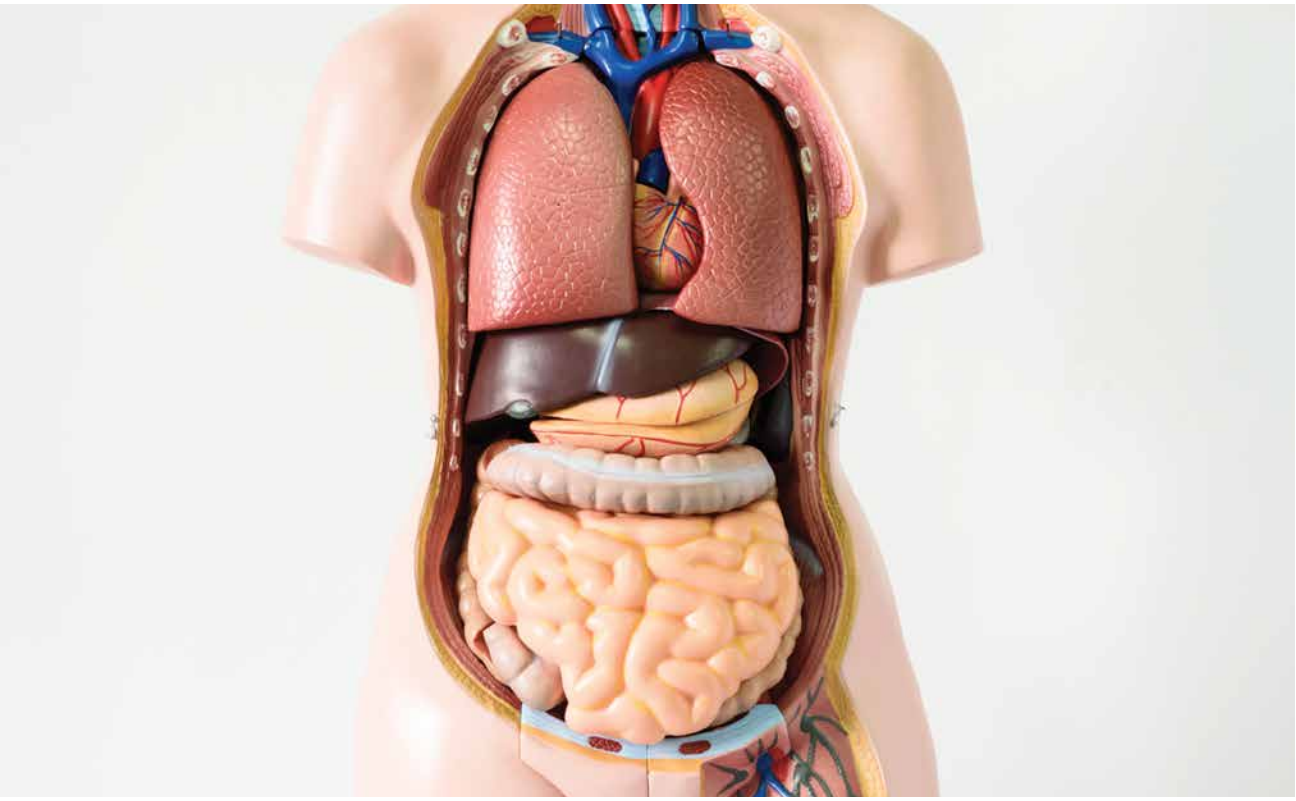
Making a difference in Angola

U.S. Air Force Col. Thomas Sodeman, professor of medicine and chief of the Division of Hepatology, was featured in Ohio National Guard news for work in the Republic of Angola last December. About 80 military personnel from the Republic of Angola, Serbia and the United States participated in PAMBALA 2017, a historic medical engagement aimed at sharing best medical practices, creating a greater dialogue between the nations and learning from one another to enhance interoperability. Sodeman gave remarks during the closing ceremony.



Photo by Staff Sgt. Wendy Kuhn, Ohio National Guard Public Affairs

PAMBALA 2017 is the first time the U.S. has been invited to participate in an engagement in Angola, and was made possible through the Ohio National Guard's 11-year SPP partnership with Serbia. The mutually beneficial, combined medical engagement was organized into two phases — educational courses on infectious and hemorrhagic disease and a multi-day field hospital in the villages of Vale do Paraiso and Ceramica, located in Angola's Bengo province.



Students use human simulators to practice caring for brain-dead, organ-donor patients

One organ donor can save eight lives, according to the American Transplant Foundation.

The University of Toledo is using state-of-the art simulation technology to help future medical professionals practice preserving and protecting the organs of patients who suffered traumatic brain injury and brain death.

Using human simulators in the Lloyd A. Jacobs Interprofessional Immersive Simulation Center, a half-dozen UT graduate students participated in a training scenario on caring for brain-dead patients who are organ donors.

Students are getting hands-on practice on how to medically manage brain-dead patients to recover organs and help save lives of others through donation.

Two of the students who participated, Riley Messer and Dylan Launder, thought the experience was not only beneficial, but unique.

"Actually, coming into the sim center allows us to have real-time experience … and understanding," Messer said.

Launder added, "We're there advocating for the donor that everything possible is done [to save her or him]. If we come on and we see that this test might have been done wrong, we are not just going to ignore it, we're going to say, 'You might want to redo it' because we want to make sure that everything is how it needs to be."

The students, who graduated last year, studied human donation science in the College of Medicine and Life Sciences.

As part of program curriculum, the students learn the principles of medical management in brain death. The use of the sim center allows these principles to be applied through the use of human simulators prior to clinical rotations in the spring.

Students are getting hands-on practice on how to medically manage brain-dead patients to recover organs and help save lives of others through donation.



— Research —

For centuries, through the process of investigation and discovery, researchers have contributed to the advancement of society: better health, longer lives, greater prosperity. The University of Toledo College of Medicine and Life Sciences continues to encourage scientific investigation among its faculty and learners by supporting promising new research and identifying new sources of seed funding. It's through this level of discovery that our researchers are helping to ease pain, build memories and safeguard the next generation of scientists.

UT researchers to lead 38 percent of Ohio's new water-quality research projects, including 'impairment' criteria

The University of Toledo is slated to lead eight out of the 21 new research projects to be funded with $3.5 million from the state of Ohio to address water quality and algal bloom toxicity.



Dr. Tom Bridgeman, UT algae researcher and professor of ecology, examines a water sample aboard the Lake Erie Center research vessel.

UT, situated on the western basin of Lake Erie, is to receive nearly $1 million of the $3.5 million dedicated by the Ohio Department of Higher Education for these additional projects in the ongoing, statewide Harmful Algal Bloom Research Initiative, which began three years ago after the city of Toledo issued a Do Not Drink advisory for half a million water customers due to the level of microcystin detected in the water.

UT is one of the lead universities in the Harmful Algal Bloom Research Initiative, which consists of 10 Ohio universities and five state agencies.

The selected projects focus on reducing nutrient loading to Lake Erie; investigating algal toxin formation and human health impacts; studying bloom dynamics; better informing water treatment plants how to remove toxin; and aiding the efforts of state agencies.

Dr. Tom Bridgeman, professor in the Department of Environmental Sciences, will lead a project to develop sampling protocols and collect samples to assess listing criteria that the Ohio Environmental Protection Agency may use to monitor the water quality of the open waters of the western basin of Lake Erie and to potentially assign official designations such as "impaired" or "unimpaired."

"Although it is obvious to nearly everyone that harmful algal blooms are impairing Lake Erie each summer, we need to develop objective scientific criteria that can be used to list the open waters of the lake as officially 'impaired,' and to remove an 'impairment' designation in the future if conditions improve sufficiently," Bridgeman said.

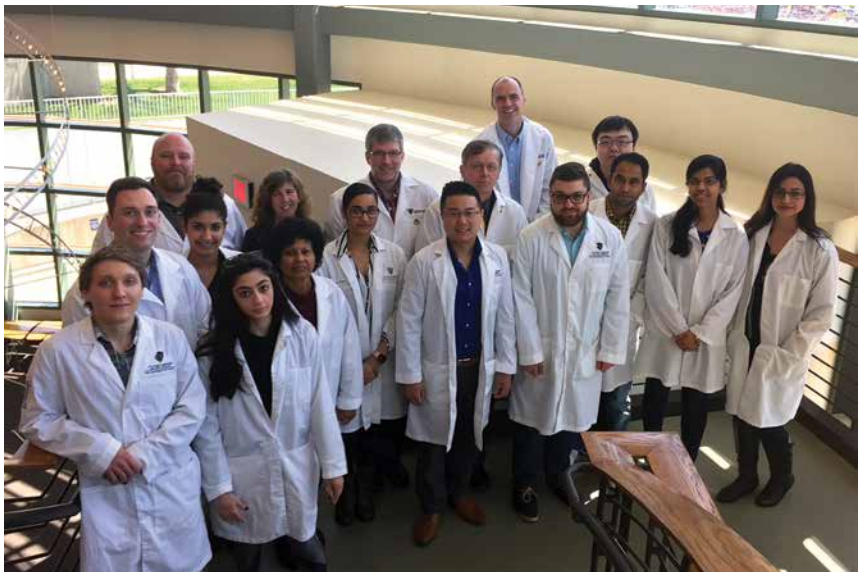
UT College of Medicine and Life Sciences researchers will receive some of the nearly $1 million in state funding for their projects, including:

Dr. Jason Huntley, associate professor in the Department of Medical Microbiology and Immunology, will develop and test biofilters — water filters containing specialized bacteria that degrade microcystin toxins from lake water as it flows through the filter. These biofilter studies are aimed to develop cost-effective, efficient and safe drinking water treatment alternatives for the city of Toledo and other Lake Erie water municipalities.

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Water research (continued)

Dr. Steven Haller and Dr. David Kennedy, assistant professors in the Department of Medicine, will investigate how cyanotoxins such as microcystin damage organs not only in healthy settings, but in settings that may increase susceptibility such as diabetes, obesity and inflammatory bowel disease. Their research teams are working in concert with experts in medicine, pathology, physiology, pharmacology and chemistry to not only learn how microcystin affects organ function in these settings, but also to create new therapies to prevent and treat organ damage, especially in vulnerable patient populations.



Drs. Steven Haller and David Kennedy with their lab members

"I am proud of the work that is being done, and that researchers from our public and private higher education institutions continue to work together to address this issue," said Ohio Department of Higher Education Chancellor John Carey. "Using the talent of Ohio's researchers and students to solve pressing problems makes perfect sense."

The Harmful Algal Bloom Research Initiative is funded by the Ohio Department of Higher Education with $7.1 million made available for four rounds of research funding since 2015. Matching funding from participating Ohio universities increases the total investment to almost $15.5 million for more than 50 projects, demonstrating the state's overall commitment to solving the harmful algal bloom problem.

Water quality is a major research focus at UT. With more than $14 million in active grants underway, UT experts are studying algal blooms, invasive species such as Asian carp, and pollutants. Researchers are looking for pathways to restore our greatest natural resource for future generations to ensure our communities continue to have access to safe drinking water.



Dr. Jason Huntley

The UT Water Task Force, which is composed of faculty and researchers in diverse fields spanning the University, serves as a resource for government officials and the public looking for expertise on investigating the causes and effects of algal blooms, the health of Lake Erie, and the health of the communities depending on its water. The task force includes experts in economics, engineering, environmental sciences, business, pharmacy, law, chemistry and biochemistry, geography and planning, and medical microbiology and immunology.

Researchers are looking for pathways to restore our greatest natural resource for future generations to ensure our communities continue to have access to safe drinking water.

Academic Affiliation investment: Labs receive new equipment



Allen Schroering, histology lab manager in the Advanced Microscopy and Imaging Center in the College of Medicine and Life Sciences, discussed lab improvements with ProMedica President and CEO Randy Oostra.

Biomedical researchers at The University of Toledo are working with substantially greater support, thanks to a significant investment in new laboratory equipment from local health system ProMedica, through the Academic Affiliation with the College of Medicine and Life Sciences.

University and ProMedica leaders joined faculty and staff last October for tours of renovated laboratories on Health Science Campus and to celebrate the investment. The new, state-of-the-art equipment encompasses 11 instruments across three labs in the Health Education and the Block Health Sciences buildings.



Students use new equipment to further their research.

"The new technologies will equip our expert researchers with the tools they need to advance knowledge and develop better therapies to treat our loved ones," UT President Sharon L. Gaber said. "These state-of-the-art research facilities also are critical in attracting and retaining the talent needed to elevate Toledo as a leading academic medical community."

Signed in 2015, two major goals of the Academic Affiliation are to recruit and retain top talent to the region and to grow biomedical research. The University additionally seeks to increase external research funding to support ongoing discovery. Leaders of both institutions believe that first-class research capabilities will support both goals.



"We should invest in the capabilities of the people who are here today, but also plan for the people we want to attract in the future," said Randy Oostra, president and chief executive officer of ProMedica. "We're very serious about changing the trajectory of our two organizations by working together."

Dr. William Maltese, then-professor and McMaster Endowed Chair of Biochemistry and Cancer Biology, expressed appreciation on behalf of University researchers for the investment, and assured University

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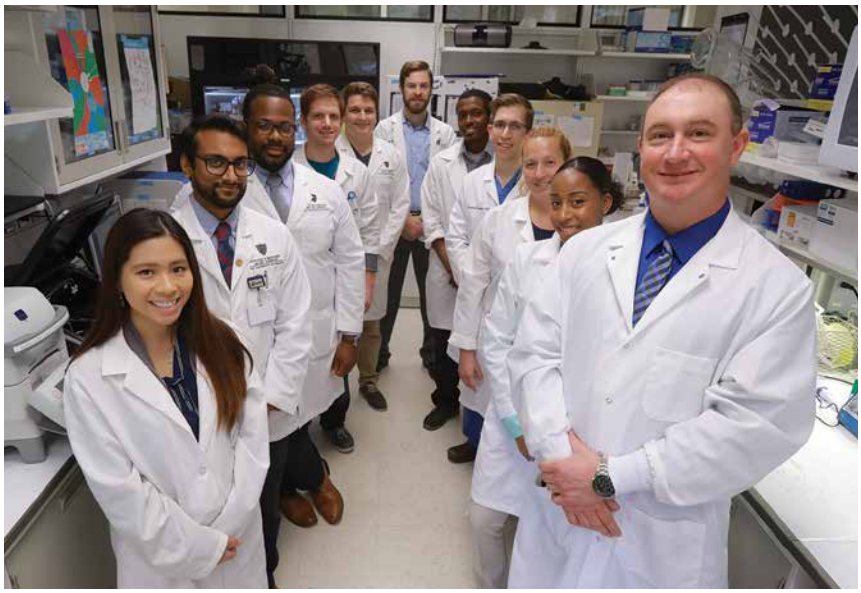
Equipment (continued)

and ProMedica leaders that the new equipment was selected after careful consideration of the resources needed to support and grow biomedical research at UT.

Many of the new instruments replace antiquated equipment with updated techniques and newer technology, and high-throughput systems improve speed and efficiency by producing results and analysis in just days for tests that previously took months. The investment additionally includes instruments new to the University, providing technology and capabilities previously unavailable in the research enterprise.

"This investment from ProMedica in our research facilities is matching words with deeds for progress in the Toledo community," said Dr. Christopher J. Cooper, executive vice president for clinical affairs and dean of the College of Medicine and Life Sciences. "It's a tangible example of what we set out to do with the Academic Affiliation."

Medical Research Society awards new grant to researcher for diabetes research



Dr. Terry Hinds, right, with his research team members, from left, Maggie Wong, Vikram Sundararaghavan, Darren Gordon, Charles Hawk, Justin Spear, Lucien McBeth, Abdul-Rizaq Ali Hamoud, Jonathan Demeter, Kari Neifer-Sadhwani and Jonnelle Edwards.

In June, The University of Toledo Medical Research Society had its 4th annual award dinner and chose to fund Dr. Terry Hinds' work on obesity induced diabetes with a $50,000 grant.

Hinds is working on drug targeting of the heme oxygenase system in the prevention of obesity and the link between fat tissues in obesity-induced hypertension. Diet-induced obesity results in elevated levels of glucose and fatty acids in blood, liver and fat tissues, resulting in the enhanced production of reactive oxygen species (ROS). The oxidative stress magnifies the adverse effects of obesity by inducing inflammation of tissues, leading to the development of non-alcoholic fatty liver disease (NAFLD), as well as vascular dysfunction.

Hinds is an assistant professor in the Department of Physiology and Pharmacology and the Department of Urology. He earned his PhD from The University of Toledo College of Medicine and Life Sciences and was a Post-Doctoral Fellow at The University of Toledo.

The University of Toledo Medical Research Society was created through the leadership of some of northwest Ohio's most philanthropic contributors. The purpose of the society is to create a permanent, endowed source of highly leveraged seed funding for biomedical research projects developed at the University's College of Medicine and Life Sciences. Projects that receive support hold the highest promise of obtaining funding from the National Institutes of Health and/or other national funding agencies.

The society meets throughout the year to discuss ongoing University research and review the rising projects eligible for funding.

To learn more about the Medical Research Society, contact Jodi Farschman, assistant director of development, at jodi.farschman@utoledo.edu or 419.530.2646.

UT psychologist wins Fulbright grant to study child abuse prevention in Netherlands

About 540 children are identified as victims of abuse or neglect each year in Toledo's Lucas County.

"For every substantiated case of physical child abuse in the U.S., approximately 40 more exist that go undetected. It's heartbreaking," said Dr. Michele Knox, University of Toledo professor in the Department of Psychiatry, who has dedicated her life to protecting children and educating parents with alternative methods of discipline.

She recently was awarded her second Fulbright award to visit the Netherlands to find innovative and effective ways to improve child abuse prevention in the United States.

"I am honored to receive this award. It is an opportunity to bring home new ideas and approaches because the Netherlands is among the nations with the lowest rates of child maltreatment deaths," Knox said. "I will be learning from the people there and benefiting from their expertise, knowledge and success."

Starting in spring 2019, Knox will spend nearly three weeks at the University of Utrecht, the largest university in the Netherlands.

"This is a big change from my last Fulbright specialist project, which was in northern Portugal," Knox said. "I was teaching the Portuguese how to use evidence-based parenting group programs to prevent child abuse."

The United States, Mexico and Portugal have "exceptionally" high rates of child maltreatment deaths,



according to the UNICEF Innocenti Research Centre.

For 16 years, Knox has been a master trainer for the American Psychological Association's Adults and Children Together (ACT) Raising Safe Kids Program, which trains parents and caregivers in nonviolent discipline, child development, anger management and social problem-solving skills.

While in the Netherlands, Knox plans to teach college students and professionals about the ACT program and other topics related to child abuse and well-being.

Knox teaches medical students and residents at UT. She also is a clinical psychologist who specializes in children, adolescents and trauma; child abuse prevention; and parenting.

"Spanking is often the first step in the cycle of child abuse, and it can result in aggressive behavior and delinquency in kids," Knox said. "I teach alternative methods of discipline for positive parenting solutions, such as the use of timeouts, removal of privileges, and positive reinforcement to reward the child's good behavior."

Her current research addresses factors related to harsh and abusive parenting, outcomes of child maltreatment prevention programs, and the efficacy of the Child Advocacy Studies training program for medical students.

Starting in spring 2019, Knox will spend nearly three weeks at the University of Utrecht, the largest university in the Netherlands.

Faculty spotlight



Dr. Maurice Manning in Poland

Anesthesiology

Dr. Thomas J. Papadimos, professor of anesthesiology and associate dean for immersive and simulation-based learning, was installed as honorary lifetime member of the Hellenic Society of Anesthesia. He is only the second foreigner to be so honored.

Cancer Biology

Professor **Dr. Maurice Manning** was honored at a ceremony organized by the University of Gdansk in Poland to commemorate his scientific contributions in the field of peptide chemistry on the 30th anniversary of the honorary doctorate bestowed by the university.

Dr. Dayanidhi Raman, assistant professor in the Department of Cancer Biology, received a two-year research grant from Ohio Cancer Research Associates (OCRA), with funding totaling $60,000. This was one of only two awards made to scientists at universities in Ohio this year.

Raman's research project focuses on triple-negative breast cancer, which harbors mutations in genes for the estrogen receptor, progesterone receptor, and epidermal growth factor receptor (HER2). This type of breast cancer is most prone to metastatic spread, a serious complication that is very difficult to treat. The project funded by OCRA will explore a novel role for a cytokine receptor, CXCR4, and a scaffold protein, LASP1, in modulating the activity of the Argonaute2-TNRC6 complex. The latter is part of the cellular machinery that controls the production of key regulatory

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Professor elected president of national organization

Dr. Ishmael Parsai, chief medical physicist in the Department of Radiation Oncology and professor and director of the Graduate Medical Physics Program, has been elected president-elect of the Society of Directors of Academic Medical Physics Programs.

The Society of Directors of Academic Medical Physics Programs is an independent organization that aims to advance the collective mission of enhancing medical physics educational opportunities in the areas of radiation oncology and diagnostic imaging.

Parsai served as a founding member of the organization in 2008 and participated on the steering committee. Recently, Parsai was asked to run for the president-elect position, which he won after a national election. He will serve as president next year and as chairman of the board of directors the following year.

"It is truly an honor to be selected for such a key position in our field," Parsai said. "This position will allow me the license to survey the progress of graduate students and trainees throughout the United States and Canada. This will have a directly positive impact on our own graduate students and trainees. In our program, we will have the ability to gauge its progress compared to our colleagues nationally, which will, in turn, substantially improve our educational methodology for our students."

With nearly 30 years as a practicing medical physicist, Parsai is a member of numerous scientific organizations and has fellowships in the American College of Radiation Oncology, the American Association of Physicists in Medicine and the International Organization of Medical Physics.

molecules called micro-RNAs. Insights gained from this work could help in the search for new therapeutic targets to treat triple-negative breast cancer and reduce the risk for metastasis.

Emergency Medicine

Based on the Department of Emergency Medicine's impressive history of disaster response, **Dr. Kris Brickman**, chair in the Department of Emergency Medicine, and **Dr. Paul Rega**, UTMC medical advisor for disaster preparedness, were invited by the World Health Organization (WHO) to develop an Emergency Medical Disaster Response Team. After initial consultation with Dr. Kobi Peleg (WHO medical director), the UT team completed its application and agreed to represent WHO as an Emergency Medical Response Team for national and international disaster response. Brickman and Rega were invited to Washington, D.C., to meet with international officials of the WHO on planning logistics and international disaster response. Further development will require an accreditation visit. Currently they are focused on specialized disaster teams that can provide key support services such as surgical teams and infectious disease response.

Medical Microbiology and Immunology

Assistant Professor **Dr. Travis Taylor** received a $25,000 award from the Lyme Disease Association to support research supplies for his grant titled "Restriction of Tick-Borne Flavivirus Infection in the Natural Host."

Neurology

Dr. Gretchen E. Tietjen, the Clare Martig Chair and Distinguished Professor of the Department of Neurology and inaugural director of the ProMedica/University of Toledo Neurosciences Center, received the American Headache Society John R. Graham Lecture Award 2017 in recognition of international leadership in research and education.

Physiology and Pharmacology

Dr. Guillermo Vazquez, associate professor in the Department of Physiology and Pharmacology, was appointed a member of the International Advisory Committee on Science, which advises the Argentinean Ministry of Science and Technology on strategic planning and funding guidelines for priority areas. Vazquez also was appointed a member of the Midwest Chapter of Network of Minority Research Investigators, National Institute of Diabetes and Digestive and Kidney Diseases.

Dr. Matam Vijay-Kumar, associate professor in the Department of Physiology and Pharmacology and director of The University of Toledo-Microbiome Consortium (UT-MiCo), was selected to receive the 2018 E.L.R. Stokstad Award. This award is given for outstanding fundamental research in nutrition by the American Society for Nutrition (ASN) and its foundation.

Vijay-Kumar began at the College of Medicine and Life Sciences this year as the founding director of UT-MiCo. He is an internationally recognized leader in microbiotal research related to various aspects of physiology. His team consists of, among other graduate-level researchers, two post-doctoral fellows, Dr. Vishal Singh and Dr. Piu Saha, both of whom have independent training grants.

Radiation Oncology

Dr. Changhu Chen, chair and professor in the Department of Radiation Oncology, has been appointed to the American Board of Radiology (ABR) head and neck cancer committee for radiation oncology, certifying written and oral examinations.



Dr. John Nemunaitis gave the plenary lecture about the history and future of precision medicine in December at the UT Cancer Research Symposium that brought more than 100 cancer researchers across the University together to propel interdisciplinary collaboration in cancer research, patient care and education.

Nemunaitis joined the College of Medicine and Life Sciences as the chief of the Division of Hematology and Oncology, director of clinical and translational research and medical director of the Eleanor N. Dana Cancer Center at UTMC. Nemunaitis is a leading researcher in exploring novel targeted therapies for treating cancer patients.

Dr. Krishna Reddy is system director of the hematology/oncology course and co-director for thread I (cellular disease) of the new medical school Foundational Sciences Curriculum. He has devoted significant time and effort to the re-design and implementation of the new curriculum.



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Supporting students. Changing lives.

A total of 186 scholarships totaling nearly $1.9 million have been awarded to UT College of Medicine and Life Sciences students this fall.

"These scholarships help to reduce the indebtedness incurred by our students," said Dr. Christopher J. Cooper, executive vice president for clinical affairs and dean of the College of Medicine and Life Sciences, "and we are extremely grateful for the support in easing this financial burden."

The impact these scholarships have on our students is life-changing.

"Receiving this scholarship has helped me beyond words," said recent graduate Megan Mooney, who stayed in Toledo for her residency. "Not only has it supported me financially and educationally, I feel like the sponsors of my scholarship have become part of my personal support system. It has inspired me to think about how I can pay it forward and serve others in the future."

To support student scholarships at The University of Toledo College of Medicine and Life Sciences and change lives, contact Jennifer Schaefer at 419.383.5071 or jennifer.giesige2@utoledo.edu.