Features

4 SimWars
5 UICOMP@NIH
6 Innovating Rural and Global Medicine
7 Translating Technology into Classroom Application

10-11 UICOMP Unveils New Teaching & Learning Space
13 On the UICOMP Horizon
14-15 New Spaces, New Opportunities: Donor Reception and Open House
16-17 Building Clinical Skills through ELIITE
18 In the New Curriculum

21 Hospice & Palliative Care Fellowship
23 Pillars in Family Medicine
24-25 Celebrating Excellence
27 Alumni Corner

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The latest Association of American Medical Colleges (AAMC) report about physician supply, medical school enrollment, and graduate medical education programs reinforces UICOMP’s critical role in the future of healthcare in central and downstate Illinois.

Nationally, almost one-third of all active physicians are age 60 or older. The same is true in Illinois and I suspect central and southern parts of the state may have even greater percentages of active, older physicians who are practicing but are beginning to consider retirement.

The concerns about the aging workforce are exacerbated by increasing demands for physicians. The supply of new graduates is not keeping up, especially among primary care fields and general surgery. Both of our major academic clinical partners, UnityPoint Health and OSF HealthCare, view this physician shortage, particularly in non-urban areas, as a source of major concern. They recognize that recruitment of physicians is challenging, particularly to central Illinois.

UICOMP provides a bright side for central Illinois. Physicians tend to practice in the communities where they complete medical school or residency. The AAMC report noted:

- 46.6 percent of physicians who graduated from a public medical school were active in the same state
- 47.5 percent of physicians were active in the state where they completed their most recent graduate medical education program
- 67.1 percent of physicians who completed medical school and their graduate medical education in the same state remained in that state to practice

UICOMP’s medical students and residents are the future physicians of central Illinois. We do a good job of providing a pipeline of physicians with about 60 percent of area primary care physicians being graduates of the University of Illinois system for medical school or residency. In addition, we produce physician leaders – for example Keith Knepp (President of UnityPoint Health) and Steve Hippler (Chief Clinical Officer at OSF HealthCare) are both UICOMP graduates and are just two examples of many.

We are committed to improving our ability to secure the future of healthcare in Illinois by further strengthening our educational and training programs. This fall, UICOMP marked a historic moment with the addition of first-year students on campus. Now, all students will spend their entire four years in Peoria! We invested about $3 million in campus upgrades, including technology, a new classroom and anatomy wing. We are phasing in a new curriculum that enhances students’ clinical experiences and provides greater opportunity to prepare for careers in medicine. And our graduate programs continue to flourish – five new fellowship programs in the past five years.

This issue of Pathways details some of those accomplishments this year. There is much to celebrate. But we also recognize there’s more that can be done to improve our ability to educate, train, recruit and retain future physicians to central Illinois and across the state. We know how important this work is and we are committed to our mission “Lead Collaboration to Improve Health”.

Sincerely,

Dr. Sara L. Rusch
Regional Dean
More than 20 medical students from across the state competed against each other earlier this year for medals and bragging rights at SimWars, an event hosted by Jump Simulation, a part of OSF Innovation and a collaboration with the University of Illinois College of Medicine Peoria.

Teams of four faced-off in simulated emergency patient scenarios before a panel of simulation experts as well as their peers. The third-year medical students hailed from three campuses of the University of Illinois College of Medicine and Southern Illinois University School of Medicine.

The groups took on three different medical emergency situations, including delivering a baby while responding to a father who has passed out, and figuring out that a patient had a collapsed lung and managing a metabolic disturbance. The students were expected to work together to solve problems and ensure their “patients” recovered from their conditions.

Alex Blunier, a student at SIU School of Medicine in Springfield, says the scenarios were challenging, especially when performing in front of fellow competitors.

“It’s nerve-wracking,” said Blunier. “Because you know that everyone else knows, and it’s really easy especially when you are not competing to ‘Monday-morning quarterback’ and sit back and be like ‘They should be doing this and they should be doing this,’ and when you are up there—it’s so easy to freeze up and be like ‘Ah, there’s a lot going on!’”

Judges evaluated the teams based on teamwork, communication, problem-solving skills and clinical management. Dr. Nur-ain Nadir is the Simulation Director for the Department of Emergency Medicine at UICOMP. She says this is the first year Jump Sim and UICOMP have organized the friendly competition.

“The reason we wanted to do this is because we are trying to recruit the best quality residents going forward,” said Nadir. “Residents really are medical students, so we’re trying to get them to come and see our space and we’re trying to get them to come and compete so we can see who’s interested in emergency medicine. Plus, it’s a cool way to get them exposed to the field and also to the resources we have here in Peoria.”

Nadir says the goal is to expand future SimWars competition regionally. As for this year’s winners: Teams from SIU won first and second place at the Jump event. Next year’s SimWars has been set for April 28, 2018 at Jump Simulation. Third-year medical students across Illinois are invited to register. Teams consist of 3-4 members.
Jacqueline Boyle, a third-year student at UICOMP, was among 42 students nationwide selected this year for the National Institutes of Health Medical Research Scholars Program. This year-long enrichment program provides mentored training to creative, research-oriented medical, dental, and veterinary students at the NIH in Bethesda, Maryland. The program enables scholars to conduct basic, clinical, or translational research in areas that match their personal interests and research goals.

“These 42 scholars represent some of this country’s most promising future biomedical researchers and academic leaders,” said Frederick P. Ognibene, MD, Director of the Office of Clinical Research Training and Medical Education at the NIH Clinical Center.

Boyle, who started the program in mid-July, spent the first couple weeks meeting with various investigators at the NIH to decide where to focus her research. Pathways caught up with Boyle in late October to learn more about her work and experiences.

Describe what you are doing at the NIH

I am working at the National Institute of Neurological Disorders and Stroke (NINDS) on Cushing’s Disease in the lab of Dr. Prashant Chittiboina. This is a disease caused by an ACTH-secreting pituitary adenoma causing persistent hypercortisolism with associated significant morbidity and mortality. The only effective treatment currently is surgical removal. My work specifically is looking at the reprogramming these tumors undergo. Despite the tumors not being considered malignant, they appear to undergo similar metabolic reprogramming as many malignant tumors. We are looking at the energy usage and signaling pathways to determine potential treatment targets.

Why did you decide to pursue working on this particular project?

When I arrived at the NIH I thought I would be focusing on clinical or translational research. My prior research background was primarily clinical and translation. After talking to researchers in different institutes and program advisors, I realized this was my opportunity to develop basic science skills in an environment of nearly unlimited resources, both material and individuals. Since starting medical school, I have been interested in specializing in Neurosurgery. While I spoke to many researchers outside this specialty, I felt that my interests were best represented in the project I chose.

What do you hope to gain from this experience?

I feel like I have already exceeded many of my previous goals and have a new set of things to accomplish. On the most basic level, I come into lab everyday intending to learn another lab procedure. Seems simple but understanding the various experimental designs has opened up my view on how you can go about investigating a topic. The wealth of knowledge you are surrounded by did not sink in until I was listening to the scientist who developed the HPV vaccine. That’s just one example.

At the end of the year, I intend to answer the question: Where do I see myself in research as a physician? There are more options than one thinks possible before being surrounded by people of all backgrounds at the NIH.
Innovating Rural and Global Medicine

Elective provides new opportunities for Peoria med students

Medical students on the Peoria campus have a new opportunity when it comes to experiencing health care and health care delivery models.

Called Innovation in Rural Global Medicine, this longitudinal, four-year elective will provide UICOMP students with a deep understanding of the barriers that exist in low resource settings.

"We’re going to teach our students the tools to make innovative changes within an austere environment, and then we’ll expose them to global and rural areas," says Dr. Sarah de Ramirez, Director of the Rural Global Health Strategies at UICOMP.

Students will gain competency in interdisciplinary problem-solving, learn about engineering design and process improvement, and experience austere medicine first-hand in rural Illinois and an international site.

"The backbone of this program is really innovation. I think that’s what makes it really so different than any other curricula across the nation," Dr. de Ramirez continued. "Physicians in these low resource areas often are the only physicians in that area, so let’s teach them how to be a change-agent. They will learn about human-centered design and ask ‘How do we design health care systems? How do we design innovations to think about what the needs and desires of the populations are? And how do we make them accessible and pilot them successfully in these austere environments?’"

Students will not be the only group to benefit from the new program.

Dr. de Ramirez said they hope the program will foster physician recruitment to rural Illinois communities, both as faculty preceptors interested in educating medical students in those areas but also among students when it comes time for them to consider where they practice medicine.

The IRGmed program is in high demand. One-third of the first-year UICOMP class applied to the program. A survey among students showed the top interests were austere medicine, wilderness health, or global medicine.

"I hope to complete this amazing four-year program with a greater understanding of both local and global health care issues in low resource communities, and to learn ways in which I can help to solve them through innovative techniques," said Caroline Lewis, one of nine UICOMP students accepted into the new program. "I believe it will help me become a more well-rounded physician."

Throughout the four-year program, students will attend seminars, medical conferences, simulation training at Jump Simulation, a two-week clinical immersion at a rural national and international site, and a capstone project. Global sites include Asia, Latin America, and sub-Saharan Africa.

For Lauren Kennedy, who also is among the IRGmed inaugural class, the program is about helping her become a better physician to serve rural populations.

"I have developed a strong drive to serve rural populations and I want to continue developing skills that will allow me to help make healthcare more accessible and sustainable for people," said Kennedy.
You are standing in a non-descript room. Look around. A patient is in front of you. To the side is a line of instruments. Everything you need to perform a central venous catheter insertion is here – in a virtual environment.

A voice and set of invisible hands start by identifying key anatomic structures on the patient’s torso using arrows, even superimposing ultrasound imaging. You can step in to get a closer look or even walk around the patient for a different view. After a detailing of the anatomy and instruments, you see the procedure unfold step-by-step.

“We’re trying to enhance the traditional didactic style of teaching and learning,” says UICOMP student Andy Tu. “In the virtual reality environment, you’re able to get a one-on-one lecture that is immersive and concise. That’s really powerful.”

Tu and fellow UICOMP student Joe Gatuz created the series of short lessons using virtual reality as part of their four-week medical simulation elective that focused on innovation.

“I was curious how virtual reality was going to be used to educate future medical students and I wanted to be a part of that process as the technology moves to becoming more implemented in medical school,” said Gatuz.

Indeed, their project is part of bigger, on-going initiative taking place between UICOMP and Jump Simulation to use the immersive technology to help teach and train medical students within the University of Illinois system. The effort, being driven by UICOMP’s Dr. Matthew Bramlet, is being facilitated by the software funded and created through Jump ARCHES (Applied Research for Community Health through Engineering and Simulation).

“The students used the virtual reality environment to create a series of modules so that other students could learn – first in virtual reality – about the indications and contraindications of performing a central line procedure, which to my knowledge has never been done before,” said John Vozenilek, MD Medical Director at Jump Simulation and the Duane and Mary Cullinan Endowed Professor of Simulation at UICOMP.

Tu and Gatuz worked with Dr. Bramlet, Dr. Vozenilek and engineers at Jump to build the environment for their virtual lectures. The first module is a short introduction to the space. The second module, broken into two sections, goes through the process of inserting a central line catheter.

“We broke it into two sections – getting the needle into the vein and inserting the wire because those are two very big moments in the procedure,” said Tu, who watched more than 20 central lines being inserted on real patients before he served as a first-assist on the procedure. Even so, he said there’s a steep learning curve from watching to doing.

“Virtual reality is not going to replace learning and doing the real thing, but I feel it could be that bridge, that in between,” he said.

Wanting to test out their lecture, Tu and Gatuz invited other UICOMP students to participate in the virtual classroom experience.

“You can see what they see, watch what they do – whether they ‘stand’ in the corner and watch, or start ‘grabbing’ things and exploring – and you can start to evaluate learning habits,” said Tu.

Six virtual reality stations are being built in the new technology-assisted anatomy lab on the UICOMP campus to help further curricular development using the technology.
Welcoming New Students to Campus

UICOMP welcomed 59 incoming second-year medical students and – for the first time ever – 58 incoming first-year students during their respective White Coat ceremonies. This was a unique and historic year with the addition of both classes of students for the first time since the Peoria campus was established in 1970.

Medical students don the white coat to symbolize they are assuming the responsibilities of the medical profession. The ceremony has been a part of the UICOMP tradition since 1998. Parents, families and friends attend to celebrate this milestone as UICOMP welcomes students to the city and the Peoria campus.

“The White Coat symbolizes their lifelong commitment to providing excellence in patient care,” said UICOMP Regional Dean Dr. Sara Rusch, adding that the coat also comes with “great responsibility”.

UICOMP Class of 2020

UICOMP Class of 2021
Making History

With the addition of first-year students, UICOMP now has a record 235 medical students across all four years.

Above left: University of Illinois College of Medicine Acting Dean Charles Ray, MD addresses the new UICOMP students.

Upper left: Peoria Medical Alumni Council Chair Robert Sparrow, MD and UICOMP Regional Dean Sara Rusch, MD help students put on their white coats.
The dust has cleared. What were conceptual sketches and hundreds of pages of construction blueprints are now the new learning spaces for students and faculty on the UICOMP campus.

New technology, a new technology-rich classroom, a new anatomy wing, and student oasis were part of an aggressive – yet very essential – series of upgrades this year on the UICOMP campus to help change the way the College of Medicine teaches future physicians. The renovations also were crucial for the addition of first-year medical students in Peoria – a first in the College’s 47-year history. In all, about 10,000 square feet of space underwent some improvement.

“There’s new excitement and energy on campus,” says Regional Dean Sara Rusch of the additional students and upgrades on the Peoria campus. “The transition in our teaching style is the most remarkable part. Creating this innovative space has allowed us to change the way we teach – to use small group learning and technology to teach students how to problem-solve.”

Walk into the new OSF HealthCare Learning Studio and you will find yourself awash in bright LED lighting and immersed in technology. The newest classroom on campus also is the biggest and most-wired. Computer-based monitors line the walls, as do tables, microphones, and charging stations that make up the individual pods where groups of students work together as teams.

“The space is beautiful but moreover it’s functional,” says Leslie Hammersmith, UICOMP’s Assistant Dean for Technology Enhanced Education.

It has to be. The newly adopted medical curriculum is about 90 percent based in active learning, meaning far more group work among students and dramatically less time for traditional lecture.
Just beyond the Learning Studio is plush seating and a dynamic open atmosphere. As its name implies, the UnityPoint Health Student Oasis has become a favorite among many students seeking comfortable sanctuary to gather and study. The Sandra Rusch Learning Room and Senior Scholar Learning Room boast large monitors and conference tables, which have proved ideal for small group work – a big component of team-based learning.

Beyond UICOMP’s Department of Pathology is a huge, new addition to the medical school. The Anatomy wing includes a cadaver lab and technology-assisted anatomy lab. Both rooms, in addition to two locker rooms, a bathroom, and the hallway that connects them are sealed off from the rest of the building’s ventilation system.

The Anatomy Lab has eight stainless steel tables and cadavers for traditional dissection. The Technology-Assisted Anatomy Lab houses UICOMP’s new Anatomage table, a high resolution, virtual dissection table as well as mobile sonography units. They are currently in the process of installing six virtual reality stations that will be used for new anatomy curriculum being developed.

“In terms of teaching and learning, to have these two labs together and to be able to combine all of the technology with traditional cadaver dissection is something you won’t find anywhere else – it was really innovative thinking,” said David Dominguese, a Research Assistant Professor of Anatomy and Director of Technology-Based Medical Education at UICOMP.

Recruitment, Training, and Retention

With the new space, new curriculum, and students now spending all four years in Peoria better positions both the medical school and the community, says Dr. Rusch.

“We are phasing in a new curriculum that is more clinically-relevant, provides greater clinical experiences, incorporates broader areas of health, uses innovative educational methodologies, and focuses on student wellness and resilience. Whether they want to become a primary care physician in a rural community, a neurosurgeon, or an academician, we are preparing them with the skillsets they need,” said Dr. Rusch. “This is a tremendous opportunity because of their time here to also bind our medical students to Peoria. So while they may have the opportunity to go anywhere and do anything, we hope they choose to stay – or after leaving for additional training, return to Peoria – to practice medicine.”
What better way to work out potential kinks in a new anatomy lab than to put it to the test – or maybe a review?

Whereas a typical neurology course review might use traditional lecture, UI COMP faculty in November created an interactive lab session in UI COMP’s new anatomy labs. Ten stations, each with different learning objectives, were set up in the new gross anatomy lab and the adjoining anatomy technology lab. Students were divided into groups of six and rotated every 10 minutes between the stations. Anatomy and clinical faculty, including some residents went through the core elements and posed questions to students.

“It was a big undertaking but this gave the M2s a refresher from what they learned last year in neuro and delivered it in a more clinically-relevant way,” said Dr. David Dominguese, a Research Assistant Professor of Anatomy and Director of Technology-Based Medical Education at UI COMP.

The review included two full human brains with partial brain stems, including one separated into multiple coronal slices. Additional resources such as the Anatomage table, radiology films displayed on a large monitor and viewed on iPads, multi-media computer station and physical exam area all served as stations to review and teach the content.

Stations included review on the sensory and motor tracts and the pathology affecting them; cranial nerves and related structures; reflex testing and their application, deep brain anatomical structures and their pathological processes; histology and pathology of the nervous system; the ventricular system.

Dominguese said the class gave the M2s a chance to meet the new basic science faculty, including some residents and clinical faculty as well as a chance to use the new anatomy lab space. The review also provided insight and served as a pilot for future classes, Dominguese said.
UICOMP Regional Dean Dr. Sara Rusch said a second phase of campus upgrades is on the horizon.

“The arrival of first-year medical students at UICOMP created an urgent need for more and different learning spaces,” said Rusch. “We are pleased how much of our curriculum shifted to active learning. With 90 percent of first-year classroom teaching now occurring in the OSF HealthCare Learning Studio, it is clear we need a second, similar classroom in order to use active learning for both first and second year classes concurrently.”

UICOMP is eyeing an existing ground floor classroom to create a second team-based learning studio. The goal is to have this prepared so that M2 students can use it when they begin their second year in August of 2018.

Elsewhere on campus, the previously existing Donald Rager, MD Clinical Skills Laboratory has been expanded from one room to nine in order to meet current student needs. A patient care clinic was moved off campus and the Rager Lab took over the nine clinic examination rooms. However, the clinical space lacks necessary technology. The goal is to equip the examination rooms with the ability to record audio and video so that students can hone their clinical communication skills.

“Patients want and deserve a physician with the ability to listen, understand and communicate effectively,” said Dr. Rusch. “You hear what you say but you don’t see what you do, and you need that if you’re going to learn those critical communication skills.”

The campus also needs to update its histology and pathology laboratory space, which other than upgrades to the microscopes, have not changed since 1976.

Support from UICOMP’s partner hospitals, alumni, faculty, the University, and the community was instrumental to expand the campus learning environment this year. UICOMP hopes to raise additional philanthropic support to help fund the second phase under a new campaign called IGNITE Peoria Medicine.
The much-anticipated completion of new technology-rich teaching and learning spaces on the UICOMP campus was celebrated with a ribbon-cutting event honoring those who helped make the renovations possible, followed by a reception open house welcoming the public at UICOMP on July 27.

“The support UICOMP received from our hospital partners, faculty, alumni, the University, and the community were crucial to our success in reaching this historic milestone and we cannot thank you enough,” said UICOMP Regional Dean Dr. Sara Rusch. “This expansion is important to our teaching mission, including our founding mission, which is to provide physicians for downstate Illinois.”

The construction and renovation work was in advance of student expansion this year with the addition of first-year medical students in Peoria – a first since the College opened its doors in 1970.

A reception and several ribbon cuttings were held with VIP donors to recognize their contribution to UICOMP and the space dedicated in their honor.

More than 300 people attended the public house where they were able to see the technology in the OSF HealthCare Learning Studio; to strap on virtual reality goggles for a demonstration next to the UnityPoint Health Student Oasis; and see virtual dissection on the Anatomage Table in the new anatomy wing. Guided tours of the Cancer Research Center, which celebrates five years open in December 2017, also were provided.
OSF HealthCare Learning Studio
From left to right: Robert Barish, MD Vice Chancellor for Health Affairs, UIC; Robert Sparrow, MD, FASH Vice President/Chief Medical Officer, OSF HealthCare Saint Francis Medical Center; Tim Miller, MD Director of Academic Affairs, OSF HealthCare; Sister Judith Ann Duvall, O.S.F.; Sister Agnes Joseph Williams, O.S.F.; Sara Rusch, MD, MACP Regional Dean, UICOMP.

UnityPoint Health Student Oasis
From left to right: Meenakshy Aiyer, MD Associate Dean for Academic Affairs, UICOMP; Robert Barish, MD Vice Chancellor for Health Affairs, UIC; Keith Knepp, MD President, UnityPoint Heath – Methodist|Proctor and President, UnityPoint Clinic – Peoria ProHealth Medical Group

John P. Henderson, MD and Family Clinical Examination Room
John Henderson, MD, Beverly Henderson, and Sara Rusch, MD

Dr. Al Masi and Nancy Masi Clinical Examination Room
Robert Barish, MD, Nancy Masi, Al Masi, MD, and Sara Rusch, MD

Dr. Larry and Evelyn Jennings Executive Conference Room
Sara Rusch, MD, Larry Jennings, MD, and Robert Barish, MD
When Mary Harvey went through medical school, the 1991 UICOMP graduate said she felt prepared more for medicine in an academic sense but less so of what medicine was like in the “real world.”

“When you get out there, especially in ambulatory care, there’s just so much more to learn — practice management, insurance, how to deal with approval for medications and procedures, how different payer systems can affect patients’ decision making,” said Harvey, a pediatrician and the Medical Director of Pediatrics for UnityPoint Health in Peoria. “In medical school, you assume if this is the right decision to make clinically, it’s the right decision. But there’s so many more factors that go into it that I think this generation of medical students will get more exposure to.”

Dr. Harvey is among more than 50 physicians across central Illinois volunteering their time and knowledge to expand the clinical exposure UICOMP students receive as part of a new, early-immersion program rolled out to all first-year UICOMP students this fall.

Called the Early Longitudinal Immersion Interprofessional Team Experience, or ELIITE for short, its goal is to provide UICOMP students a comprehensive exposure to team-based, patient-centered care. Students are assigned to physician preceptors working mostly in primary care settings — with some also in sub-speciality clinics — where they work one afternoon every other week over a year-long period. As the name implies, students are imbedded into the program early in their medical school career — this year, starting after just 10 weeks.
“The health care delivery system of the 21st century is changing and this requires a change to the traditional model of medical education,” said Dr. Meenakshy Aiyer, UICOMP Associate Dean for Academic Affairs, who spear-headed the effort alongside Dr. Matthew Jager, Director of the M1-M2 Doctoring and Clinical Skills, and Dr. Jessica Hanks, Assistant Dean for Preclinical Curriculum and Evaluation.

“Simply put, we want to get students into the clinical setting early.”

Aiyer said studies show and the literature supports early participation of medical students in the health care environment provides extensive benefits. Patients report greater satisfaction, students report greater enjoyment in their education and experience less burnout, and physician preceptors report an overall positive impact.

Students are required to work with the entire healthcare team and participate in the entire clinic experience. They will work with staff to check in and room patients, gather patient histories, and work with nurses to gather vital signs, including gradually working up to perform physical exams. They also will work with office managers on quality improvement projects.

“I hope students realize the impact we as primary care physicians have in our patients’ lives, not just with their physical health but emotional and mental health for overall wellbeing. It is a very important role to play,” said Dr. Kristen Chambers-Damm, a general internist with OSF HealthCare and a preceptor for the ELIITE program.

Chambers-Damm, a 2009 UICOMP graduate who also teaches students on clinical rotations as well as residents in the Internal Medicine program, admits the role as physician preceptor comes with additional work but there is payoff, too. “I value the education and teaching residents and students give to me and I think they actually make me a better physician,” she said. “They provide me another set of eyes and ears to a patient’s concerns and may offer fresh ideas. They also keep me focused on new and changing medical information and guidelines.”

For students, ELIITE brings classroom learning into practice. “Just being able to take what we learn in class and integrate it and see it in an actual patient – I think you never forget that,” said Marisa Ascencio.

“Because we are first-year students, it’s also been kind of intimidating,” said Sarah Coe. “You feel like you barely know anything. They teach us how to take a history once and we do it once, and now we’re expected to go into the clinic and do it? It’s really intimidating but I do feel this is how you learn better.”

Amith Rao said the hands-on learning and the opportunity to observe physicians go hand-in-hand. “Every physician I think has their own unique way of doing things, their own style, and I think it’s great to see and get that exposure.”

The longitudinal program also offers students a stark reminder. “ELIITE reminds me of the reason I was interested in medicine in the first place and adds a human component to the skills and knowledge I am learning in class,” said Jane Zhang. “It also gives me an invaluable opportunity to see what team-based, patient-centered care looks like beyond the textbook and outside of the classroom.”

Aiyer admits the new program came with some initial hiccups but said the longitudinal student program wouldn’t be possible without such a cohesive, tight-knit medical community with physicians who are willing to give back to the profession. Communities where host practices are located include Peoria, Bloomington, Canton, Eureka, Farmington, Galesburg, Hopedale, Lexington, Metamora, Morton, Pekin, Roanoke, and Washington.

“It’s amazing how our partner hospitals, how many of our past graduates, and other volunteer physicians across central Illinois have stepped up to this challenge,” Aiyer said. “They see and understand the value. Many recognize they wouldn’t be where they are without the experiences other physicians provided them.”
Looking at the framework of the new medical curriculum, you see block-by-block what students learn about the human body. Some blocks are five weeks long, others are nine and 10 weeks long. But between each of the learning blocks, you also will find one week called Synthesis Week.

Dr. Jessica Hanks, the Assistant Dean for Preclinical Curriculum and Evaluation at UICOMP, is overseeing implementation of this week across the entire College of Medicine.

“At its core, Synthesis Week is time for students to reflect,” said Hanks. “Now that we have an integrated curriculum and we’ve changed the time structure, we wanted time for students to have an opportunity to take a step back and reflect on what they just learned.”

Armed with fresh exam results of the previously completed block, students and faculty can see where they are strong and where they may need additional time understanding certain concepts before moving onto the next block.

But there’s so much more to it than that, she quickly adds.

“Even under the classic curriculum, there are review sessions at the end of each course. This isn’t that. Synthesis is a chance for students to work together as a team and take a deeper dive into medicine from the preceding block and to foreshadow what’s is the next block,” Hanks continued. “The idea is an integrated approach to patient care that will tie together all of the basic, clinical, and social science into that time.”

During Synthesis Week, students are introduced to specific patient-based cases incorporating the content, including helping students to understand patients’ undifferentiated symptoms. Some will be case-based on paper. Others take advantage of Jump Simulation and incorporate patient actors. The first week in Synthesis had students working as a group to gather patient history from a standardized patient. As the year progresses, so too will the cases, including their simulated patients’ symptoms. These “patient” encounters will be longitudinal as well, so that the same group of students will interact with the same patient actors as if they are truly in a clinical relationship with the patient.

“After a block in cardiovascular and pulmonary, think of a case with a patient who has shortness of breath – it’s a great way to tease out whether students can determine if this is a cardiac etiology or pulmonary etiology,” Hanks said.

Still, there’s more.

The week also ensures all five designated themes (professional development; health, illness, and society; functional knowledge; health care systems; and clinical practice of medicine) are integrated into the curriculum. There’s dedicated time for longitudinal career advisors, professional identity formation, and wellness initiatives as part of the professional development theme.

Ironically, “less” is built into Synthesis Week as well. There are no graded tests, for example as it is a formative experience.

Moving forward, Hanks said some synthesis weeks also will include special exams, not for grades, but to confirm material covered in-class also is preparing students for content likely covered on the National Board of Medical Exams. The six-week Synthesis Block at the end will provide an essential component of approaching multi-system diseases.

“It will bring together how patients truly present, not in an organized ‘block’ of information,” said Hanks. “Students will utilize the basic, social and clinical sciences taught throughout the first phase.”
With no known cure for Multiple Sclerosis, current methods for treating MS focus on slowing disease progression, managing symptoms and maintaining the patient’s quality of life.

To better monitor disease progression and long-term patient outcomes, researchers at UICOMP’s Center for Outcomes Research collaborated with clinicians at OSF HealthCare Illinois Neurological Institute to build a customized database, since comprehensive patient information and treatment efficacy are incredibly important to monitoring and modifying treatment for people with MS.

The results of their customized MS flowsheet registry included:

- 20.9 minute reduction (per patient) in physician reported time spent searching for data.
- 2.2 minute reduction (per patient) support staff time spent searching for data.
- 300 percent increase in investigator initiated studies.

The MS flowsheet provides one easy place to capture patient information, enabling a more effective review of a patient’s disease treatment and progression over time. As new treatments or the need for new data elements arise, the database is flexible enough to accommodate the addition of new findings. The success of the customized database also suggests possible expansion may improve outcomes in other chronic or specialty area patient populations. The methods used to create the registry are copyrighted by the University of Illinois.

Outcomes Research at UICOMP helps bring Tier III PCORI Award to Peoria to benefit MS

Which exercise regimen is better for people living with multiple sclerosis: treadmill, aquatic exercise, or yoga?

That’s the question a local group of doctors, researchers, and people living with multiple sclerosis (MS) hope to answer. The research group received a $50,000 “Pipeline to Proposal” award from Washington, D.C.-based Patient-Centered Outcomes Research Institute (PCORI) to develop protocols and a pilot proposal. They anticipate a larger formal proposal might lead to funding of a larger study.

If the proposal is successful, a full study would get underway early in 2018. The “Pipeline to Proposal Award” is the third received from PCORI that helped the central Illinois collaborative get to this point. The first award helped bring about 200 people living with MS together in 2015 to gather their interests. The second award, received in 2016, helped move forward proposed research ideas. The latest project summary can be found online at pcori.org.

The local research collaborative is made up of people living with multiple sclerosis, the Central Illinois MS Council, researchers from the Center for Outcomes Research at UICOMP, and clinicians from the Illinois Neurological Institute’s MS Center.

MS affects the central nervous system by disrupting communication between the brain and other parts of the body. An estimated 400,000 people in the U.S. have multiple sclerosis and approximately $445 million is spent on direct MS care annually.
A team of international researchers led by UICOMP have documented how the same hormone known widely among expectant mothers as a means for helping to induce child delivery or lactation also suppresses inflammatory pain.

Oxytocin, sometimes referred to as the “love hormone” and commonly employed by doctors since the early 1900s as a medication to stimulate contractions for childbirth, is secreted naturally and directly targets and blocks specific pain-sensing receptors, according to the findings published in November in the journal Cell Reports.

The specific pain-sensing receptor found to bind with oxytocin and highlighted in the study, called TRPV1, also is known for heat sensation and regulating body temperature. The title of the report by Nersesyan, et al is “Oxytocin Modulates Nociception as an Agonist of Pain-Sensing TRPV1”.

“When we experience pain, especially through inflammation, that’s the pain receptor telling the brain there’s a problem, which triggers an immune response and the release of oxytocin. The oxytocin then binds to the receptors, desensitizes them, and in doing so suppresses the pain,” said Dr. Eleonora Zakharian, a UICOMP researcher and supervisor of the multinational study.

The findings open the door to developing new drug therapies targeting pain using the natural hormone. Previous studies showed oxytocin to suppress pain, including in migraines, but how was unclear. “Now that we know the mechanisms at work, additional studies can be developed to identify new drug therapies addressing pain,” Zakharian said.

In the U.S. alone, the cost of chronic pain management is estimated at $150 billion to $600 billion annually. The findings also could lead to potentially reducing reliance on opiates for pain management, which has been a growing national concern.

Oxytocin has been found at elevated levels in new parents and couples and is well documented as contributing to social behaviors and bonding, earning it the designation as “love hormone” by some, including in popular culture.

Dr. Zakharian said UICOMP researcher Dr. Yelena Nersesyan suggested the study with migraines in mind because she suffers from them.
UICOMP, in partnership with OSF HealthCare Saint Francis Medical Center, is pleased to announce a new fellowship training program in hospice and palliative medicine.

Palliative medicine focuses on improving the quality of life of patients and their families facing problems associated with serious life-threatening illness. This is done through prevention and relief of suffering by means of early identification and treatment of pain and other problems, physical, psychosocial and spiritual. The one-year training program will provide in-depth training on pain and symptom management, other quality of life issues, advanced communication skills, and legal and ethical issues.

“The goal with palliative medicine is to get involved early in the course of a patient’s illness and help them have the best quality of life, and help them live well even as they approach the end of their lives,” said Dr. Andrew Kamell, Director of the Hospice & Palliative Medicine Fellowship at UICOMP.

“It’s about helping our patients live fully every day. Our focus is the patient, not the disease, although we support and work alongside those in the care team who are focused on the disease,” said Kamell, who has specialized in palliative and hospice medicine for more than 10 years.

Each year, the program will accept up to two physicians. The physicians in the program will train at OSF HealthCare Saint Francis Medical Center, OSF Richard L. Owens Hospice Home, area nursing homes, an outpatient clinic, and even conduct home visits.

With more than 9 million people in the U.S. facing serious illness, an aging population, and few physicians trained in this area, this training addresses critical needs. Palliative medicine has become the fastest-growing medical specialty in the U.S. but there are not nearly enough trained physicians to meet current or future demand.

Hospice and Palliative Medicine is the fifth new UICOMP fellowship added in partnership with OSF in the past five years. The others are: Cardiovascular Disease in 2012, Gastroenterology in 2014, Simulation in 2016, and Pulmonary Critical Care earlier this year.
Leading the Way in Robotic Surgery Training

The UICOMP Department of General Surgery will be the international model of best practices when it comes to residency training in robotic surgery.

The robotics program, led by Dr. David Crawford, formalized a longitudinal curriculum that uses a systematic progression of skills – the first of its kind created by an academic medical institution.

Learners in the program begin with general safety and education of the robotic platform, including case observations and skill training using online modules and simulation. As a participant’s skills progress, they are able to assist bedside during surgery. A second track allows participants to gain additional proficiency and certification in basic surgical robotics.

“When I first used the technology in 2002, I knew it was here to stay,” said David Crawford, MD, Professor of Clinical Surgery at UICOMP and Director of Robotic Surgery at OSF HealthCare Saint Francis Medical Center. “Being a minimally invasive surgeon and surgical educator, I felt compelled to adopt, master and promote it for the sake of my trainees and patients.”

The program is available to all UICOMP residents in the General Surgery and OB-GYN residency training programs. Those who successfully complete the curriculum receive a letter documenting their experience and competency. Because credentialing for robotic surgery varies by hospital, Dr. Crawford said the letter may provide support for proficiency in robotic surgery in order to attain those privileges after residency training is complete.

While the UICOMP General Surgery Residency Training Program has taught residents robotic surgery skills over the past 15 years, the new curriculum formalized the process and now offers the certification. To date, nearly 78 percent of the UICOMP General Surgery resident graduates incorporate robotic surgeries into their practice.

The UICOMP robotics program has access to the da Vinci® platforms at both OSF HealthCare Saint Francis Medical Center and UnityPoint Health. Participants experience 80 cases on average. Because of the high patient volume, Dr. Crawford is the first robotic general epicenter surgeon in Illinois. Currently, five surgeons are actively teaching robotics and more than 2,000 robotic surgeries are performed annually in the areas of urology, gynecologic surgery, and general surgery.
Pillars in Family Medicine

With more than a combined half-century of teaching and direct patient care at UICOMP alone, Drs. Tom and Joan Golemon — pillars in the UICOMP Department of Family & Community Medicine — bid their farewell during a December reception.

Tom Golemon, the Thomas and Ellen Foster Endowed Chair and Professor, was honored for his 28 years in the Department. Joan Golemon was celebrated for her 23 years of teaching and service. The husband and wife duo recently reflected on their time at UICOMP.

“Watching residents grow from a new intern to a fully capable family physician is a remarkable thing,” said Joan Golemon. “I never get tired of watching them transform and am proud of all of them working across the nation and other countries doing the good work that family physicians offer to medicine. It sounds hokey, but it is true. That’s why I have taught all these years.”

Added Tom Golemon: “To see people’s eyes light up, and then later to see them make diagnoses based on information we have discussed — it’s very satisfying indeed.”

Building a tight-knit department of faculty, who in themselves, are “a big, diverse and collegial family” easily was his biggest accomplishment, Tom Golemon said. That’s in addition to helping to provide physicians to rural areas and creating the Dermatology Clinic at the Family Medical Center, which he said he hopes will be his enduring legacy.

Both said it has been bittersweet to say goodbye to patients some of whom they have seen their entire career. “It has been humbling to have people tell me how much it matters to them that I have walked by their side through good and bad times,” said Joan Golemon.

The Golemons also plan to stay involved in medicine.

As for physicians headed in to Family Medicine, both said the future is bright.

“I personally think that we are a more important specialty than we ever have been,” said Joan Golemon. “Yes, healthcare is more complicated, you do need specialists but we do the bulk of healthcare at a pricepoint that specialists can’t match, from birth to death. We can deliver your baby, including your c-section, and take care of that baby until they are an older person when they need hospice or other end of life decisions. And we are able to work with organizations to manage population health and do preventative care — we’re here to stay.”

Beginning January 2018, Dr. Kelvin Wynn will succeed Dr. Tom Golemon as UICOMP’s Thomas and Ellen Foster Chair of the Department of Family and Community Medicine. Dr. Wynn, who has served as the Family and Community Medicine Residency Program Director since 2011, will be succeeded in that position by Dr. Jeffrey Leman.
Two prominent neuroscientists were among nearly 90 UICOMP faculty and physicians honored this year for their dedication to teaching and service to the community during the 9th Annual Celebration of Excellence.

Longtime community staple to child and family welfare, Children’s Home, and a physician who has worked to make Naloxone interventions available in the community to decrease the number of drug overdose deaths, Dr. Tamara Olt, both were recognized with the 2017 Community Health Awards.

This year, Ken Fukuchi, MD, PhD and David Wang, MD both were honored with the Faculty of the Year award.

Dr. Ken Fukuchi has a national reputation and exceptional funding record, including a long list of scientific discoveries in the area of Alzheimer’s Disease. He has authored 78 publications and has multiple funded research projects by the National Institutes of Health.

Dr. David Z. Wang, a clinician scientist who leads national efforts in early stroke recognition, treatment access and treatment efficacy. He is the Medical Director of the OSF HealthCare Illinois Neurologic Institute Stroke Network and Comprehensive Stroke Center, a 24-hospital network encompassing 26 counties in Illinois.

To see a full list of this year’s award recipients and honorees, please go to go.uic.edu/PeoriaMedicine. Among this year’s faculty award recipients include:

**UICOMP Outstanding Research**
- Michael D. Tarantino, MD
- Andrew J. Tsung, MD
- Kiran K. Velpula, PhD
- Krishna K. Veeravalli, PhD

**UICOMP Outstanding Service**
- Ryan D. Finkenbine, MD
- Harleena K. Kendhari, MD
- Channing S. Petrak, MD
- David M. Pinson, DVM, PhD

**UICOMP Outstanding Teaching**
- Julius C. Bonello, MD
- Stephen M. Lasley, PhD
- Larry S. Lindahl, MD

**UICOMP Outstanding Clinical, Technological, or Scholarly Achievements Applied to Medical Research**
- Matthew T. Bramlet, MD

**Curriculum Innovation Award**
- Elsa L. Vazquez-Melendez, MD

**Outstanding Senior Scholar**
- Stanley, M. Bugaieski, MD

**Golden Apple**
- Krishna K. Veeravalli, PhD
- Benjamin R. Pflederer, MD
- Matthew J. Mischler, MD
The Children’s Home Association of Illinois, at right, was recognized for their longstanding commitment to children and families in central Illinois. Tamara Olt, MD, at left, was recognized for her work to make Naloxone interventions available in the community to help decrease drug overdose deaths.

In Memoriam

Dr. Stanley Bugaieski passed away on July 15, 2017. Dedicated to patient care and improving health, he was known for the key role he played in advocating for the elimination of smoking in central Illinois hospitals. He was among some of the first clinical teaching faculty members at UICOMP and served more than 25 years on the Advisory Committee for Continuing Medical Education at UICOMP with the last several years as the committee chair. He also was an active member of the Senior Scholars Group, which recognized him in November with the 2017 Outstanding Senior Scholar award.
announcements

Meenakshy Aiyer, MD

Dr. Meenakshy Aiyer, Associate Dean for Academic Affairs at UICOMP, was one of just 16 senior level, campus-based administrators chosen across the entire University of Illinois to serve on the 2017-18 President’s Executive Leadership Program (PELP).

PELP is a unique professional development program designed to broaden participants’ understanding of higher education issues and to strengthen their leadership skills related to overseeing a public institution at the university or system level. Goals include increasing knowledge and awareness of issues and challenges facing higher education and the university; and enhancing management and decision-making skills within a shifting demographic and global environment. The University’s Board of Trustees supports the program as a mechanism for identifying and selecting a diverse group of potential future university or system leaders.

Kiran Velpula, PhD

Dr. Kiran Velpula, assistant professor in the UICOMP Department of Cancer Biology and Pharmacology and the Department of Neurosurgery, was honored with two separate awards: as one of the 40 Leaders Under 40 award by InterBusiness Issues and with the ATHENA Young Professional Award by the Peoria Chamber of Commerce. Dr. Velpula’s research work at UICOMP focuses on creating new therapies for treating brain cancer.

Harleena Kendhari, MD

Dr. Harleena Kendhari, a UICOMP assistant professor of clinical pediatrics, was recognize as one of the 40 Leaders Under 40 in the Peoria area by InterBusiness Issues. Dr. Kendhari works as a pediatric hospitalist at OSF HealthCare Children’s Hospital of Illinois. In addition to providing direct patient care, she teaches medical students and residents among many other duties.

2017 UICOMP Cat Scholars

Congratulations to the Eighth Cohort of the Caterpillar Faculty Scholars program. This 16-month longitudinal faculty development program competitively selects UICOMP faculty every other year to participate. They focus on developing leadership, teaching, and research skills. The 2017 Cat Scholars are: (from left to right) Anu Vishwanath, MD, Ban Al-Sayyed, MD, David Jantzen, MD, Cat Scholars Director Meenakshy Aiyer, MD, Sandeep Tripathi, MD, and Jaime Libes, MD.
Stuart King, MD

One of the newest members to the University of Illinois Board of Trustees also is a UICOMP graduate. Dr. Stuart King, who specializes in pain management at the Christie Clinic in Urbana, is a 1995 graduate of UICOMP, and prior to joining the Board of Trustees this fall also was teaching in the Department of Surgery at the Urbana campus of the University of Illinois College of Medicine.

“I’ve been spending a lot of time listening – going around to the various departments and colleges within the University to hear what they have to say,” Dr. King said of his first months on the Board. “I’d like to see as much collaboration as we can across the campuses for operational efficiency.”

After graduating from UICOMP, Dr. King completed residency in anesthesiology at the University of Missouri at Kansas City, followed by practicing at McLeod Regional Medical Center in Florence, South Carolina before he moved back home to Urbana-Champaign and joined the Christie Clinic in 2005.

An Eagle Scout, as well as a former commercial pilot and major in the U.S. Army Medical Corps, he recalled fondly his time on the Peoria campus and of his mentors who helped prepare him for a career in medicine.

“I remember working with Hugh Firor in pediatric surgery and Ray Bertino in radiology. I enjoyed pediatric diabetes camp at Allerton Park in Monticello. Dick Trumpe and Anthony Parisi were the go-to folks during the second and third year. I also remember publishing a history paper with William Hannigan – a neurosurgeon – on blood transfusions during World War I that was published in the Journal of Military Medicine,” Dr. King said.

“Peoria was a wonderful experience for me and I found that I was well prepared compared to my cohort of interns (in residency).”

Dr. King said he was drawn naturally to medicine out of his interest in physiology, problem-solving, and helping people. “Medicine was just a natural next step for me,” he said.

Now with two medical schools under the University of Illinois banner, Dr. King said it is an exciting time.

Shelly Timmons, MD, PhD, FAANS

Dr. Shelly D. Timmons, a 1991 UICOMP graduate, was named president elect of the American Association of Neurological Surgeons (AANS). Timmons is a professor of neurosurgery at Penn State University (PSU) Milton S. Hershey Medical Center, where she actively practices neurosurgery and neurocritical care. She is vice chair for Administration of the Department of Neurosurgery at PSU, as well as the director of Neurotrauma.

Timmons, who has been a clinical researcher for several years in the field of neurotrauma with emphasis on traumatic brain injury (TBI), will become AANS president in 2018. The association announced her appointment during the 85th AANS Annual Scientific Meeting earlier this year. Timmons will be the association’s first female neurosurgeon president.
UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE
CARING FOR THE STATE

Without the College of Medicine, physicians in the state of Illinois would be considerably fewer and farther between. The University of Illinois College of Medicine and its four campuses train and retain physicians across the state who serve nearly 90 percent of the counties in Illinois. Our mission is to produce new knowledge in the medical sciences, develop best practices in health care delivery and educate the next generation of physicians and biomedical scientists committed to serving the needs of Illinois and the nation.

1 of 6 physicians in Illinois have received their MD or resident training from the College of Medicine.

upcoming UICOMP events

March 7
Celebration of Diversity
UICOMP Campus

March 7
Residency Recruitment Fair
Jump Simulation • 5-8 pm
go.uic.edu/RRfair

March 16
Residency Match Day
Peoria Gateway Building

April 4
UICOMP Research Day
New in 2018: Featuring Student, Resident, and Faculty Research
UICOMP Campus

May 5
UICOMP Graduation
Peoria Civic Center