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 who received their MD or resident training from the College of Medicine.

**upcoming UICOMP events**

Nov. 29 – Dec. 14
Surviving & Thriving: AIDS, Politics, Culture National Traveling Exhibit
UICOMP • M-F 9 a.m. – 5 p.m.

March 2
M3 Residency Recruitment
Jump Simulation • 5:30 p.m.

March 17
The 2017 Residency Match
Embassy Suites East Peoria • 10 a.m.

April 11
Swain Endowed Lectureship – Living Healthy
Featuring guest speaker Geshe Lobsang Tenzin Negi, PhD
Jump Simulation • 5:30 p.m.

April 12
UICOMP Research Day

April 15
Pediatric Resource Center Kick Abuse at Kickapoo 5K
Kickapoo Creek Winery • 8:30 a.m.
go.uic.edu/KickAbuse5K

May 4
Student Awards Event
Jump Simulation • 5:30 p.m.

May 6
UICOMP Graduation
Peoria Civic Center
Winter 2016-17

Features

3 From the Dean
4-5 “Hands” & Cadaver Dissection
6 INI Grant Funds Student Research
8-9 Celebration of Excellence
10-12 Ten Years of Graduate Medical Education in Peoria
13 New Simulation Fellowship

IMPACT IN THE COMMUNITY

14-19 M1 Expansion and the New Curriculum

20-22 Giving Matters

23 Cognitive-Based Compassion Training

24-25 Meet the Cat Scholars

26-27 UICOMP Collaboration with NYU and Yale

29 Building Cancer Research

All of us want to be healthy. The World Health Organization defines health as “a state of complete mental, physical and social well-being and not merely the absence of disease or infirmity.” Medical students, residents and faculty at UICOMP are committed to health as is evident not only in our research and patient care but also in our service to the community. This issue of Pathways highlights a few examples.

Since its beginning, UICOMP has been committed to training the next generation of doctors. Interest in the sciences often begins in grade school or high school. Two student run groups, GUIDES and the Manual High School Enrichment Program, promote interactions between medical students and grade school/high school students to enhance their interest in pursuing a career in healthcare (pages 14-15).

UICOMP is committed to serving those who lack access. Students, residents, and faculty are working at the Cordoba Clinic (page 17), at the First United Methodist Church’s free clinic (page 18), and OSF’s Care A Van (page 19). Commitment to service draws people to choose to take the long and strenuous path to a career in medicine. It is important to nurture this commitment.

UICOMP is committed to finding new ways to improve community health. Our Chief Residents in Pediatrics (page 16) discuss how we are searching for effective ways to approach the epidemic of obesity – particularly in Peoria’s children – that can serve as a model nationwide.

UICOMP is committed to the special needs of unique populations. Each year, our students provide a Halloween party and haunted house for diabetic children so that they can have Halloween in a setting that meets their unique needs (page 18). One of our faculty, Dr. Andrew Morgan, continues his work in the Penguin Project (page 15) bringing joy and opportunity to those with developmental disabilities.

UICOMP is committed to recognizing the contributions of other organizations and individuals through its Community Health Award. This is the 21st year this award has been given. This year’s organization was the Midwest Food Bank for its work combating hunger; and the individuals recognized with the award, Camilla and Dr. Ron Rabjohns, created sober living extended care facilities for individuals recovering from chemical addiction. Both are extremely important to our community and were recognized at our Celebration of Excellence (page 8 and 9). Many of our outstanding faculty also were recognized at this same event for their dedication and achievements.

UICOMP’s commitment to health also is evident in the growth and strength of our residency programs (pages 10-12). Together with our major academic affiliate hospitals (OSF Healthcare and UnityPoint Health Methodist), we are training the future physicians for Illinois and the nation. Our cancer research program is expanding as we continue our focus on finding new knowledge that will someday contribute to the cure for cancer.

UICOMP is committed to our students, residents and faculty. We are in the middle of a historic campus expansion with new curriculum, new facilities and the addition of first-year students on our campus (pages 20-22). These are major changes for us but these changes will enhance the education of medical students and residents so that we continue to train effective, communicative, mission-oriented physicians who serve our community’s needs now and well into the future.

Sincerely,

Dr. Sara L. Rusch
Regional Dean
Did You Know?

Human cadaver dissection will become part of the UICOMP curriculum beginning in 2017 with the introduction of first-year medical students on the Peoria campus. Construction of the new anatomy lab and virtual dissection suite began in January.

When I first saw your hand, I was terrified. It caught me by surprise—a week, maybe two, after our first cuts into the confined field of the thorax. I was just gaining familiarity with the textures, smells, and mechanical forces of cadaver dissection. Your hand slipped out from under the sheet. My first thought was that you were reaching out to me. It is a universal human gesture—one person moving his hand toward another, conveying intentions, invitations, directions, pleas. We see it as communication before we even have a chance to ascribe conscious meaning to it. So you might understand my fright.

Your humanness was before me each week, and once I realized it, I clung to it. I held your hand when we sawed, and ripped, and blindly poked around. Even after we’d thoroughly dissected your arms, I grasped your bones, and tendons, and slips of muscle while the bone saws squealed through crania all around us. I wanted to communicate back to you, to tell you that you would be all right. Because I held your hand, you would be all right.

And, of course, you would! It was I who needed reassurance. It was so clear that I was the one being held, by your hand, by your very intensely present humanness, the meaning of your gift, telling me that I would be all right, that I could find strength to do things that terrified me. Because you held my hand, I would be all right.

And you were right. Connected to you, I made it, though feeling scared, overwhelmed, and paralyzed by the new and intimate relationship I was gaining with the human form. I was all right.

Scared, overwhelmed, paralyzed. I know I will have these feelings again throughout my career as a doctor. That is certain. I will face emotional challenges I can’t even anticipate—just as I could not have anticipated those of the dissection experience. Just as you gave me strength in the lab, you will give me strength in these future moments—in the memory of holding your hand, and the message that you communicated to me in your donation.

You believed I could do something good for other people. You asked me to take your body to learn as much as I could, so that I could someday take care of other bodies, other human beings. You may no longer live, but your humanness still reaches me. And I am reaching back. I will never cease to hold onto it.

Therese "Tess" Woodring, the author of “Hands”, is a third-year UICOMP student. Before beginning her clinical rotations, Tess is taking a year off to participate in the 2016-2017 Medical Research Scholars Program at the National Institutes of Health in Bethesda, Maryland. Her research focuses on how immune cells set up either a permissive or restrictive environment for microbes on the skin, which may relate to atopic dermatitis, also known as eczema. In June, Woodring was the second-place prize recipient of the Albert and Mary Lasker Foundation’s 2016 Lasker Essay Contest. Her essay, “Hacking the Bacterial Social Network: Quorum Sensing and the Future of Microbial Management”, suggests that by learning the social behavior of bacteria, we can more effectively combat infectious diseases and modify the human biome.
A $25,000 grant from OSF Illinois Neurological Institute is funding Collin Labak’s work in solid brain tumors in the UICOMP Cancer Research Center. “What I’m looking at is how we can alter the metabolism and microenvironment of glioblastoma. They’re the most aggressive tumors with one of the worst prognoses, so there’s a lot of work to be done,” said Labak, a second-year student at UICOMP who began some of his preliminary cancer research in the labs this summer.

Labak, who’s being mentored by neurosurgeon Dr. Andrew Tsung and cancer researcher Dr. Kiran Velpula, said something occurs with glioblastoma called the Warburg Effect, where cells shift their energy production from normal aerobic metabolism to anaerobic metabolism – glycolysis – to get energy. Labak hopes that by cutting off glucose, the cell’s primary energy supply, will reverse the Warburg Effect and limit the cancer’s ability to grow and spread. “I’m trying to cut off glucose by stopping one of the channels that brings glucose in by stopping the channel’s movement to the cell membrane,” he said, referring to tubulin-mediated transport of GLUT1. “Once we establish the connection between GLUT1 and tubulin more thoroughly, then we will be able to introduce inhibitors to see what is effective at slowing down cancer proliferation.”

Dr. Kiran Velpula said Labak’s grant award is very remarkable and uncommon for a medical student to receive. “This is exceptional and highly unlikely even for researchers, much less a medical student,” said Dr. Velpula, adding that the award represents Labak’s dedication. “Collin is very hard working, he gave up his summer to work in the lab, and he’s already gotten a publication. An abstract has been submitted for a conference in the spring. That’s something to brag about.”

Labak said they plan to present their findings next year at the American Association for Cancer Research annual meeting.

UICOMP will have two White Coat Ceremonies in 2017 with the annual welcome of second-year students, and for the first time in UICOMP history also welcoming first-year students.

Did You Know?

UICOMP welcomed 57 new, incoming M2 medical students on August 12 at the annual White Coat Ceremony. Medical students don the white coat to symbolize they are assuming the responsibilities of the medical profession. The ceremony occurs as these students progress from classroom studies to more clinical-based education. Parents, families and friends attend to celebrate this milestone as UICOMP welcomes students to the city and the Peoria campus.

“It symbolizes their lifelong commitment to providing excellence in patient care,” said UICOMP Regional Dean Sara Rusch, MD. “It is a special ceremony that faculty are privileged to share with our students and their families.”

Dr. Rusch and Dr. Al Maurer, a member of the Peoria Medical Alumni Council, presented students with their white coats. Dr. Greg Adamson from the Peoria Medical Society provided a keynote address.
The College of Medicine honored more than 70 faculty for their dedicated teaching, award-winning research and outstanding service at the annual Celebration of Excellence held November 17 on campus.

“Faculty are critical to the success of our medical school and medical student education,” Dr. Meenakshy Aiyer, UICOMP’s Associate Dean for Academic Affairs, told the crowd of more than 130 people as she thanked faculty for their unending dedication to training tomorrow’s doctors. Among the award recipients for 2016 were:

**FACULTY OF THE YEAR**
Timothy J. Bruce, PhD

**OUTSTANDING RESEARCH**
Amy L. Christison, MD
Ken-ichiro Fukuchi, MD, PhD
Jimma Ren, PhD

**OUTSTANDING SERVICE**
Trina D. Croland, MD
Rahmat O. Na’Allah, MD, MPH
Steven S. Tsorides, MD, MPH

**OUTSTANDING TEACHING**
Bhavana S. Kandikattu, MD
Stephen M. Lasley, PhD
David M. Pinson, DVM, PhD

**OUTSTANDING TEACHING AND SERVICE FOR COMMUNITY-BASED FACULTY**
Michael D. Cashman, MD
Srinivas R. Puli, MD
Earl J. Wipfler, III, MD

**GOLDEN APPLE**
Pushpa A. Joseph, MD
Ban Al-Sayed, MD
Julius C. Bonello, MD

**CURRICULUM INNOVATION AWARD**
Nur-Ain Nadir, MD

**OUTSTANDING SENIOR SCHOLAR**
Ronald V. Kowalski, MD

**COMMUNITY HEALTH AWARDS**

The Community Health Award individual recipients were Camilla and Dr. Ronald Rabjohns, who started Invictus Woods, a sober living extended care facility for individuals recovering from chemical addiction after learning that no such place existed in the area. They opened one in Glasford in 2014 and a second this year in Peoria.

The Community Health Award organization award went to Midwest Food Bank, which gathers up food and gives it away to partnering agencies free of charge. An average of 175,000 individuals and/or families in the Peoria area are served each month by the Food Bank.

**Pictured at Left from Top to Bottom:**
Regional Dean Dr. Sara Rusch and Midwest Food Bank Peoria Director Larry Herman
Dr. Ban Al-Sayed and Dr. Sara Rusch
Dr. Ronald Rabjohns, Dr. Sara Rusch, and Camilla Rabjohns
Dr. Timothy Bruce and Dr. Sara Rusch

**Pictured Above:** Members of the Senior Scholars Group congratulate Dr. Ronald Kowalski.

**Below Left:** Dr. Steve Tsorides, son Dimitri, and wife Mary Tsorides

**Below Right:** Drs. William Bond, Timothy Schaefer, Nur-Ain Nadir, and John Wipfler
THE STATE OF GRADUATE MEDICAL EDUCATION:
A LOOK AT GME IN PEORIA OVER THE PAST 10 YEARS

A glance at graduate medical education in Peoria over the past decade shows an astounding nearly 50 percent increase in the number of residents and fellows—now approaching a milestone of 300 total—with more growth on the horizon. Beyond the numbers, however, a closer look at changes in physician training over the same time period reveals a significant, positive impact for future patient care. Pathways sat down with Thomas Santos, MD, UICOMP’s Associate Dean for Graduate Medical Education to discuss GME in Peoria over the past decade and what’s to come.

HOW HAS TEACHING MEDICINE CHANGED?
Ten years ago, medicine in general was volume-based rather than value-based. Medicine was practiced in silos—each provider had his or her own panel of patients and that was it. Medicine now is more and more team based and it’s now clear that integration in an interprofessional sense provides the best medical care. At the graduate medical education level, we’ve had to make adjustments to try to teach residents how to practice medicine in a new era that’s defined by interprofessionalism, defined by value-based care, and one that requires residents to understand the fundamentals of continual improvement.

WHERE HAS THE GROWTH OCCURRED?
The stroke fellowship became ACGME-accredited in 2012, the number of residents and fellows—now approaching a milestone of 300 total—with more growth on the horizon. Beyond the numbers, however, a closer look at changes in physician training over the same time period reveals a significant, positive impact for future patient care. Pathways sat down with Thomas Santos, MD, UICOMP’s Associate Dean for Graduate Medical Education to discuss GME in Peoria over the past decade and what’s to come.

WHAT ARE THE CHALLENGES GME FACES?
Certainly, we’ve seen more and more requirements placed on the programs and residents. We’ve also seen reductions in duty hours. The challenges we now face in part are embodied in the transition from a broader competency-based curriculum to one that is governed at a more granular level. I would say there are three essential pieces that define how medicine at the GME level has evolved: the creation of Milestones for outcomes evaluation; the implementation of CLER, the Clinical Learning Environment Review, which ACGME is now emphasizing; and the curricular demands to teach value and interprofessionalism.

MILESTONES
Ten years ago resident evaluations were largely based on assessment of competence in the medical knowledge, patient care, practice based learning and improvement, professionalism, interpersonal and communication skills and systems based practice. The advent of milestones has provided educators with a more granular approach to evaluating residents’ progress as they evolve from novice to expert within their specialty. Milestones have had an enormous impact because they have given us fairly strict behavioral measures to mold our curricular goals, and have provided residents with more concrete guidelines and objectives.

TEACHING VALUE AND INTERPROFESSIONALISM
The demand to remove silos and the recognition that interprofessionalism is critical to providing optimal care, are supported by data which show better outcomes when care is patient-centered. You need a pharmacist to help educate the patient on medications; you need nurses to keep apprised of a patient’s daily clinical progress and you need social workers to participate in the economics of the medical experience. Finally, you need a central player, the primary care giver who can interact effectively with all members of the team as well as the consultants that the patient may need. Physicians must possess excellent communication skills and have a real appreciation of the contribution of each team member to the patient’s outcome. In Peoria, specialties like Pediatrics and Internal Medicine routinely apply this concept on interprofessional rounds, an inpatient experience. Resident Clinic more closely simulates the experience the trainee will have in clinical practice. Our hope is that one day pharmacists, nurses, social workers, case managers and even behaviorists will be routinely available to our residents in the outpatient setting.

CLER (CLINICAL LEARNING ENVIRONMENT REVIEW)
CLER focuses on areas which were previously not emphasized in post graduate training and asks how the training environment facilitates resident education in domains such as: patient safety, process improvement, healthcare disparities, transitions in care, professionalism and fatigue management. If you think about fatigue mitigation and transitions in care, one realizes that both areas fall under the scope of teams and team-based care. If you think about patient safety and process improvement, we’re really talking about value; about providing patients with an experience that is continually in the process of being improved. When we think about health care disparities, we’re really talking about health care management on the population level and that takes into consideration this need for interprofessional teams, for patient-centered care. You can’t take care of a patient unless you know the patient’s environment, or know the barriers patients face to receiving good medical care.

I could not be happier with the direction medicine has taken in the past 10 years. We have a long way to go but very few universities have as comprehensive an evaluation process for GME programs as we have adopted here in Peoria. We have managed to design a model where residents and patients both benefit.

EXPLAIN THE DIRECTION GME HAS GROWN?
The growth that has occurred is not happenstance. It is the result of a melding of the strategic visions of our clinical partners with the educational goals and mission of UICOMP, which is the ultimate expression of collaboration.
We have two new fellowships in medicine (cardiology and gastroenterology) and one that's in process - pulmonary critical care. They are all highly competitive fellowships that will enhance the quality of the parent Internal Medicine Residency Training Program. From the hospital's perspective, there was a need for more cardiologists and gastroenterologists, and what better way to grow that number than by starting a fellowship that could eventually serve as a source of subspecialists. And we have the proof of concept. The first graduate of the gastroenterology fellowship will stay on and become part of the faculty.

Growth is also taking place in areas of need at the primary care level. Additionally, there was a need in central Illinois for more education and enhanced patient care in mental health. Together with our training partners, this need is being met by the addition of a psychiatry residency which will ultimately infuse more providers in behavior health in the downstate region.

**WHAT'S NEXT IN GME FOR PEOIRA?**

Training in rural areas has increasingly become part of UICOMP residents' educational experience. General Surgery and Neurology have established resident rotations in cities such as Canton, Streator, and Pontiac. Emergency Medicine and Internal Medicine rotations have been established in Rockford. UICOMP has recently proposed the creation of a Rural-Global emphasis for its primary care programs and pediatrics has plans to develop a rural track. As mentioned, UICOMP has received accreditation of a pulmonary critical care fellowship will begin in 2017. Neurosurgery is interested in expanding the number of training positions offered. Medicine is also interested in expanding their number of residents to enhance the ambulatory care experience and hopefully increase the number of primary care doctors it graduates.

Due to the uncertainty of the impact of technology on the practice of Radiology, Interventional Radiology (IR) and Diagnostic Radiology (DR) have proposed the creation of a combined IR-DR fellowship to make training in Radiology more attractive.

**CLOSING THOUGHTS**

It has become increasingly clear that the best way to improve education in medicine is to view the experience from medical student to resident to practicing physician as a continuum. At UICOMP, this continuum is manifested in many ways. For example, the majority of our faculty teach at both the undergraduate and graduate medical levels and often give lectures to practitioners as well in order to provide credit for continuing medical education. As is true for residents, medical faculty teach at both the undergraduate and graduate medical levels. We have two new fellowships in medicine (cardiology and gastroenterology) and one that's in process – pulmonary critical care. They are all highly competitive fellowships that will enhance the quality of the parent Internal Medicine Residency Training Program. From the hospital's perspective, there was a need for more cardiologists and gastroenterologists, and what better way to grow that number than by starting a fellowship that could eventually serve as a source of subspecialists. And we have the proof of concept. The first graduate of the gastroenterology fellowship will stay on and become part of the faculty.

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**THE NEW UICOMP SIMULATION FELLOWSHIP TRAINING PROGRAM**

The Simulation Fellowship Training Program at UICOMP is the latest extension to the graduate medical training programs in Peoria. With fewer than 10 simulation fellowships programs currently existing in the U.S., the College of Medicine in Peoria – in collaboration with Jump Simulation and the University of Illinois at Chicago – joins the likes of Harvard, Stanford and other high-quality programs in this bold step that promises to shape and challenge how tomorrow’s physicians are taught.

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Impact In the Community

UICOMP students making an impact in the community

Two longstanding UICOMP student-run programs connect with dozens of Peoria middle and high school kids each year to teach and inspire.

Interactive simulations have become a primary component behind GUIDES. Started in 2011, the acronym stands for Guide, Understand, Inform, Drive, Educate and Serve. Its goal: encouraging minority and students of low socioeconomic background to pursue careers in medicine.

“GUIDES uses simulation to approach discussions about medical topics that are hands-on and engaging,” says Jean Lee, a UICOMP fourth-year student, who’s been involved in the program over the past three years. “We work on empowering participants in becoming advocates for their own health but also empowering them to teach their own peers and family what they learned during our sessions.”

The medical students take on topics such as CPR, heat stroke, calling for an ambulance, diabetes, anaphylactic shock, nutrition, obesity, sexually transmitted diseases, taking history and physicals, and even how to assess brain trauma. The interactive program, held once about diabetes, anaphylactic shock, nutrition, obesity, sexually transmitted diseases, taking history and physicals, and even how to assess brain trauma. The interactive program, held once about diabetes, anaphylactic shock, nutrition, obesity, sexually transmitted diseases, taking history and physicals, and even how to assess brain trauma.

The Penguins Project

Starting more than 12 years ago with its first theater performance, The Penguin Project theater company has grown tremendously—now numbering 17 programs across 11 states, including six in Illinois. But its greatest impact is right here in Peoria.

For anyone not familiar with The Penguin Project, the program teaches developmentally disabled children to perform a Broadway musical on stage.

“We see the same excitement and the same benefits every place we’ve gone – children are engaged more, their families are engaged more, they’re making friends, and they’re just really excited about the program and to be involved in theater,” says Dr. Andrew “Andy” Morgan, who with his wife, Kathy, are the founders and directors of the program.

Dr. Morgan, a professor emeritus of clinical pediatrics at UICOMP who has practiced at Easter Seals nearly 35 years, said 80-90 children continue to participate annually in the Peoria-based Penguin Project. He estimates over 1,000 children in the central Illinois area have been impacted and benefitted from the program since its inception, not including their families, the volunteers, and other community partners who help make the theater program possible.

Rehearsals for the next production, “Crazy For You, Younger Performers’ Edition,” a high-energy program with Gershwin music is well underway and will be performed on Jan. 12-15 at Eastlight Theatre in East Peoria. “It’s a great musical with a lot of great parts, and we have a lot of new kids participating this year who are in lead parts – it will be a lot of fun,” said Dr. Morgan.

‘Mini med school’ still going strong

Called the Manual Science Enrichment Program, this annual spring series brings high school kids from Manual to the medical school campus for an evening that includes dinner, hands-on activities, and mentorship.

Next year will be the 14th year since the inception of the program.

UICOMP student volunteers plan and execute each of the classes. Among the topics have included pig heart dissection, a suturing clinic using pig’s feet, sex education and relationship health, as well as a career panel and field trip.

Similar to GUIDES, the Manual program is designed to encourage minorities and students of low socioeconomic background to gain more interest and knowledge in science in the hopes of pursuing careers in medicine.

Manual students come to the UICOMP campus once a week over a 10-week period. There’s also a mentorship component as both the medical students and the high school students spend time together talking during dinner prior to each interactive session.

UICOMP graduate Patrice Carter, a surgeon in the Chicago area, said the idea for the “mini med school” program started as a way to provide community service and mentorship.
Promoting Healthy Eating and Active Play

Nearly two dozen residents in pediatrics, medicine-pediatrics and family medicine joined forces this year to educate and promote healthy lifestyles among families with young children living in Peoria.

The program, called Promoting Healthy Eating and Active Play (or PHEAP), was set up as a 5-week “course” held once a week at early childhood programs, schools and a neighborhood center in Peoria in an effort to curb excessive childhood weight. The physician residents cooked a healthy and economical meal for families, set up play activities for kids, and provided interactive classes to parents that delved into various health topics, such as sleep health, activity levels, nutrition, breast feeding and dental health.

More than 60 families participated this year in the program, which residents are now looking to offer on an annual basis.

“I think that’s where a lot of the deficits are – not having a lot of that basic information,” said Dr. Erica Owchar, a Pediatrics Chief Resident who was among four residents who spearheaded the program. “The difficulty in preventing childhood obesity is a lot of that basic information is not there for families. If you at least teach them the basics, they can take that small amount of information and apply it to their lives.”

UICOMP received a $25,000 Grant from the American Academy of Pediatrics for the program. PHEAP also won the Anne Dyson Award from the national AAP for the work and received an extension grant of $5,000, said Dr. Amy Christison, the faculty advisor for the project.

“We avoided saying ‘we’re trying to avoid your child from becoming obese’ and instead focused on healthy habits and behaviors, and identified some modifiable behaviors,” said Ed Martinez, a Pediatrics Chief Resident.

Dr. Martinez said the meal the residents cooked was a healthy version of a traditional meal. They shopped nearby grocery stores and chose food that was economical to show by example. They identified activities children could do indoors, including a bingo-like game involving physical activity that families were able to take home afterward. They also went over food labels and dispelled many health-related myths along the way.

The results! Both Drs. Martinez and Owchar said the program was well received and produced real results.

Parents who participated took quizzes before and after each course, which saw improvement in their health knowledge and understanding, they said. Several residents and even medical students volunteered, so they also had a lot of engagement as well.

“I think it helped with motivation of why we’re in this profession – it’s not just to show up at the clinic, it’s about getting to know the patients that we’re treating and learning about the community we serve,” said Dr. Martinez. “It’s an eye-opener.”

Succession plans are in place to continue PHEAP next year in the spring and summer.

Impact In the Community

The Córdoba Specialty Clinic

A new clinic providing low cost comprehensive specialty healthcare to central Illinois residents who have no insurance or are underinsured also is providing UICOMP students with new volunteer clinical experience opportunities.

Called Córdoba Healthcare, it is staffed entirely by a team of volunteers. Patients are able to see physicians and receive care in cardiology, gastroenterology, nephrology, orthopedics, pulmonology, and pediatric gastroenterology. Oncology and rheumatology may soon be added. A dentist is available for exams and other medical needs, and ophthalmology is available to patients on referral.

Córdoba, the vision of Dr. Wasim Ellahi, a gastroenterologist at Illinois Gastroenterology Institute and a Clinical Assistant Professor for UICOMP, opened its doors in July about eight blocks from the UICOMP campus within the Heartland Community Clinic at Carver, 711 W. John Coyn Jr. Ave.

“Students have the opportunity to do everything in the clinic,” said Dr. Ellahi. “They talk to the patients when patients enter the clinic, take their vitals – it’s a hands-on experience. Students take histories and give examinations. (Physicians) discuss the patient with students, and then we go back into to talk to the patient as a group, provide a differential diagnosis and treatment plan. If we order some labs, some students like to draw the blood. They love doing these things and I think it is very valuable for them.”

Paulo Michelini, a third-year UICOMP student, has been with the clinic from the very beginning.

“It’s been great working with Dr. Ellahi and helping to develop the Córdoba Clinic with him and his partners. My job has been mostly on the logistics and organizing the volunteer workforce from UICOMP. All the medical students that come to volunteer are placed into stations’ where they can work on all areas of the clinic. Thus far, medical students have mostly been involved with taking history and physical examinations, and charting. It’s been a great experience working with the physicians and the patients.”

UICOMP student Annabella Taveras agreed.

“I’ve volunteered a few times because I believe it’s a much needed service in our community. We have a number of free health clinics but these mostly take the role of primary care, not issues where a specialist would be required. When I was volunteering recently, there was a young man who came in…and by the end of the visit, he was signing up to volunteer in the clinic. That really showed me how grateful people are to have this service.”

“Not only is Córdoba providing much needed care to patients in the community and a learning experience for students but also provides an outlet for the medical community.”

“When I talk to the physicians, they just want to do community service,” he said, noting the opportunity to provide volunteer care previously was not readily available. “We provide that. We provide the facility, we provide the malpractice insurance and liability. They can just come in and see patients. And the patients are very grateful. You see that. Some of them have tears in their eyes.”

“Córdoba is one particular project that I took leadership in from the student side because I believe it is important and want to see this project succeed for the benefit of our community. In my mind it is part a greater goal to try and provide fee/accessible healthcare to those most in need, which includes the initiation of our own student-run free clinic as well in the future.”

— UICOMP Student Paulo Michelini

All photos here by Clare Howard, Community Word
Turning Fright into Fun

Every year, UICOMP’s medical students look forward to hosting the annual Halloween party for children with Diabetes. Together with the Diabetic Pediatric Resource Center at OSF Saint Francis Medical Center, students send out invitations to hundreds of children with diabetes and their families. This began as an effort of medical students to show children that even though they are diagnosed with diabetes, they can still very much enjoy the candy-filled Halloween holiday.

“Working in the pediatrics unit, many of us see how difficult it is for children and their families to learn of a new Type I Diabetes Mellitus diagnosis and it is important for us to show kids that this diagnosis doesn’t have to limit their childhood,” says third-year student Natalie Reyes.

Kids come dressed up every year in their unique costumes. At the party, medical students work to turn part of the medical school into a haunted house which some kids will go through dozens of times. While some medical students spend time doing some scaring in the haunted house, other students help to run the fun and activities in the student lounge. Kids play many games, such as Halloween Twister and Pumpkin bean bag toss. There is face-painting and crafts, such as jewelry making and other Halloween fun.

Students also provide lunch and Halloween candy for kids and their families. They are sure to have many printed sheets to explain the carbohydrate counts in all the food and candy provided; and this way, families can manage the diabetes more easily. Most importantly, the medical students work with kids and parents to explain that children with diabetes can enjoy a fun Halloween too!

Serving the City’s Most Needy

Every Saturday, the Loaves and Fish ministry program at the First United Methodist Church in Downtown Peoria provides a warm meal, educational services, and for nearly five years, a free medical clinic to some of the city’s most needy. The clinic serves the physical, emotional, and spiritual needs of medically disadvantaged persons from the inner city. Using volunteer physicians, advanced practice nurses, physician assistants, registered nurses, students, and social workers, it offers free medical exams medically disadvantaged persons from the inner city. Using volunteer physicians, advanced practice nurses, physician assistants, registered nurses, students, and social workers, it offers free medical exams.

“Turning Fright into Fun” is a great success so far and we just really want to continue getting out there in the community to those in need. We would love to partner more with the residents and medical students,” said Garrison.

Addis Dr. Lynch: “My goal is to get the residents to think about the things they can do to partner with these patients to gain their trust, compliance and then outcomes. That’s what we need to do as physicians and this is sort of the purest form of that. If they can do it in this setting, they can probably do it anywhere.”

Impact In the Community

In addition to his cancer research at UICOMP, Kiran Velpula, PhD, Assistant Professor in the Department of Cancer Biology and Pharmacology, is making an impact in another way - by taking a volunteer position. Dr. Velpula became the newest member of the Peoria Area Chamber of Commerce in June, where he joined the Chamber’s government affairs and education and workforce committees.

Impact In the Community

When Dr. Terry Lynch learned OSF was taking charity care directly into Peoria neighborhoods with the least access to health care, she saw a great opportunity for UICOMP’s Internal Medicine Residency Training Program and immediately was onboard.

Called the Care-A-Van, it’s literally a clinical office on wheels. A 60-foot mobile recreational vehicle was retrofitted with a check-in area, two exam rooms, examination equipment, and staffed with caregivers, including an insurance coordinator. Its goal: promoting health education and prevention, and to provide access to care for those in need.

“For the residents, I thought this was a chance to better understand health care disparities and population health management,” said Dr. Lynch, the Program Director for the Internal Medicine Residency Program. “Sometimes, as physicians we may not truly understand the barriers some of our patients face, and it can be hard to know those things without going into a patient’s community, and talking with them in their environment to begin to break down some of those barriers.”

Purchased by the OSF Foundation and financially supported by OSF Saint Francis Medical Center, the Care-A-Van hit Peoria’s streets about a year ago. Since then, more than 550 patients have been seen on board. Staffing is provided with help from OSF’s Faith Community Nurses, dietitians, and exercise specialists, but has grown to include the Internal Medicine residency program every other week as well as pharmacists and dentists for special events. Coordinators also are looking at how UICOMP medical students can participate in the experience as well.

“People seem to be glad we’re here,” said second-year resident Dr. Michael Coombs, during a recent shift where the Care-A-Van was stationed in a South Peoria parking lot. “It’s not a whole lot different than being in the clinic – many of the people here just have not been able to get in to see their doctor due to limited access to care.”

The idea for the mobile care unit was born in part by Jo Garrison, the OSF Saint Francis Medical Center Director of Ambulatory Patient Care.

“I think it speaks to the importance of going to the community where people live, work, pray and play. It has been a very rewarding experience. It’s just been a great success so far and we just really want to continue getting out there in the community to those in need. We would love to partner more with the residents and medical students,” said Garrison.

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More than 120 faculty, physicians, students and staff from across the four College of Medicine campuses gathered in Peoria for a crucial two-day retreat in October. The momentous occasion continued planning for the new College-wide curriculum that will boldly reshape how future doctors are trained at the University of Illinois.

Much of the two days were spent discussing the structure for the clerkship phases of the new curriculum—the time medical students spend on clinical rotations in the hospitals and outpatient clinics. The College-wide curriculum committee also continued talks on preclinical details, which will be rolled out to first-year students in August of 2017.

"We have come from the 30,000-foot view to the 3,000-foot view—a lot has been done, but we still have much to do," said Dr. Meenakshy Aiyer, Associate Dean for Academic Affairs at Peoria, who is leading the curricular transition in Peoria.

"The retreat provided a venue for a lot of rich discussion about the clerkship phases, integrating with the preclinical, and a lot of talk about outcomes—how we’re going to assess the curriculum and track the development of our students as they prepare for residency," Dr. Aiyer said. "Looking forward, we’ll start to see more of the coursework and case development, including how we will integrate longitudinal clinical experiences our students will receive in the community. We also must ensure faculty are prepared and any new technology works."

**A BRIEF LOOK AT CURRICULAR CHANGES**

- The traditional four years of medical school will be divided into three Phases. Phase I represents the preclinical years. Phases II and III represent the clerkship years.
- The preclinical Phase I will conclude in the spring of the second year, allowing more time students have for clerkships.
- Phase I will be taught using an organ system-based series of blocks, including both symptom vs. disease-based approaches.
- Each organ system block, including content, assessments and when it will be delivered during the year will be the same college-wide. How each campus teaches each block may differ depending on resources.
- Clinical skills and longitudinal clinical experiences will be integrated into student learning beginning in the first year.
- Each block will include one week of "synthesis" to integrate material between organ systems.
- Frequent low-stakes quizzes will provide students with immediate feedback on their learning or understanding of the material.
- All four years will have five themes integrated throughout. They are: Health, illness, society Professional Development Health Care Systems Clinical Practice Foundational Knowledge.
- Each campus has two directors assigned to help develop each block of content, one for basic science and the other for clinical science.
- Peoria has established a new Department of Health Sciences Education to oversee the foundational course work for all students, including first-year students.

**New Models & New Themes**

Dr. Jessica Hanks, Assistant Dean for Preclinical Curriculum and Evaluation, said the new curricular model will be built on blocks, but how those blocks will be constructed in the clerkship phases is still being decided.

"We looked at six possible models—the pros and cons—to determine which would integrate well with the preclinical model and also provide students the most robust experience overall," Dr. Hanks said.

Models varied from an independent block model where students spend a predetermined number of weeks in psychiatry, OB-GYN, internal medicine, pediatrics, surgery and family medicine—very similar to the current structure at UICOMP. A longitudinal model suggested following a patient panel through the specialties. Another “linked” model suggested rotations such as pediatrics and OB-GYN or surgery and OB-GYN to “connect” to train skills that are common. Variations also were suggested.

"We will be talking at our individual campuses about what we like but also what we can achieve given our resources. Do we maintain our current model because there is familiarity and flexibility for students?" Hanks said. "I think everything is moving in the right direction, and while our campuses each have some differences, this retreat really showed how unified we are in a shared vision, which is providing a great learning environment for all of the students."

Included within the revised curriculum are five themes. While integration of the themes often will occur within the natural discussion of course topics, a half-day once per week also we devoted independently to address them.

Dr. Elsa Vasquez-Melendez, Assistant Dean of Diversity and Inclusion, is a “theme leader” for Health, Illness, and Society. She said her group is working to integrate knowledge in population health, health disparities, including vulnerable populations, cultural understanding, ethics in medicine, and professionalism.

"We will be taking a more patient-centered approach with our topics," said Dr. Melendez. "For example, during the organ segment on the heart, we can talk about heart failure from a population standpoint—who is it that is more likely to face heart failure—and the obstacles patients face in terms of being able to afford prescriptions or access to care. Much of what we’ll be discussing centers on the humanism of being a physician."

"Training as if they were practicing physicians’ I think the most exciting thing about the curriculum we are developing is that students will be immersed in the clinical when they start," Dr. George Kondos, Vice Chair for Clinical Affairs of the Department of Medicine at the Chicago campus, told the curricular committee at the start of the retreat. "As a clinician, what I would like to see is the students go through their training as if they were practicing physicians, so that there is not a gap between when you leave medical school and all of a sudden, you’re a doctor.

Students agree.

Daniella Lucas, a fourth-year student at Peoria who is on the curricular transition committee, said introduction to clinical aspects early on is critical.

"It’s sometimes hard to conceptualize what you’re learning when you don’t have the clinical knowledge to apply it," said Lucas. "We learned all this physiology but never really connected things—you almost had to go back and reteach yourself—so to have it all together in one package will be really nice."

Lucas said both the curricular reforms and the campus expansion—spending all four years on the Peoria campus—will provide students a better learning experience. That includes reducing redundancies in the information students are taught, decreased lecture time and increased interactive classroom experiences, as well as access to better technology.

**Students are not the only learners**

Faculty are learning more about how they teach. Integrating new technology, the new themes, and new teaching formats, such as flipped classrooms, will require guidance and workshops for faculty.

"Moving away from lecture-based and lecture-dominated classes to those involving more problem-solving and team-based activities has been taking place over the last few years in Peoria (more than 100 hours over the past four years), but what we’re looking at here is a more consistent approach moving forward," said Leslie Hammersmith, UICOMP’s Assistant Dean for Technology Enhanced Education.

Dr. David Pinzon, Professor of Clinical Pathology, said he spent 60 to 70 hours designing a “flipped” class on lipidsomics.

What historically had been a two hour lecture on a traditionally tough topic with poor results, he recently took and revised into one students gave high marks.

"The real work of designing a recorded lecture series on specific content is not the recording, it’s the preparation for the recording that takes 80 percent of the time," said Dr. Pinzon, who developed a storyline and created slides before writing a script of what he would actually say. He noted prep time may range from 20 to 80 hours, depending on the topic.
Dr. Pinson created eight short recordings under a total of 100 minutes long on lipidomics that included common medications. Students were required to watch or listen to that material prior to class. He then converted the classroom time into two sections: one section involving clicker questions – to assess whether students understood the content – and the other section involving a clinical case, where they worked in teams to develop their analytical skills to solve the case.

“This is not about regurgitating facts, it is about whether they can solve problems. Can they make a diagnosis and manage a case,” said Dr. Pinson.

MOVING FORWARD, WHAT’S NEXT?

Renovation and construction

To facilitate this interconnected learning, the second floor is undergoing extensive renovations to create a new suite for human cadaver dissection and virtual anatomical dissection as well as a new technology-rich classroom. Work will begin in January and completed in June. Fifty-five first-year students will arrive in August.

The Learning Studio

Accommodating up to 72 students in a team-based learning environment, twelve stations each will have seating for six students, a large 55-inch monitor, microphones, white board space, and charging outlets. The Learning Studio will be among the largest classrooms on campus. Its flexible design, with moveable tables, large touch-screen monitors, and easy-to-use audio/visual technology will allow faculty and students to shape and reshape the classroom as needed to facilitate learning. Glass and whiteboard panels will be installed for note taking. The space also includes two small group classrooms/quiet study rooms.

The Anatomy Lab and Virtual Dissection Suite

The anatomy lab will accommodate up to six cadavers for traditional dissection. Each dissecting lab space will include an Anatomage table – a human-sized touchscreen table to display all areas of human anatomy, including as they are viewed under various scans, such as X-ray and MRI, and allows users to “remove” layers of skin, muscle or other tissue with the touch of a finger. The virtual dissection lab will include mobile ultrasound, and seating for up to 20. A men and women’s locker room will be located across the hall. Both labs and locker rooms will have secure access and independent ventilation.

Curricular Targets & Other Dates

Final details for Phase I of the new curriculum are expected to be completed in the spring. Preliminary approval also will be sought at that time for structure of Phases II and III. The new first- and second-year classes will begin in August with a White Coat ceremony planned for August 11 and a White Coat ceremony for the new first-year class on August 25.

“We have some phenomenal faculty and students, we have great resources with our two teaching hospitals and the simulation center, we have small class sizes, we are recruiting some very strong faculty to the department, and we have tremendous staff … so we have a lot going for us and we’re in a good position moving forward to be successful,” said Dr. Alyer.

Donors are excited about the opportunities to give back offered by UICOMP’s expansion to a four-year medical school and curricular transformation. By the time you receive this, or very soon after, OSF HealthCare and UICOMP will have announced a $1,000,000 gift to the University of Illinois College of Medicine! Of this gift, $750,000 is earmarked to support the Peoria campus and $250,000 to support the Rockford campus. Physician shortages, particularly in rural communities, are worsening and OSF HealthCare appreciates the important role the College of Medicine plays in training physicians for downstate Illinois. Our spring Pathways will provide expanded information on this key gift and the UICOMP learning studio that will be named in recognition of OSF Healthcare’s generosity.

Student and Resident Alumni of UIC and UICOMP are giving back.

Last issue, we announced a major gift ($75,000) from alumni Regional Dean Sara Rusch and Dr. Thomas Cusack (in honor of her sister Sandra Rusch). Dr. John P. Henderson (Resident Alumni) and his wife Beverly gifted ($50,000) in recognition of the education Dr. Henderson and son, Dr. Brett Henderson (UICOMP’84 grad), received in Peoria. Dr. John Henderson went on to be a UICOMP neurosurgery department faculty member from 1972 to 2006. Dr. Larry Jennings (UICOMP Class of 1980 student and 1984 resident alumni) and his wife Evelyn of Mount Carmel, Illinois gave a major gift ($100,000) with the comment: ‘I’m happy to give back to the College of Medicine in their time of need. I encourage all alumni to join me. Our successful careers could not have happened without our medical education that we received in Peoria.’

We currently are contacting each of our alumni physicians as part of our “Alumni Give Back” campaign and asking each for a commitment of $1,000 or more. We are grateful to the alumni donors that have already made their contribution. Online donations for “Alumni Give Back” can be made at http://go.illinois.edu/m1giftalumni. Other Faculty and Community Physicians are donating as well.

The Mary and Tony Masi Foundation made a major gift ($50,000) recognizing UICOMP faculty member Dr. Al Masi as he retires. Dr. Masi has been a distinguished UICOMP faculty member since 1978. The Senior Scholars Group also is leading a philanthropic drive asking each Scholar for individual contributions to support the infrastructure needed to prepare the campus for the arrival of M1s and our new curriculum.

While major gifts will be recognized with named spaces, we are grateful for each and every gift we receive from our community partners, our alumni, our faculty and all those who have contributed to our preparations for M1 students and curricular transformation. We are committed to providing an exceptional academic experience for the next generation of physicians. Please make a gift to support our efforts.
What is Compassion Training?

Cognitively-based Compassion Training, or CBCT as it’s called for short, is a method for cultivating greater well-being through the use of reflective practices. Think of it as a toolkit for emotion regulation. You can’t control the adversities that happen to you but you can control how you relate to them. CBCT fosters attention stability, impulse control, cognitive control, resilience, and the cultivation of kindness and compassion towards self and others.

Rather than relating to the suffering of others with empathetic distress, which can be poorly managed and overwhelming as well as lead to burnout and depression, CBCT helps foster the ability to relate to others with empathetic concern and kindness. Scientific studies show CBCT leads to improved patient outcomes and improved wellness of the healthcare practitioner.

Developed by Dr. Lobsang Tenzin Negi at Emory University as a secular alternative to Indo-Tibetan contemplative practices to cultivate compassion, CBCT is now offered to all Emory students. It’s widely practiced across the country, including to a wide range of audiences and special populations, such as cancer survivors, parents of children with autism, and veterans with post-traumatic stress disorder.

Why is CBCT training vital for physicians?

We’re trying to pre-empt an urgent problem that statistics are telling us: Nationally, an estimated 300-400 physicians die annually by suicide. Of all occupations, the medical profession consistently is near the top with the highest risk of death by suicide. Additionally, burnout rates are high. Burnout doesn’t just mean a person is miserable, however for physicians, burnout can have an effect on performance, which can translate into poor patient satisfaction and possible errors, as well as having an impact on home life. At the student and resident level, depression rates also have seen increases. CBCT is being eyed to help curb these alarming numbers.

The positive, wide-ranging impact CBCT can have is immense, not only by affecting the individuals who participate in this activity or training, but moreover, everyone they encounter, whether patients, a patient’s family, staff, medical students & residents, co-workers, and their families.

What’s happening in Peoria?

Dubbed the “Illinois Six Pack” – a group of five UICOMP faculty and one student counselor from Methodist College are enrolled in a year-long CBCT teacher certification program through Emory University. The group consists of Bento Soares, PhD Senior Associate Dean for Research and Head of Cancer Biology and Pharmacology; Jean Clore, PhD Assistant Professor of Clinical Psychiatry; Francis McBee Orzulak, Associate Professor of Clinical Medicine and Director of the Medicine-Pediatrics Residency Program; Bhavana Kandikattu, Associate Professor of Clinical Pediatrics and Director of the Pediatric Residency Training Program; George Johnson, Professor of Clinical Pediatrics; and Debra Disney, a student counselor at the Methodist College of Nursing. The intensive year-long program has included weekend workshops, a 10-day retreat, and weekly videoconferencing sessions. The group also will be participating in a teaching assistantship training component for eight weeks – meaning they will be teaching CBCT to others here at UICOMP. At the conclusion, UICOMP will host Dr. Negi – who created CBCT at Emory – in Peoria to speak at a lecture in April.

What’s next? What’s your vision?

Our plan is to start offering CBCT to students, residents and faculty in the Spring of 2017. We also are participating in a local curriculum committee led by Dr. Greg Tudor and Dr. Meenakshy Aiyer to include key concepts of CBCT into themes and subthemes of the new curriculum.

The national statistics on rates of burnout, depression and suicide among physicians is quite concerning. As educators, we have responsibility to endow our students with the skills that will make them resilient and compassionate, so they do not fall victim of the statistics, and so they do not give up the altruistic and compassionate motives that led them into medicine. It’s my hope that the more our community embodies the principles of CBCT, the healthier we will be and the richer our training environment will become. The potential benefits are enormous and I think can have a ripple effect through the University, the hospitals, the patient populations and throughout our community.

Jean Clore, PhD
Assistant Professor of Clinical Psychiatry

“Despite extensive training in various mindfulness-based approaches, CBCT has been transformative for me. It’s given me tools, beyond the typical benefits of other similar trainings, to decrease my own burnout, to be more attuned to the needs of others both professionally and personally, and to focus on what really matters in life. With practice, I think CBCT has the potential to shift your perspective in such a way that can only lead to happiness.”

Bhavana Kandikattu, MD, FAAP
Associate Professor of Clinical Pediatrics
Director, Pediatric Residency Training Program

“Stress and burnout are not unfamiliar situations during one’s medical training. The rigors of residency have one working up to 80 hours per week in highly stressful situations with little time for personal health and families... The CBCT course is helping me gain better knowledge on cultivating self-compassion, developing sound stress relief techniques, and developing stability of the mind, which in turn I can teach to my learners (residents, medical students and faculty) to help them handle or overcome stressful situations in their day-to-day life. I feel that a little practice goes a long way and I hope to help residents and students develop into strong physicians of the future.”

Geshe Lobsang Tenzin Negi, PhD, co-founder and director of the CBCT program at Emory University, will be the guest speaker at the Swain Endowed Lectureship on April 11 to be held at Jump Simulation Center.

Mark Your Calendar
Meet the Newest Caterpillar Cohort

The Caterpillar Faculty Scholars is an endowed longitudinal faculty development program, which competitively selects 7-9 young faculty every other year. Led by Dr. Meenakshy Aiyer, those who are chosen spend each Tuesday afternoon for 16 months focused on developing their leadership, teaching and research skills. Each person also must complete a research project. To date, 46 faculty scholars who have completed the program have advanced to positions of leadership in their respective departments and hospitals.

The newest Caterpillar cohort are:

Ban Al-Sayyed, MD
Assistant Professor of Clinical Pediatrics

A Pediatric Infectious Disease Consultant with almost 12 years of experience, Dr. Al-Sayyed obtained her MBBS from Jordan University of Science and Technology in Jordan. She completed residency and a year as chief resident at St. Joseph’s Medical Center-Children’s Hospital in New Jersey. She completed her fellowship in Pediatric Infectious Diseases at Children’s Hospital - Montefiore Medical Center in New York in 2004. She worked in Cincinnati Children’s Hospital for one year before she was then appointed as the Medical Director of Pediatric Infectious Diseases at Memorial Hospital for Children, an affiliate of The Children’s Hospital of Denver, Colorado. She joined UICOMP in October 2014. Her passion is teaching medical students and residents, which was recognized for by receiving the Golden Apple award in 2016.

Anu Vishwanath, MD
Assistant Professor of Clinical Pediatrics

A Pediatric Intensivist at Children’s Hospital of Illinois, Dr. Tripathi completed fellowship in critical care from Cincinnati Children’s Hospital (2008-2009) and Montefiore Medical Center in NY (2009-2011). An attending physician at Montefiore and Mayo Clinic prior to joining Peoria, Dr. Tripathi’s interest is in clinical research (Diploma in clinical and translational research from Mayo Graduate School, 2015) and quality systems and processes (Six Sigma Black Belt from American Society of Quality and ‘Gold’ Mayo Quality Fellow). Dr. Tripathi also is working towards obtaining a Master’s degree in health care quality and safety from Jefferson School of population health.

Amanda Wright, DO
Assistant Professor of Clinical Family and Community Medicine

Dr. Wright grew up in Racine, Wisconsin, studied biology at Saint Mary of the Woods College in Indiana, and then came to Illinois for medical school, which she completed at the Chicago College of Osteopathic Medicine. She completed her internal medicine residency in Family Medicine at the University of Kansas, medical school and residency in Omaha, and fellowship in Ann Arbor. From 2015 to 2017, she was a faculty member of the University of Kansas and became an Assistant Professor of Internal Medicine. She joined UICOMP in 2016. Dr. Wright is a diplomat of the American Board of Internal Medicine and is an active member of the American Osteopathic Association and American College of Osteopathic Family Physicians. She is also the Director of Student Medical Education for the Kirksville College of Osteopathic Medicine.

What the previous cohort had to say about Cat Scholars:

“Over the course of the program, I improved my skills in curriculum development, teaching, leadership, and research. It is a supportive and fun environment to learn, and I would do endorse the program to anyone interested. Faculty that have taken this fellowship have gone on to do great things and become leaders in their division. This fellowship will lay the groundwork for academic career advancement.”

— Michele Beekman, MD, FAAP

A retrospective study examining the characteristics of pediatric patients who have undergone sedation for VCUG (Voiding cystourethrogram)

“Working in academic medicine is much more than research. The program provided education and mentorship in all aspects of scholarship that equipped me to move forward in this field with all of the tools I need for success. The educators are remarkable and the curriculum is very well thought out. It is so much more than statistics. If you are interested in academic medicine, this program is a must.”

— Matthew Bramlet

Developing a novel method for extracting anatomical information in 3D from MRI data sets
Six new proposals were approved for funding through the Jump ARCHES program (Applied Research for Community Health through Engineering and Simulation). ARCHES, a partnership between clinicians and engineers to advance health care, formed in 2014.

**Interactive Technology Support for Patient Medication Self-Management**
Dr. James Graumlich, UICOMP Chair of Internal Medicine, is part of a team of engineering professors at Urbana Champaign, including educational psychologist Dan Morrow to develop a natural language processing tool that translates technical medication information into patient-centered language in electronic medical records (EMR). This “medication adviser” system will support best practices gleaned from face-to-face communication techniques. The researchers also will engage patients by developing interactive capabilities, such as using “teach back” when communicating with patients.

**Multi-Modal Medical Image Segmentation, Registration & Abnormality Detection for Clinical Applications**
Dr. Matthew Bramlet, a UICOMP pediatric cardiologist and Director of Jump’s Advanced Imaging program, is working on a team developing an automated method to easier separate images of particular organs from an entire 3D rendering, allowing physicians to better detect abnormalities in medical images.

**Developing MRI Acquisitions and Protocols to Enable Automated Segmentation of Cardiac & Brain Images**
In this project, Dr. Bramlet is helping to create an imaging protocol to help doctors get a better picture of the heart and brain.

**Surgical Planning via Preoperative Surgical Repair of Next Generation 3D, Patient Specific, Cardiac Mimic**
This third ARCHES project of Dr. Bramlet carries on work he has focused on over the past two years but with a twist. Researchers will leverage CT imaging and segmentation approaches to create new models for printing 3D infant hearts that mimic the structure, material properties, and physical defects of tiny patients. Physicians will be able to use the 3D models to practice surgical techniques and then use imaging methods to evaluate the effectiveness of the procedure.

**Development of a Robotic Forearm to Simulate Abnormal Muscle Tone Due to Brain Lesions**
Dr. Dyveke Pratt, a clinical assistant professor in neurology, is part of a team developing a robotic forearm to simulate abnormal muscle tone due to brain lesions. The outcomes will be used to inform the development of enhanced simulators for mimicking additional behaviors, device design using fluids and flow channel configurations, and future training mannequins with moveable limbs.

**Peoria collaboration with NYU and Yale is taking a basic science look at mitochondria**
UICOMP researcher Dr. Eleonora Zakharian has teamed up with colleagues at Yale and New York University for a NIH-funded project that is looking for new therapeutic avenues for stroke. Current treatment of stroke involves reperfusion — restoration of blood flow to the ischemic regions. The challenge is protecting affected ischemic cells from the stress induced by reperfusion. During reperfusion, the mitochondrial membrane undergoes a permeability transition and becomes highly “leaky” to ions and small molecules, whereas in a healthy brain, the permeability of the mitochondrial membrane is strictly regulated.

The collaborative investigation by the team led to a discovery of molecular complexes implicated in the permeability. The 5-year study aims to identify causes of the permeability and identifying mechanisms to block it. The grant will provide Dr. Zakharian’s lab with about $85,000 to fund her part of the study.

"Mitochondria not only provides the cell with energy, but in this aspect determines a cell’s fate," said Dr. Zakharian. “In stroke, cells die off very quickly and can cause a lot of tissue damage. All of the damage that is occurring actually begins with signaling – dysfunctional signaling – in the mitochondria. We’re very excited about what we’re seeing in the lab in the hopes this will lead to novel forms of treatment for stroke in the future.”
When the Cancer Research Center addition was completed in 2011, it was designed to grow the existing cancer research programs on campus. The two-story wing was seen as opportunity to expand the connections and discoveries among the basic sciences with clinical applications at UICOMP’s partner hospitals and other collaborators.

The decision to focus on these particular areas was made after many discussions within the department, Dr. Soares noted, adding that the faculty recruited also expands the scope of cancer research UICOMP has to include melanomas and leukemia.

**BUILDING CANCER RESEARCH AT UICOMP**

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**MEET THE RESEARCHERS**

**Peter Gyarmati, PhD**
Assistant Professor of Cancer Biology and Pharmacology

Dr. Gyarmati comes to UICOMP from the Karolinska Institute in Sweden, where he led a multi-disciplinary translational research project studying infections associated with treatment of leukemia. Dr. Gyarmati earned his PhD in microbiology from the Swedish University of Agriculture followed by postdoctoral work in physiology at the University of Kentucky and microbiology at Karolinska. His expertise focuses on the microbiome in pediatric leukemia, and he has already developed collaborations with oncologist/hematologists at Children’s Hospital of Illinois to continue his work. Specifically, he is looking at infections - a major cause of mortality in leukemia - during chemotherapy, and using DNA sequencing to provide better antimicrobial treatment.

**Swapna Asuthkar, PhD, MSc**
Assistant Professor of Cancer Biology and Pharmacology

**Cancer Immunology**

After conducting an international search, Dr. Asuthkar was promoted from within UICOMP’s Department of Cancer Biology and Pharmacology to lead research in medulloblastoma, a type of brain cancer that often affects children and is commonly recurrent. Prior to UICOMP, she was a research fellow at the University of Hyderabad in India. Dr. Asuthkar’s background is in biochemistry and animal sciences, including more than six years in postdoctoral cancer biology research that involves cancer stem cell properties. Her current work focuses on using the body’s own immune system, including targeting a tumor’s immune system, to identify new possible molecular therapies for medulloblastoma, which also could lead to new pathways for treating other forms of cancer.

**Richard Macdonald, DPM**

Dr. Macdonald was the recipient of the 2016 American Podiatric Medical Association’s Meritorious Service Award. The award honors individuals who demonstrate outstanding accomplishments on the local, state, or regional level in scientific, professional, or civic endeavors that have had a profound impact on podiatric medicine.

Dr. Macdonald, a longtime volunteer UICOMP faculty member both at the undergraduate and graduate level and general supporter of the College, including serving as a member of the Continuing Medical Education Committee. He was the 18th podiatrist to be commissioned in the US Army’s history, he led a landmark case for podiatrists nationwide in seeking full credentialing at hospitals, and has published numerous articles in the field of podiatry. He also has authored two books, including a children’s book illustrating his fathers’ endeavor, along with another colleague, to create the first Whooping Cough vaccine – the dominant vaccine still used today.

**Sang-Oh Yoon, PhD**
Assistant Professor of Cancer Biology and Pharmacology

**Cancer Metabolism**

Dr. Yoon has spent more than 14 years studying various aspects of tumor biology, including six years at Harvard Medical School, four years at the University of Cincinnati College of Medicine and the past two years at Cornell University’s Sandra and Edward Meyer Cancer Center. His research spans various cancers, including skin cancer, cervical cancer, gastric cancer, thyroid and lymphoma cancer with nearly 40 publications cited on PubMed. Dr. Yoon’s expertise is in cell signaling and involves biochemically and molecularly decoding cancer cell signaling that cancer cells use to grow and become resistant to treatment. He currently is focusing on tumor metabolism and tumor resistance to anti-cancer drugs in breast cancer and melanoma.

**Alfonse T. Masi, MD**

Dr. Masi, a UICOMP Professor of Medicine and Epidemiology, received the coveted Townsend Harris Medal from The City College of New York for his outstanding postgraduate achievements.

Dr. Masi, a 1951 graduate of CCNY and a longtime Head of Medicine and Chief of Rheumatology at UICOMP, has a long history of commitment to scholarship benefitting patients and in support of students. He pioneered clinical-epidemiological research of rheumatic diseases. In fact, Dr. Masi continues teaching and has active research in several areas of rheumatic diseases, including ankylosing spondylitis (AS). He has pioneered scholarship and research in the physical entity of human resting muscle tone. Named a Master of The American College of Rheumatology in 2000 (one of the highest honors the College can bestow a member), Dr. Masi currently has well over 200 publications indexed in PubMed and has published an equivalent number of abstracts, book chapters, letters to editors, and other commentary.

He joins a list of distinguished recipients of the Townsend Harris Medal that include polio vaccine inventor Jonas Salk, former Secretary of State Colin Powell, Pulitzer Prize winner Oscar Hijuelos, and Nobel Laureate Herbert Hauptman.

Dr. Masi was recognized for his 38 years of service to UICOMP, including his outstanding contributions to medical education and literature, at a retirement reception held Nov. 28.

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