



Carle Illinois
COLLEGE OF MEDICINE

S U M M E R 2 0 2 2

CONNECTIONS

Building a community of future physician innovators together

A stack of blue certificates and a glass award on a desk. The certificates are from Carle Illinois College of Medicine, with one visible certificate reading "Carle ILLINOIS CERTIFICATE OF EXCELLENCE OUTSTANDING COMMITMENT TO COMMUNITY CHANGE". The award is a glass sphere with a textured top. The background is a gradient from blue to orange.

LETTER FROM THE DEAN

It was truly an honor and joy for me to be included in the historic first Carle Illinois College of Medicine inaugural class convocation ceremony. As the new dean, I know I speak for everyone at the college of medicine when I say we are all incredibly proud of the accomplishments, vision, and dedication demonstrated by this extraordinary group of new physician innovators.

From their 100% residency match rate to amazing innovations designed to advance health care and medical education, the members of the Class of 2022 have succeeded and thrived, overcoming many challenges along the way, demonstrating their resilience and commitment to be a compassionate, diverse, collaborative, and competent group of physician innovators and role models. I am very grateful for the opportunity to celebrate their triumphs and to witness the impact and legacy now growing out of the investments made by so many people for this college to prosper.

As the members of the inaugural class now advance to the next level of their training in residencies both here and across the country, I am excited to build upon the great work and foundation that has been created here. Together we can develop new opportunities to advance the medical school and its missions to the next phase of its growth and development into a world-class college of medicine and a compelling model of medical education designed to build the future of healthcare. There is always more to do, but having a great team of faculty, staff, health system and community partners, and advocates and supporters for this college around the state and around the country makes great things possible.

A few exciting opportunities on the horizon this next year will include expanding innovation and research infrastructure for our students to include:

- 1 **New opportunities** to harness novel devices, diagnostics, tissue engineering applications, artificial intelligence, and machine learning to provide better tools and data to solve clinical problems for patients in the community with chronic conditions such as heart failure, cancer, Alzheimer's, and diabetes;
- 2 **New applications** of augmented and mixed reality for training, education, and skills development as well as new industry partnerships to bring the most cutting-edge tools and software to our faculty and students. These resources will advance educational and curricular development, as well as inter-professional skills and team training opportunities that will engage other schools on campus including engineering, allied-health professionals, nursing, social work, and others – all maintaining a patient-focused approach to training and development; and
- 3 **New opportunities** for students to work with outstanding and compassionate Carle Health clinicians to develop impactful point-of-care projects that will bring innovations to our patients out in the community and address some of the challenges being faced with access, care delivery, and home care programs.

I look forward to partnering with the wonderful clinicians and staff at Carle Health to create more examples of how innovations in clinical care delivery can be incredibly impactful, allowing us to do more for our community and around the state. I also look forward to getting to know and work with you, our generous supporters, to take Carle Illinois College of Medicine to this important next level, forging key partnerships and collaborations that will create the future of health care for the medical school and our community. With your help, we intend to grow Carle Illinois College of Medicine into something that's known for excellence and innovation throughout the country.

Lastly, I want to say a heartfelt THANK YOU to everyone at the University of Illinois and Carle Health, campus alumni and supporters near and far, and the wonderful Champaign-Urbana community for the incredible welcome you have already given to me.

With warm regards and gratitude,



Mark Cohen

“TODAY, WE BECOME PHYSICIAN INNOVATORS.”

Twenty-three members of Carle Illinois College of Medicine's inaugural class graduated on Sunday, May 15, 2022, marking the culmination of years of hard work, planning, and investment. The college's first graduates (and now, first alumni) recited the Physician's Pledge and were 'hooded' with the academic attire of their chosen medical specialty before an audience of mentors, dignitaries, renowned physicians, family, and friends during Carle Illinois' first-ever convocation ceremony at the Alice Campbell Alumni Center. The newly minted medical doctors begin their graduate medical training as residents in July 2022, serving in some of the top teaching hospitals and clinics in the country. The Carle Illinois Class of 2022 is uniquely prepared to change the practice of modern medicine through innovative solutions and a commitment to patient-centered compassionate care.



Elizabeth Woodburn & Asad Rauf



“I have a lot of embedded history in this campus, but this was my chance to do something new that's working on a new path.”

Elizabeth Woodburn, M.D.,
Class of 2022



“We as Carle Illinois graduates are unique. Let’s imagine how we would like health care to be and strive to make it a reality.”

Kenny Leung, M.D., Class of 2022



Kenny Leung



Alex Lucas

“When you put it all together and look back, it was a special journey for all of us.”

Alex Lucas, M.D., Class of 2022



TOGETHER, WE BUILD A LEGACY

Residency Match Day 2022 saw 100% of Carle Illinois College of Medicine's inaugural graduating class successfully match with a medical residency training program. The exceptional residency placement result means Carle Illinois' physician innovators from the class of 2022 will be positioned to directly impact patient care in hospitals and communities from New York to California when they enter residency in July.



Christina Moawad

Orthopedic Surgery, New York University – Long Island School of Medicine

Only about 15% of orthopedic surgery residents in the U.S. are women, but those statistics didn't deter Christina Moawad from realizing her dreams. "Despite the difficulty of this specialty, no one at this school told me I couldn't do this," Moawad said. "It means so much to me that other students at Carle Illinois will be able to follow in my footsteps and pursue a career in orthopedic surgery."

READ MORE:





“These students have started a great legacy at Carle Illinois.”

Interim Dean Uretz Oliphant



Aaron Brown

Anesthesiology, Stanford University
Medical Center, California

Aaron Brown not only matched in his preferred specialty of anesthesiology, but he was also selected by a program ranked among the best in the nation for that specialty. “For me personally, as a person of color and the first doctor in my family, it shows that hard work pays off,” Brown said. “This unique engineering-based curriculum puts us in a position to excel when interviewing for residencies, and then as we go forward, in creating new solutions to health care problems.”



Valerie Chen and Matt Lee

Mayo Clinic, Rochester Minnesota

Like most soon-to-be residents, Valerie Chen and Matt Lee balanced both personal and professional considerations in deciding where to apply for residency. As part of the ‘couples’ match, the pair will both train at the prestigious Mayo Clinic in Minnesota, but in different specialties. Valerie will specialize in obstetrics and gynecology, while Matt will pursue urology, one of the most competitive medical specialties. Matt says their cat will be making the trip north with them, as they start their new adventure.



Andrew Chang

Internal Medicine, Carle Foundation Hospital

Not all Carle Illinois graduates will travel far away for residency. Andrew Chang will give back to the community that helped supply a four-year scholarship for medical school by serving at Carle Foundation Hospital. Andrew cites positive experiences during his clinical rotations at Carle Health among the reasons for making Carle Foundation Hospital his first choice when applying for residency. “As an organization, Carle (Health) is hungry for innovation and quality improvement, and there is a huge ‘yes’ culture when it comes to improving patient care,” Chang said.

Elizabeth Woodburn

Pediatrics, Duke University

Elizabeth Woodburn carried out a family tradition by earning both her undergraduate degree at UIUC (Bioengineering, 2018), and her M.D. degree as part of Carle Illinois’ inaugural class. Elizabeth comes from a big family of faithful Illini, including her parents, grandparents, and extended family members. In July, she’ll break new ground, specializing in pediatrics at Duke University, a nationally respected residency program. Elizabeth hopes to tap into her experiences in both medicine and engineering to provide patient-centered care to children, especially those who live with medical devices like insulin pumps, feeding tubes, and ventilators.



TOGETHER, WE ENGINEER THE FUTURE

Capstone Innovations Advance Medicine through Technology

Members of Carle Illinois' graduating class designed 13 different medical innovations that could translate into game-changing, marketable advances in the practice of medicine and medical education. Capstone Innovations are the final deliverable in Carle Illinois' engineering-based, innovation-oriented curriculum, requiring fourth-year students to research a problem identified during their clinical rotations, propose a solution, and then recruit and lead a cross-disciplinary team to bring their ideas to life.

The designs and data science projects from the inaugural class were showcased live at Capstone Innovations Day in early May.

Capstone Innovations teams include engineering students from The Grainger College of Engineering (e.g. bioengineering, mechanical science and engineering) and business student consultants from Gies College of Business.

Capstone Innovations at Carle Illinois College of Medicine are supported by the Henry Dale and Betty Smith Family.



“The Capstone Projects give our students the confidence and ability to identify problems in health care and then build solutions – through engineering and design – that improve patient care.”

Carle Illinois Health Innovation Professor Michael Oelze, director of Capstone Projects at Carle Illinois.



Epicap: Seizure-Monitoring Baseball Cap



A new seizure-monitoring baseball cap could help doctors diagnose patients with epilepsy more quickly and comprehensively. The innovation, called Epicap, was designed and prototyped by **Kenny Leung** and **Jennifer Cortes** (Carle Illinois Class of 2022) in collaboration with students from the University of Illinois Urbana-Champaign Department of Electrical and Computer Engineering and the Gies College of Business.

Epicap uses a small video camera built into the visor of the cap to allow doctors to begin monitoring patients when seizures are suspected, rather than wait until they occur and are discovered in a traditional inpatient setting.

“Epicap is essentially an EEG (electroencephalogram) inside of a baseball cap. As soon as you have a seizure, a doctor can give you a cap to wear leading to faster diagnosis and monitoring,” Cortes explained. For patients already diagnosed with epilepsy, Leung says Epicap could be used as a portable in-home safety monitor that is less invasive than the whole-home camera systems that are currently in use. Leung begins an internal medicine residency at University of California-Irvine this summer, while Cortes will specialize in psychiatry at Emory University in Georgia.

Bionic Knee Brace to Empower Cerebral Palsy Patients

A new bionic knee brace designed by two physician innovators at Carle Illinois College of Medicine could help cerebral palsy (CP) patients overcome muscle stiffness that limits their mobility. Cerebral palsy patients have decreased muscle strength and flexibility that hinders mobility and prevents even the most mobile CP patients from exercising freely for extended periods of time. The new device designed by Carle Illinois College of Medicine students **Dylan Mann** and **Shahnoor Amin** provides a solution.

The bionic knee brace couples a power generator with built-in bio-feedback sensors to detect when the wearer is trying to voluntarily move the leg muscles. When the sensors detect muscle contraction, the system triggers the power generator to help move the stiffened/spastic muscles.

“What we want to do is not just hold their joints in place, but actually help them as they move and give them motorized assistance so they can overcome that stiffness, that rigidity that they always have in their muscles,” said Mann, who will begin a medical residency in physical medicine and rehabilitation at the University of Minnesota School of Medicine this summer. Amin will complete his internal medicine residency at Henry Ford Hospital in Detroit, Michigan.



TOGETHER WE ACHIEVE EXCELLENCE



Kenny Leung with Jessica Breitbarth, Associate Dean for Advancement

Excellence in Innovation

Kenny Leung is the first recipient of the **King Li, MD, MBA Physician Innovator Award**, recognizing a student who best captures the mission of the Carle Illinois College of Medicine to educate exceptional physician-innovators. The King Li, MD, MBA Physician Innovator Award was established at Carle Illinois College of Medicine in 2020 to honor Dr. King Li, Founding Dean and (then) Chief Academic Officer at Carle Health System.

“Innovating isn’t hard: it just takes time and teamwork.”

Kenny Leung, M.D., Class of 2022

Gold-Headed Cane Award

Even in a medical school in which over-achievers abound, **Aaron Brown** stands out among his peers. Aaron is the first doctor in his family and is now the first recipient of the **James C. Leonard, MD, Gold-Headed Cane Award**. Created in 2021 to honor Dr. Leonard’s exceptional leadership at Carle and central role in creating the Carle Illinois College of Medicine, the award is considered the the highest honor awarded to Carle Illinois graduates, carrying with it a \$4000 scholarship. Aaron begins his residency in anesthesiology at Stanford in July.

“When one thinks of extraordinary dedication to the health and welfare of patients, Aaron is the first person who comes to mind. He is incredibly passionate about giving back to the community and being a patient advocate, especially to those who are underserved. Aaron not only talks the talk, but also walks the walk when it comes to service to others.”

Stephen Boppart, M.D., Ph.D., Executive Associate Dean and Chief Diversity Officer, Carle Illinois College of Medicine



Aaron Brown

TOGETHER WE LIFT OTHERS

Golden Apple Award

The Golden Apple Awards are chosen annually by each class of medical students to recognize the faculty member(s) whom the class feels distinguished themselves through their teaching.



Laura Shackelford, Ph.D.

Phase 1

“Dr. Shackelford has always gone the extra mile for us, spending hours outside of scheduled class time to ensure we mastered anatomy.”

Student Nominator



Kris Carpenter, M.D.

Phase 2

“Kris Carpenter achieved the monumental task of setting up both family medicine clerkship and longitudinal student clinic... [with] infectious passion for medical education.”

Student Nominator

Outstanding Faculty/Staff Award

This award is decided by the members of the graduating class. It is given to a faculty or staff member whom the class wants to honor for help in obtaining the M.D. degree.



Heather Wright, MS

Interim Associate Dean for Student Affairs and
Director of Student Success

“We appreciate her positive energy, upbeat enthusiasm, and telling-it-like-it-is advising. We always felt like Heather was on our side and she made us comfortable going to her with our struggles.”

Student Nominator



Noah Nigh helped students visualize how EEG, in conjunction with machine learning, is used clinically to help detect epilepsy and other neurological deficits.



CLASS OF 2025

Carle Illinois' unique curriculum exposes students to rich clinical learning experiences early-on, with hands-on learning activities that help illustrate difficult concepts. In the Clinical Neuroscience course, M1s explored techniques to study brainwave activity, including the EEG. The demonstration helped students visualize how EEG, in conjunction with machine learning, is used clinically to help detect epilepsy and other neurological deficits. First-year Carle Illinois medical students are introduced to clinical practice through immersive courses covering each of the major body systems.

The Bioethics and Medical Humanities thread of Carle Illinois' curriculum also emphasizes creativity in medical practice. Student creations -- art, music, photography, and poetry -- were showcased at the **Medical Humanities and Anatomy Art Show** at Siebel Center for Design in March.



CLASS OF 2024

The Class of 2024 embarked on the major clinical phase of Carle Illinois' curriculum in March, staffing the Family Medicine continuity clinic at Carle Health's Curtis Road location. During their 18-month Family Medicine clerkship, which started in their second year of medical school, students work in the clinic one night per week, seeing one or two patients per night. The clinic focuses on family medicine, with typical visits ranging from annual wellness exams and newborn screenings to acute ailments not requiring emergency care. The early clinical exposure is part of the Carle Illinois approach to medical education.

M2 students were also the first class to take the USMLE Step 1 exam with the new pass/fail reporting scheme instituted nationwide. The NBME announced the change to pass/fail reporting in September of 2021 as a step needed to improve the transition from undergraduate to graduate medical education.

CLASS OF 2023

Carle Illinois College of Medicine's second IDEA Symposium showcased third-year students' innovative ideas to solve problems in health care or medical education to a virtual audience in April. Several solutions presented by the Class of 2023 focused on improving in-patient care. Some of the IDEA presentations included:

- A redesigned the hospital gown providing comfort and ease of access during medical procedures,
- Two new hospital bed attachments that would reduce falls and increase maneuverability during physical exams,
- A new light that reduces delirium by mimicking daylight patterns.
- A sensor device to prevent sudden infant death syndrome, and
- A personalized heart animation system for teaching medical personnel about complex problems.

IDEA (Innovation, Design, Engineering, and Analysis) Projects require students to innovate by generating new ideas to improve health care during each of their clinical clerkships. Students entering their final year of medical school select one of their IDEA projects to develop more fully into a Capstone Innovation that has the potential to change health care or medical education.

Photos on this page were taken by Kaden Rawson, Carle Illinois College of Medicine Class of 2025.

TOGETHER WE IMPROVE THE HUMAN CONDITION



Human Rights Clinic

Carle Illinois College of Medicine students are leading a human rights clinic to offer support to asylum seekers and refugees in east-central Illinois, providing impartial medical and psychological evaluations and working to raise awareness on human rights issues.

Graduating Carle Illinois medical student **Lidija Barbaric**, whose family immigrated from Bosnia and Herzegovina more than 30 years ago, launched the initiative. Medical student peers are volunteering their time to run the human rights clinic, coordinate with case managers, legal personnel, social work, and translators, perform the evaluations, and ensure that clients and their attorneys receive the documentation they need for their court cases.

The Carle Illinois student interest group “Physicians for Human Rights” partnered with the community health center Avicenna -- a local free clinic which provides health care to the uninsured and underinsured in the region -- and immigrant resource centers including The Refugee Center and The Immigration Project.

Lidija Barbaric will begin a residency in anesthesiology at Case Western Reserve in July.

Ukraine Relief Effort

When millions of Ukrainian citizens fled their country in the days following the Russian invasion, Carle Illinois student **Kaden Rawson** (Class of 2025) along with **Dylan Mann**, M.D. (Class of 2022) mobilized their peers to action. The physician innovators spearheaded an area-wide relief drive that collected tons of medical supplies and physical goods to assist Ukrainian refugees in Poland.

With overwhelming support from the central Illinois community, the Ukrainian Refugee Relief effort recorded huge successes:

- Collected approximately 25,000 pounds of supplies to aid refugees;
- Donated medical supplies and diapers shipped for distribution by the Ukrainian Department of Health to hospitals and clinics;
- Remaining donations of clothing, non-perishable food items, and survival gear shipped through Global Empowerment Mission;
- \$30,000 in monetary donations made to the Ukrainian Red Cross through the link provided;
- Outreach effort included nearly 30 Carle Illinois students.



TOGETHER WE FUEL SUCCESS

The H.D. Smith Foundation, led by brothers (Henry) Dale and (James) Chris Smith, has been one of the most loyal supporters of University of Illinois in general and Carle Illinois College of Medicine in particular. The Smith family – which previously owned a large pharmaceutical wholesale business -- gifted Carle Illinois \$2 million in 2018 to fuel innovation through support of Capstone Innovations developed by fourth-year medical students and other innovations related to sports medicine. It was part of a \$20 million donation that also funded the construction of the Henry Dale and Betty Smith Football Center, in honor of their parents. We talked with Dale and Chris Smith about their family's investment in Carle Illinois' unique mission to educate physician-innovators.

Why was it important to you to invest in the mission of Carle Illinois College of Medicine?

Dale: We were excited by the prospect of a different kind of medical school -- one that took the unique strength of Illinois' engineering program and married it with medical expertise. We knew it would be something unique that would distinguish Illinois' program from any other.

Chris: This was a medical school established with the intention of collaborating with the engineering school in a way that was truly unprecedented. With this medical school starting with collaboration as a tenet of its existence, the potential was really exciting, and we were very excited to participate in it.

Our first class just graduated after presenting 13 Capstone Innovations, which your family's gift supported. What impact do you expect these innovations to have on health care and in the lives of patients?

Dale: A number of the projects have significant long-term applications, and some are very well-targeted to have shorter-term implications. Regardless, they expand knowledge and the research base to develop other advances, even beyond these actual projects.

Chris: I think this fusion of medicine and engineering represented in these innovations has tremendous potential for augmenting the lives of people who are impaired or injured in some way and allowing them to have much more robust and active life.

What roles do you see Carle Illinois graduates playing in the future of medicine? What do you hope for them?

Chris: I hope they go out into the communities that they serve and become champions for innovation in the kinds of break-through bioengineering that they're part of here. Having come up through this discipline, I think they will be much more open to innovation and change, and they will need to champion that to change the structure of health care.

Dale: I see them as apostles of this approach to medical education. They may start off at Illinois and go anywhere in the country and have an impact in promoting this style of medical education.

If you were talking to someone about investing in mission of Carle Illinois College of Medicine, what would you say to them?

Dale: This is an opportunity to be a part of the future, because there are some unique approaches to education, a unique approach to working with all the different dimensions of the University of Illinois. I think it that should be something to get people excited.

Chris: If you are trying to figure out how to invest your philanthropic dollar to create returns for society, this is one that will return tenfold, a hundredfold. It's just incredible the potential it has.



HAIL TO THE KING RAISE



Chris (left) and Dale (right) Smith

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