Carle Illinois
COLLEGE OF
MEDICINE

Carle ILLINOIS

2025 ANNUAL REPORT

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Founded in 2015 as a collaboration between the University of Illinois Urbana-Champaign and Carle Health, Carle Illinois College of Medicine represents a new concept in the field of medical education. Innovation is the cornerstone of the college's unique engineering-based curriculum, with an emphasis on human factors, design thinking, medical technologies, and entrepreneurship.

Carle Illinois College of Medicine is fully accredited by the Liaison Committee on Medical Education (LCME).

A physician-innovator is a leader who is trained via interdisciplinary immersion to develop transformative health care solutions.

A MESSAGE FROM THE DEAN

In reflecting on 2025, I'm incredibly proud to share the remarkable progress and milestones achieved by Carle Illinois College of Medicine — the world's first engineering-based college of medicine.

This year, we reached a historic milestone as the world's first *fully accredited* engineering-based medical school, earning full accreditation by the Liaison Committee on Medical Education (LCME), the national accrediting body for all U.S. allopathic medical schools. This not only affirms the excellence of our innovative curriculum but also our deep commitment to training the next generation of physician-innovators. Carle Illinois has also taken a global leadership role in medical innovation and advancing medical education through integration of engineering and innovation, by founding a new Global Consortium of Innovation and Engineering in Medicine. In just one year, 36 universities have joined this growing consortium, with more expected to finalize agreements as 2025 closes.. CI MED and the campus were proud to host the Consortium's inaugural Global Summit, with over 500 thought leaders, researchers, innovators, and clinicians from across the globe attending to explore transformative ideas at the intersection of medicine, engineering, and technology. The event culminated in a student Global Health Innovation Grand Challenge competition, where CI MED teams won top honors with their innovative solutions on the global stage in front of an international judging panel.

Our mission to revolutionize medicine through innovation has never been more visible—or more vital. From AI-driven clinical solutions to bioengineering breakthroughs, our faculty and students are redefining how health care is delivered and how future physicians will be trained for years to come. We are proud to be recognized as a global leader in medical innovation, shaping a future where interdisciplinary collaboration drives real-world impact.

Beyond our campus, Carle Illinois continues to serve both our local and global communities with compassion and purpose. Through technology-enabled innovations, international partnerships and research collaborations, and student-led outreach programs, Carle Illinois is at the forefront of improving patient care and outcomes.

As you explore this year's report, I think you will see how our unique approach to medical education not only empowers students to become physician-innovators but also gives them the opportunity to create a meaningful, measurable change in health care.

Thank you for your continued support of the Carle Illinois College of Medicine, as together we will continue to advance the future of health and medicine.

With gratitude,
Mark S. Cohen, MD, FSSO, FACS, MAMSE

MILESTONES

ACCREDITATION ACHIEVED THROUGH COMMITMENT TO EXCELLENCE

Carle Illinois College of Medicine is the world's first fully accredited engineering-based medical school. The Liaison Committee on Medical Education granted CI MED full accreditation in March of 2025, a mark of excellence signifying that the college meets established national standards for educational quality and preparation for future physicians.

"This is an extraordinary milestone not only for our college, as the world's first fully accredited engineering-based medical school, but also for the future of health care. This achievement underscores our commitment to training the next generation of physician-innovators who will shape the future of medicine," CI MED Dean Mark Cohen said.

LCME is the accrediting body for medical education programs in the United States and Canada that grant medical doctorate degrees. Accreditation is essential for medical schools to grant degrees recognized by medical licensing boards.

CI MED was granted full accreditation following an in-depth review of its pioneering curriculum that integrates engineering, technology, and problem-solving approaches with traditional medical practices. Its faculty includes distinguished researchers and educators from across the University of Illinois Urbana-Champaign campus and skilled physicians at Carle Health.

CI MED students enjoy opportunities to engage in hands-on research and real-world clinical experiences from day one. CI MED also focuses on addressing health disparities and improving health care accessibility, particularly through technology.

"By integrating medical practice with engineering principles, AI and data science, human-centered design thinking, and multidisciplinary team-based solutions, we aim to provide our students with a truly unique educational experience that prepares them to address the evolving challenges of modern health care with creativity, compassion, and collaboration," Cohen said.

CI MED gained preliminary accreditation in 2017, opening the door to recruiting for its first class of 32 students in July 2018. Provisional accreditation was granted in 2021. The accreditation process is just a part of CI MED's longstanding commitment to continuous quality improvement across its medical education programs.

"Getting full LCME [accreditation] means the shared vision of creating the world's first engineering-based medical school has been achieved – the shared goal of all the individuals. All the effort that went into building this school paid off, and it's thriving." — Dr. Kenny Leung, Carle Illinois College of Medicine Class of 2022 and current fellow in informatics at UCLA medical center

BY THE NUMBERS

REENGINEERING THE FUTURE OF MEDICINE

In 2025, Carle Illinois College of Medicine once again reached capacity for its incoming class with 64 new physician-innovators. Over half of students in CI MED's eighth cohort are women (53%), and 56% have an engineering background. Twenty-two percent hold advanced degrees including three PhDs.

With CI MED's fully accredited status, the Class of 2029 is the first to matriculate since CI MED transitioned from being a 'new' medical school to an established medical education program.

BUILDING A TRADITION OF EXCELLENCE

1st	FULLY ACCREDITED ENGINEERING-BASED MEDICAL SCHOOL
260+	PHYSICIAN-INNOVATORS IN TRAINING
750+	AFFILIATED CLINICAL AND ACADEMIC FACULTY
30+	HEALTH INNOVATION PROFESSORS & RESEARCH MENTORS
20+	DESIGN SPACES & FABRICATION LABS
134	MD DEGREES CONFERRED SINCE 2022

IT'S A MATCH!

CLASS OF 2025 IMPRESSES IN RESIDENCY MATCH

Carle Illinois College of Medicine physician-innovators were selected to serve at some of the top teaching hospitals and residency programs across the country on residency Match Day 2025.

"I think the word is out now that Carle Illinois College of Medicine is truly the leader in innovation in our country. When our students come for residency, they're coming with something extra, and residency programs are noticing that," CI MED Executive Vice Dean Greg Polites said.

IMPORTANT FIRSTS

1ST MATCH
in Ophthalmology

1ST MATCHES
in Otolaryngology at Yale, Stanford, and University of Pennsylvania Hospitals

1ST FEMALE MATCHES
in Neurosurgery

RESIDENCY MATCH RESULTS BY THE NUMBERS

13
SPECIALTIES

20
STATES

7
MATCHES IN ILLINOIS

11
WOMEN IN SURGICAL SPECIALTIES

13
IN PRIMARY CARE
(Family medicine, internal medicine, obstetrics/gynecology, and pediatrics)

TOP
RESIDENCY PROGRAMS
(Yale, Stanford, Johns Hopkins, and the University of California at San Fransisco)

GLOBAL IMPACT

FIRST GLOBAL SUMMIT FUELS HEALTH CARE INNOVATION

Health care innovators from around the world launched their quest to change the future of medicine and medical education at the first Global Summit of the Global Consortium on Innovation and Engineering in Medicine. The summit – hosted by Carle Illinois College of Medicine – brought together medical educators, entrepreneurs, industry and government leaders, and future medical innovators on the University of Illinois Urbana-Champaign campus to collaborate on tangible advances to health care education and delivery across the globe. The event highlighted the work of engineers and physicians-in-training to prototype new solutions to revolutionize patient care.

"This is an incredible landmark event for Illinois and the world and is the next big idea in transforming medical education, innovation, and health care delivery through the intersection of engineering, medicine, artificial intelligence, and technology," said CI MED Dean and Consortium Executive Council President Mark Cohen.

Keynote speakers for the three-day event included Dr. Jim Weinstein, Senior Vice President of Microsoft Healthcare, Dr. Adil Hussain Haider, Dean of the AKU Medical College in Pakistan, and Professor Maryellen Giger, the A.N. Pritzker Distinguished Service Professor of Radiology at the University of Chicago.

The new Global Consortium of Innovation and Engineering in Medicine is an international public-private-government collaborative that aims to accelerate the development of innovative solutions that impact human health by leveraging expertise from across disciplines and geographic boundaries.

GLOBAL SUMMIT BY THE NUMBERS

500+ REGISTERED ATTENDEES

16 COUNTRIES

17 COMPANIES ENGAGED

36 GCIEM MEMBER INSTITUTIONS

GLOBAL IMPACT

CI MED HEALTH INNOVATIONS EARN $250K IN FUNDING

The inaugural Global Health Innovation Grand Challenge Pitch competition showcased groundbreaking solutions to real-world health problems. Fifty-six teams of medical and engineering students from around the globe presented innovations addressing four themes: AI applications to improve outcomes in rural health or underserved areas globally; solutions that improve early disease detection of chronic conditions; slowing or reversing disease progression in aging populations; and low-cost diagnostics, devices, or therapeutic solutions that can have global scalability.

The top five student teams were awarded funding to pilot and validate their solutions across the Consortium's new global network of medical schools and hospitals, with insights and guidance from industry and regulatory agencies.

"Women's health is something that needs so much more innovating and research, and now we have the resources and funding that allows us to fuel our innovation." — Ameek Bindra, Menopatch

WINNING TEAM INNOVATIONS:

1ST PLACE, $75,000 AWARD
MENOPATCH, CI MED
Menopatch is a special patch designed to treat menopause symptoms by delivering personalized doses of hormone replacement therapy through the skin, with each patch lasting for up to 30 days.
Team lead: Ameek Bindra

2ND PLACE, $60,000 AWARD
ATLAS, CI MED
Atlas is a neurosurgical navigation device for use in rural and underserved settings to treat traumatic brain injury.
Team lead: Alexander Smith

3RD PLACE, $50,000 AWARD
CERVICARE, CI MED/UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN
Cervicare is aimed at improving the diagnosis of cervical cancer through reliable screening at home through a tampon-like self-collection kit that could enable quick detection of cancer biomarkers.
Team leads: Nellie Haug and Bhargavee Gnana

4TH PLACE, $40,000 AWARD
FERRITIVA, CI MED
Ferritiva is an at-home screening and monitoring test for iron deficiency, detecting biomarkers in urine as a convenient alternative to blood testing.
Team lead: Jeffrey Lu

5TH PLACE, $25,000 AWARD
EIS-AI, NATIONAL YANG-MING CHIAO-TUNG UNIVERSITY (NYCU), TAIWAN
EIS-AI is an AI-based solution designed to enhance ureter protection during robotic surgery in the pelvis by incorporating a special sensor that detects when the ureters are contacted and alerts the surgical team.
Team members: Yu-Ching Chen; Min-Hong Lu; Li-Wei Chen; Jun-Yu Lin

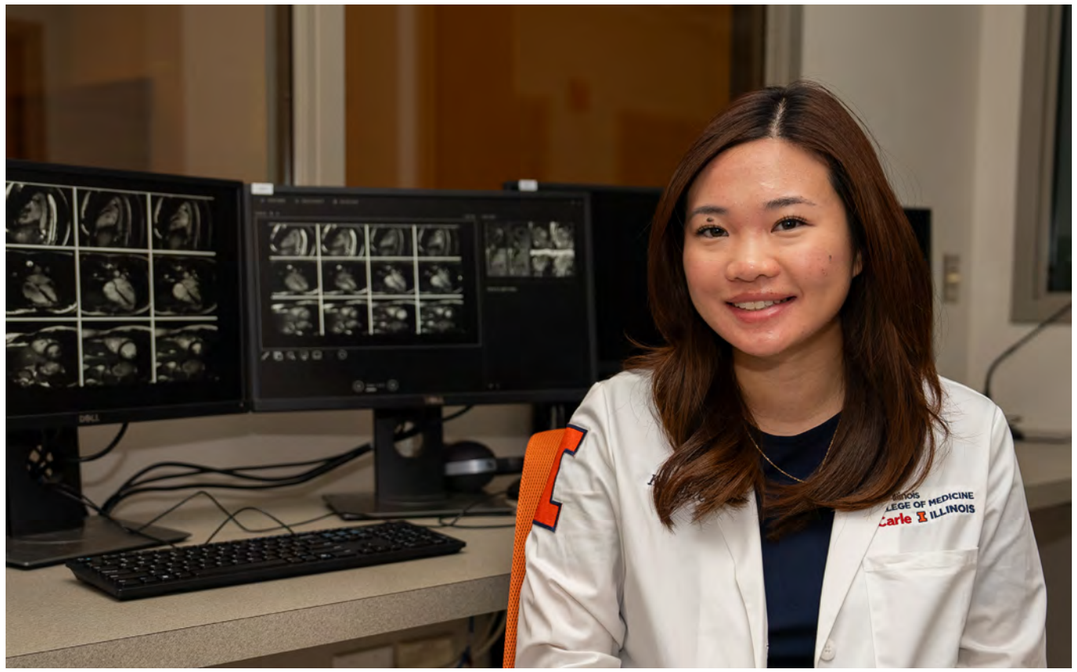
INNOVATION

CI MED INNOVATIONS EARN OVER $90K IN FUNDING IN COZAD NEW VENTURE CHALLENGE

FOURTH PLACE OVERALL: SPROUT
TOTAL WINNINGS: $37,500

Sprout is a first-of-its-kind expandable conduit to help correct congenital heart defects in children. Team leader Kellie Cao says Sprout could reduce the need for repeated open heart surgeries in children with right ventricle outflow tract (RVOT) obstructions which impede blood flow to the pulmonary arteries. Sprout provides a solution that can grow with the child, by coupling a mechanically expandable conduit made of biostable polymers with a stent graft.

Sprout also won the **$7,500 Health Innovation Prize** and **$5,000 Best Pitch at Finals Prize.**



FINALIST: VOCA HEALTH*
TOTAL WINNINGS: $15,000

VOCA Health is a platform designed to improve monitoring and outcomes for adults who are affected by voice disorders. VOCA Health, founded by Shreya Rangarajan, incorporates a mobile platform that allows patients to record voice samples from virtually anywhere and upload them to the cloud, where they are analyzed using key objective metrics (e.g., fundamental frequency, pitch, tone, volume, shimmer, and jitter). Results can be shared with health care providers for timely management and monitoring.

VOCA Health also won the **$5,000 Health Innovation Prize.**

OTHER WINNING CI MED INNOVATIONS:

FASTPADS*
TOTAL WINNINGS: $15,000
The team, led by Christopher Rouillard, is developing ultrasound pads with visual instructions to facilitate pre-hospital FAST ultrasound training and completion.

1st Place – Advancement in Sports Medicine
2nd Place – Rural Health Innovation Prize

HEART RESTART
TOTAL WINNINGS: $13,500
Heart Restart would improve on existing treatments for cardiac arrest by developing a defibrillator extension to allow health care providers to use the dual sequential external defibrillation (DSED) technique. DSED is currently impossible without two defibrillators.

1st Place - Rural Health Innovation Prize
2nd Place - Advancement in Sports Medicine

DIAL-A-SURE*
TOTAL WINNINGS: $5,000
This solution to improve cervical dilation during intrauterine procedures earned funding through the Health Innovation Prize.

AIREMBRACE*
TOTAL WINNINGS: $5,000
This innovation is a patient-controlled, post-surgical compression garment aimed at improving patient comfort and reducing complications after a mastectomy.

**denotes a CI MED Capstone Innovation*

INNOVATION

TRIPLE-TEAMING KNEE SURGERY RECOVERY

A new knee brace that combines three evidence-based therapies is poised to help knee surgery patients avoid a common setback to recovery. The innovation aims to get patients moving again and improve post-surgical outcomes.

Kickstart is an adjustable knee brace designed to prevent the long-term effects of arthrogenic muscle inhibition, a reflex reaction in the nervous system that protectively limits muscle function surrounding an injured joint. AMI is usually temporary while the joint is recovering, but in some patients, it can result in long-term weakness, muscle wasting, and limited ability to bend the knee.

Kickstart is designed to restore muscle strength following common procedures like ACL reconstruction and surgical repair of a broken thighbone using three established therapies:

- **Functional bracing for stability:**
- **Cryotherapy taps into the use of ‘cold’:** By reducing joint inflammation, cryotherapy lowers the injury signals to the nervous system which in turn lessens the AMI reflex.
- **TENS stimulation** (transcutaneous electric neuromuscular stimulation): Conductive electrodes were stitched into the upper pads of the brace and intentionally oriented to contact the quadriceps muscles. Providing external stimulation circumvents the inhibited neuromuscular circuitry, promoting muscle contraction to retain strength.

KickStart is a 2025 Capstone Innovation developed by physician-innovators Sam Mircoff, Sabrina Mann, and Nicholas Nguyen.

INNOVATION

3D-PRINTED PROSTHESIS: POINT-OF-CARE OPTION FOR BREAST CANCER PATIENTS

A Carle Illinois College of Medicine team is using 3D scanning and printing technology to help breast cancer patients feel whole again following a mastectomy. CI MED innovators are developing a process to create affordable, custom-fit breast prostheses in the physician's office, bypassing the wait time and high cost of existing products.

"Some patients go without because they lack insurance coverage, can't afford the out-of-pocket expense, or are simply unaware of their options," said CI MED Clinical Sciences Professor and Carle Health plastic surgeon Dr. Victor Stams.

Stams is collaborating with CI MED student Rand Kittani on a process to produce low-cost, 3D-printed prostheses, created at the point of care.

For patients who don't undergo breast reconstruction following a mastectomy, prostheses are commonly used to replicate the form of a breast under clothing. Prostheses can range in price from a little over a hundred dollars to thousands for custom-made options. The CI MED team aims to cut those costs significantly.

"By offering an affordable and immediate alternative to traditional breast reconstruction surgeries, this initiative directly addresses the financial and social barriers associated with social determinants of health," Kittani said.

Before the patient undergoes a mastectomy, the care team would use 3D scanners to capture images of the patient's healthy breast tissue. The scanned images would provide a digital pattern for a 3D printer to follow in creating a prosthesis that matches the patient's unique anatomy. "The customization aspect of 3D printing also allows for a better aesthetic match, which can have a meaningful impact on body image and recovery," Stams explained.

Image: Rand Kittani (left) and Dr. Victor Stams (right) developed a prototype of their 3D printed breast prosthesis.

FACULTY & STUDENT RESEARCH

EVOLVING SURGICAL PRECISION FOR CANCER: CONRAD LEADS NEW VIRTUAL ORGAN MODELING RESEARCH

A groundbreaking advancement in surgical oncology is revolutionizing the precision and safety of complex cancer surgeries. The work integrates cutting-edge visualization and artificial intelligence (AI) technologies to transform how surgeons approach the removal of tumors in the liver, pancreas, and bile ducts—some of the most challenging and high-stakes procedures in medicine.

The pioneering work is led by Dr. Claudius Conrad, Associate Dean for Research and Innovation at Carle Illinois College of Medicine, through a $750,000 technology grant from FujiFilm.

Conrad's work harnesses FujiFilm's state-of-the-art visualization system called "Vincent" to redefine surgical planning and execution. "This technology combines high-resolution imaging and AI-driven analytics to tackle longstanding challenges in surgery," said Conrad, a globally renowned surgical oncologist specializing in hepatobiliary cancers. "It has the potential to fundamentally reshape how we approach complex cancer surgeries, improving safety and outcomes for patients."

(Continued on page 22.)

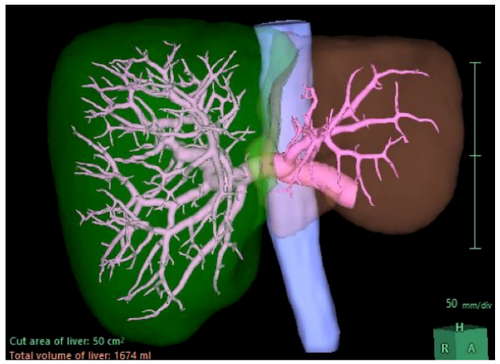
RESEARCH

EVOLVING SURGICAL PRECISION FOR CANCER: CONRAD LEADS NEW VIRTUAL ORGAN MODELING RESEARCH (CONTINUED)

REVOLUTIONIZING PRECISION SURGERY WITH AI-DRIVEN VIRTUAL MODELS

Fujifilm's Vincent system employs sophisticated AI algorithms to convert standard CT scans into detailed, patient-specific 3D models. The result is an unprecedented view of the intricate spatial relationships between tumors, blood vessels, and bile ducts, enabling surgeons to visualize and strategize with unparalleled accuracy and minimize risks to critical surrounding structures. "Rather than relying solely on mental representations of a procedure, we now have an interactive, virtual roadmap that the entire surgical team can utilize in real time," Conrad said.

Conrad's research team is also exploring AI integration to optimize surgical planning and facilitate real-time decision-making during operations. The combination of virtual modeling, real-time imaging, and AI-based guidance represents a leap forward in patient-centered precision medicine.



TRANSFORMING SURGICAL EDUCATION WITH VIRTUAL REALITY

The project also advances medical education. Leveraging virtual reality (VR) technology, CI MED students will gain hands-on experience with hepatobiliary anatomy and procedures. "This immersive learning experience not only deepens their understanding of complex surgeries but also equips them with the skills to leverage advanced technologies in their future practices," Conrad said.

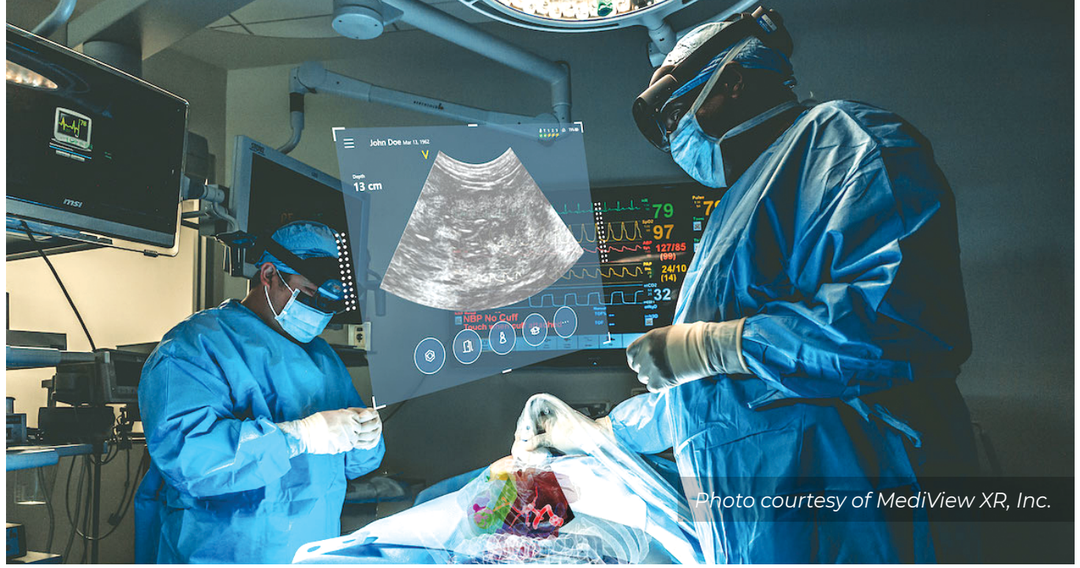


Photo courtesy of MediView XR, Inc.

RESEARCH

AUGMENTED REALITY TRANSFORMING MEDICAL PROCESSES, NEW RESEARCH SHOWS

Digital holograms of a person's anatomy are emerging as powerful tools for physicians when preparing for surgery. Holograms and other mixed reality tools in medicine are predicted to become more routine over the next decade, transforming medical processes ranging from surgical planning and practice to physician training, according to new Carle Illinois College of Medicine research.

"I think the biggest change we see in the next ten years will be the shift from mixed reality in medicine as an exciting idea to something that is being implemented across the field," said CI MED student Alexa Lauinger, who is co-author of the study. "These technologies will benefit every stage of medicine from improving training and access to training to direct patient care," Lauinger said.

Extended reality (XR), augmented reality (AR), and virtual reality (VR) are all used in facets of medicine and medical training, but technology costs and other barriers have limited adoption. "It requires partnerships between medical and engineering school experts, health systems, and industry to break down barriers for adoption as well as develop more cost-effective solutions," said Carle Illinois College of Medicine Dean Mark Cohen, the research team's senior author.

Beyond pre-surgery planning, CI MED's researchers found reason to predict more widespread and routine adoption of XR and MR to improve in-surgery efficiency. "They will also provide enhanced visualization and facilitate real-time guidance during surgery to reduce errors and improve patient outcomes," said CI MED student and study co-author Meagan McNicholas.

VR has been widely accepted in medical schools as part of physician training, including at CI MED's Jump Simulation Center, where medical students gain skills and practice procedures in a low-risk environment. "In the coming years, XR technologies may revolutionize medicine by expanding access to high-quality training around the world, improving modalities for continuous learning and skill development, and broadening access to care," McNicholas said.

RESEARCH

AI-HUMAN TASK-SHARING COULD CUT MAMMOGRAPHY SCREENING COSTS BY 30%, STUDY FINDS

The most effective way to harness the power of artificial intelligence when screening for breast cancer may be through collaboration with human radiologists — not by wholesale replacing them, says new research co-written by a University of Illinois Urbana-Champaign expert in the intersection of health care and technology.

The study finds that a "delegation" strategy — where AI helps triage low-risk mammograms and flags higher-risk cases for closer inspection by human radiologists — could reduce screening costs by as much as 30% without compromising patient safety.

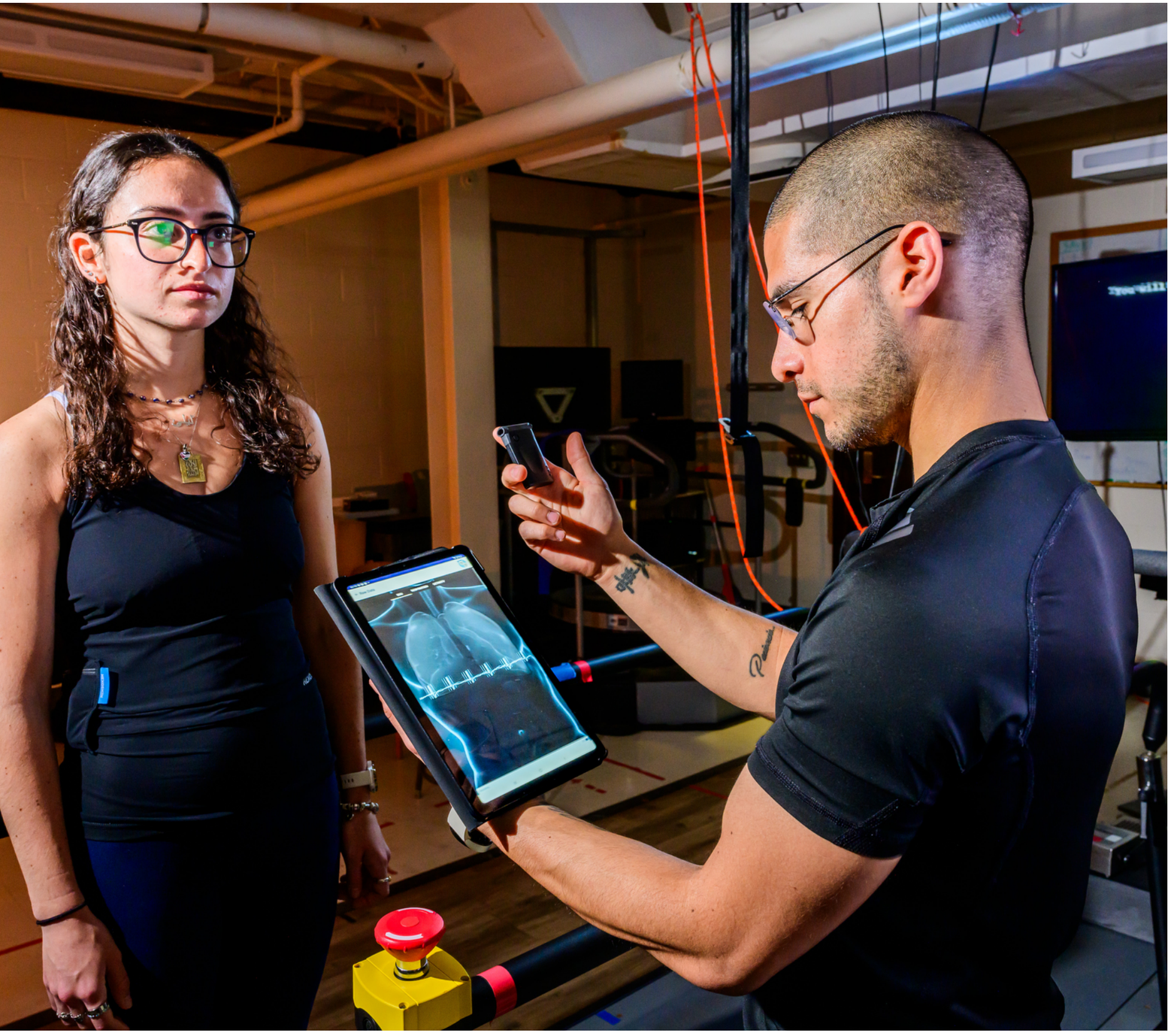
The findings could help shape how hospitals and clinics integrate AI into their diagnostic workflows amid a growing demand for early breast cancer detection and a shortage of radiologists, said Mehmet Eren Ahsen, a Health Innovation Professor at Carle Illinois College of Medicine and a professor of business administration and Deloitte Scholar at Illinois.

"We often hear the question: Can AI replace this or that profession?" Ahsen said. "In this case, our research shows that the answer is 'Not exactly, but it can certainly help.' We found that the real value of AI comes not from replacing humans, but from helping them via strategic task-sharing."

The researchers found that the delegation model outperformed both the full automation and the expert-alone approaches, yielding up to 30.1% in cost savings, according to the paper.

While the idea of fully automating radiological tasks may seem appealing from an efficiency standpoint, the study cautions that current AI systems still fall short of replacing human judgment in complex or borderline cases.

"AI is excellent at identifying low-risk mammograms that are relatively straightforward and easy to interpret. But for high-risk or ambiguous cases, radiologists still outperform AI," Ahsen said.



RESEARCH

MONITORING HEART-RATE RECOVERY TO PREDICT RISK

The time it takes the heart to return to its baseline rhythm after exercise can predict a host of cardiovascular or metabolic disorders. Scientists at the University of Illinois Urbana-Champaign used a “smart shirt” equipped with an electrocardiogram to track participants’ heart-rate recovery after exercise and developed a tool for analyzing the data to predict those at higher or lower risk of heart-related ailments.

“The heart’s response to exercise provides us with an early indicator of changes in health, in particular cardiovascular function and mortality,” said Manuel Hernandez, a professor of biomedical and translational sciences at the Carle Illinois College of Medicine.

“Extensive research has shown [an] association between abnormal heart-rate recovery (HRR) and various cardiovascular diseases, including heart failure, coronary artery disease, diabetes mellitus, hypertension, and sudden cardiac death,” the researchers wrote. But measuring HRR has traditionally been an involved process requiring a cardiologist, a treadmill, and other costly equipment and personnel.

The team wanted to develop a more accessible approach to assessing and predicting cardiovascular risk. To achieve this, the researchers made use of a smart shirt developed by the Quebec-based company Carre Technologies. The shirt provides sensors to capture continuous measures of heart performance, including tracking electrical activity and heart-rate variability.

The team used machine-learning and other techniques to extract the most meaningful signals of cardiac health from the data, designing a system for predicting those at highest risk of cardiovascular maladies. The algorithm developed for the study yielded reasonably accurate results despite a small sample size.

The study is a first step toward using wearables to help people more readily assess their risk of heart-related problems, perhaps catching worrisome trends before they develop into full-fledged disorders or cause sudden death, Hernandez said.

RESEARCH

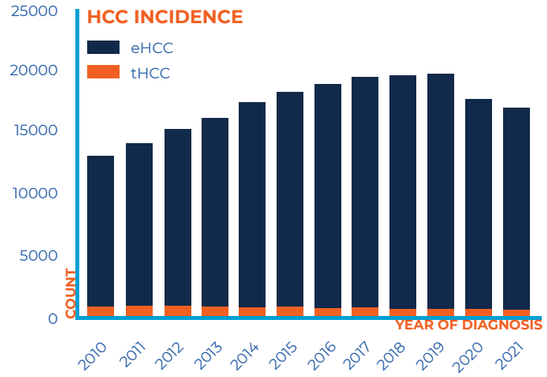
LIVER CANCER RESEARCH REVEALS INSIGHT INTO EARLY-ONSET DISEASE

Research by a Carle Illinois College of Medicine team sheds new light on the typical age at which the most common form of liver cancer occurs and on how early-onset disease responds to treatment. The results could lay the groundwork for more tailored screening and treatment strategies for liver cancers in younger adults.

In the most comprehensive Western analysis to date of hepatocellular carcinoma (HCC) trends, the CI MED team is the first to establish a data-driven definition of early-onset HCC (eHCC). CI MED research yielded these key findings:

- **The overall incidence of HCC rose between 2010 and 2019, but interestingly, the proportion of cases in people under 50 declined** — from 6.4% (2010–2014) to 4.1% (2015–2019). This runs counter to the growing rates of colorectal cancers in young adults.
- **The team validated an age cut-off of under 50 years old as early-onset HCC (eHCC)** and defined typical onset (tHCC) age as 50 and over. The data-driven benchmark could have significant implications for future early-detection guidelines.
- **Younger patients with HCC have better outcomes after surgical resection,** despite often being diagnosed at more advanced stages. The research emphasizes the urgency of identifying surgical candidates early.
- **Social factors may play a role in the early development of HCC.** Patients who are of minority race, uninsured, lower income, and greater distance from treatment centers are more likely to develop eHCC. In the future, these social determinants combined with a deeper understanding of the specific tumor biology could provide a basis for effective screening for eHCC.

CI MED students Daniel Cheah, Kathryn Tsai, and Helen Kemprecos co-authored the research under the senior guidance of renowned surgical oncologists and faculty members Drs. Mark Cohen and Claudius Conrad.



RESEARCH

TARGETING LIVER CANCER USING ANIMAL MODELS

Two Carle Illinois College of Medicine students are advancing the study of emerging therapies to fight hepatocellular carcinoma (HCC) by constructing valuable new animal testing models.

Researchers using CRISPR gene editing tools to create a novel large animal model that could be used to study and test new ways to treat HCC. "This study starts to expand the number of genetic mutations that can be expressed in porcine models of HCC," Vish Vijayakumar (MD Class of 2025) said.

In another large animal study, CI MED student Meridith Kisting and a research team from the University of Wisconsin-Madison revealed that histotripsy — a promising non-invasive form of ultrasound therapy — may be an option for treating tumors at the edge of the liver. The team found that filling the stomach with gas may protect against injury to the nearby stomach wall. "This work will be helpful in expanding the primary and metastatic liver tumors that can be confidently treated with histotripsy," Kisting said.

RESEARCH

PROFESSOR USES MATERIALS ENGINEERING TO CREATE CANCER VACCINES

Biomaterials that can facilitate "reprogramming" of the immune system could be a game-changer in developing robust cancer vaccines and immunotherapy. Carle Illinois College of Medicine Professor Hua Wang is working to develop material complexes that, when injected, trap immune cells and reprogram them to target cancerous cells.

He is leading a $946,000 grant from the American Cancer Society to develop mRNA therapeutics based on biomaterial scaffolds; awards from the National Institutes of Health, the National Science Foundation, and the U.S. Department of Defense support other related projects Wang is pursuing.

When traditional vaccines are injected into the body, their components migrate to find the right immune cells to target, but less than 0.1% of the vaccine components find the right cells.

Wang's research group is improving the efficiency by designing material systems that attract and hold immune cells.

"We like to call our material systems 'training camps' for immune cells in the body," Wang said. "Once an immune cell is 'recruited,' it's reprogrammed entirely within the material. After that, the immune cell will be ready to train tumor-specific 'T cells' that can migrate throughout the whole body to fight the cancer."

RESEARCH

STUDY POINTS TO CONCUSSION RISKS/SYMPTOMS IN HIGH SCHOOL ATHLETES

Research from a Carle Illinois College of Medicine team reveals certain high school athletes may be at greater risk for concussion than others while playing school-sponsored sports. The study equips school districts, parents, and athletes with evidence to make safer play decisions based on how concussions occur and how symptoms differ across demographic groups.

The research, led by Annabelle Shaffer (MD Class of 2025), taps into a database of more than 4,000 athletes from 19 high schools across central Illinois, analyzing assessment data from before and following a concussion injury.

“Our data suggests that athletes with prior head injuries, prior hospitalization for a head injury, history of headache/migraine disorders, and history of learning disabilities/dyslexia in addition to those attending smaller schools may have an increased risk of sports-related concussion,” Shaffer said.

Other key findings in the study include:

- **Setting and Sport:** Most sports-related concussions (SRCs) occurred in competition rather than in practice sessions while playing American football (52.3%), soccer (20.4%), and basketball (7.6%). Among female athletes, the highest number of concussions occurred in soccer, followed by cheerleading/dance.
- **Injury Cause:** For males, concussions most frequently result from a tackle/collision. Among females, most concussions resulted from a blow to the head.
- **Symptoms:** For all athletes, the most common symptoms following a concussion included headaches, “pressure in the head,” not “feeling right,” difficulty concentrating, and dizziness.

“Understanding sports-related concussion risk factors and characteristics in high school athletes is critical for developing prevention and management programs, guiding neurosurgeons in mitigating sports-related concussion risk, and informing return-to-play decisions,” Shaffer said.

Senior co-authors include Dr. Paul Arnold, Department of Neurosurgery, Loyola University Medical Center; Tracey Wszalek, PhD, and Aaron Anderson, PhD, both of the Beckman Institute at the University of Illinois Urbana-Champaign; and Dr. Jared Zimmerman of the Department of Orthopedics and Sports Medicine at Carle Health.

CLINICAL EXCELLENCE

CHAMPIONING CARE FOR WOMEN THROUGH GYNECOLOGIC CANCER PREVENTION AND RESEARCH

Dr. Megan Hutchcraft is advancing the frontiers of gynecologic cancer care—transforming how these often-complex diseases are detected, treated, and ultimately prevented. A professor at CI MED, Hutchcraft integrates cutting-edge research with compassionate clinical practice to reduce the burden of cancers affecting the female reproductive system.

As a practicing gynecologic oncologist at Carle Health and a dedicated mentor to medical students at CI MED, Hutchcraft is shaping both science and future physicians. Her work focuses on cancer risk-reduction, engaging patients with proven prevention strategies, and training medical students to be both excellent clinicians and physician-innovators committed to far-reaching impact.

Many high-risk patients with genetic biomarkers for reproductive cancers undergo pre-emptive surgeries to lower their risk. To offer new insight into how this strategy plays out in the clinical setting, Hutchcraft teamed up with several CI MED students to unearth data on the use of risk-reducing salpingo-oophorectomy [removal of both fallopian tubes and the ovaries] among certain at-risk patients.

“The potential impact is that this could help to give more information to general gynecologists and gynecologic oncologists like myself about ways that we can improve, to make sure we’re following the surgical and pathologic recommendations for these patients with extremely high risk for cancer,” she said.

Hutchcraft is a strong advocate for effective education and prevention in reducing the impact of gynecologic cancers on a new generation of patients. In addition to formal programs through Carle Health, Hutchcraft reaches young people on platforms like X (formerly Twitter), Instagram, and TikTok with accurate, evidence-based gynecologic information. “There’s a lot of misinformation out there, and we, as physicians, should be empowered to find ways that we can use that platform to help patients and their families make better decisions,” Hutchcraft said.

Hutchcraft’s work as a clinical research mentor at CI MED shapes the careers of the next generation of physician-scientists who will lead obstetrics and gynecology research for decades to come. “Research is what moves medicine forward; it’s how we’ve been able to cure cancer, and it’s really exciting,” she said.

CI MED’s clinical research mentor program fuels student/clinical faculty research collaborations around common interests, producing field-advancing research published in top professional journals.

CLINICAL EXCELLENCE

HEAD ON: PUSHING BOUNDARIES IN NEUROSURGERY

Dr. Wael Mostafa lives in the high-stakes and ever-changing medical specialty of neurosurgery. By pushing boundaries in clinical practice, innovative research, medical education, and leadership, Mostafa's life's work is to make a life-changing impact on patients facing serious health problems.

A specialist in brain and skull-base surgeries, Mostafa works with a multidisciplinary team to treat patients with aneurysms, complex brain tumors, and stroke. The work is challenging and precise, often with life-or-death consequences.

"Neurosurgery changes not by the year but by the month," Mostafa said. He believes the adoption of advanced technologies and new techniques is crucial to improving outcomes for neurosurgical patients. "Ten to 15 years ago, we were focused on maximizing the extent of resection for tumors; now we are focusing on both the extent of resection and the quality of life to minimize morbidity and how to prolong survival," he said.

Mostafa focuses his research on improving current technologies and creating new treatments to benefit patients. His research team is tapping into the power and resolution of 7Tesla MRI technology to study why some patients whose cancer has recently spread from other organs to the brain respond poorly to treatment.

As the associate medical director of the Carle Neuroscience Institute at Carle Health, Mostafa champions the application of new technologies such as LITT (Laser interstitial thermal therapy) to destroy tumor cells and GammaTile technology to deliver targeted radiation therapy to the surgical site immediately following tumor removal. The method offers another tool to provide hope to patients with operable brain tumors.

"This is what keeps me going, when you see that you've helped somebody, that you've changed the life of somebody, and that you helped a family."
— Dr. Wael Mostafa

CLINICAL EXCELLENCE

NEW DEPARTMENTS RECEIVE IBHE APPROVAL

The University of Illinois Board of Trustees and the Illinois Board of Higher Education approved the establishment of four new clinical departments in the Carle Illinois College of Medicine, effective August 16, 2025. They include:

- **DEPARTMENT OF CARDIOVASCULAR MEDICINE AND SURGERY**
  Mission: To lead in the discovery, integration, and application of knowledge in cardiovascular medicine and surgery to transform patient care across all cardiovascular specialties.
- **DEPARTMENT OF NEUROLOGY AND NEUROSURGERY**
  Mission: To enhance the understanding and treatment of neurological disorders by combining academic rigor, surgical and medical expertise, and scientific discovery.
- **DEPARTMENT OF ONCOLOGY**
  Mission: To advance cancer medicine through excellence in education, clinical care, and research.
- **DEPARTMENT OF SURGERY AND DIGESTIVE HEALTH**
  Mission: To be a leader in the advancement of surgical and digestive health innovation by promoting excellence in education, fostering collaborative research, and delivering high-quality clinical care.

MEDICAL EDUCATION

CARPENTER NAMED ASSOCIATE DEAN FOR ACADEMIC AFFAIRS

Carle Illinois College of Medicine has named veteran medical educator, family physician, and academic leader Dr. Kristine Carpenter as its new associate dean for academic affairs. She will lead the evolution and advancement of CI MED's groundbreaking engineering-based medical curriculum.

"Medical education, like medicine itself, is always changing. I firmly believe CI MED is at the forefront of a movement that will revolutionize how we educate and train the next generation of physicians," Carpenter said. "I am committed to working closely with CI MED's world-class faculty and our amazing students to grow innovative educational programs that develop highly skilled and compassionate physician-innovators who are prepared to meet the health care challenges of the future," she said.

After joining CI MED at its inception, Dr. Carpenter has helped build an integrated and applied medical curriculum by designing and leading the *Clinical Integration/Introduction to Clinical Practice* course from 2017–2023. She founded the *Family Medicine Continuity Clinic* and served as its director from 2018 through early 2025, offering CI MED students a unique early immersion into the clinical environment.

Known for her excellence in teaching, Dr. Carpenter is a repeat recipient of the "Golden Apple" Award and is deeply committed to mentoring future physicians through a humanistic and systems-based approach to care.

Image: Dr. Kristine Carpenter (center) speaks with CI MED students Jose Beltran (left) and Dennison Min (right) at the Medical Sciences Building.

MEDICAL EDUCATION

IMMERSIVE TRAINING FOR A GLOBAL MISSION

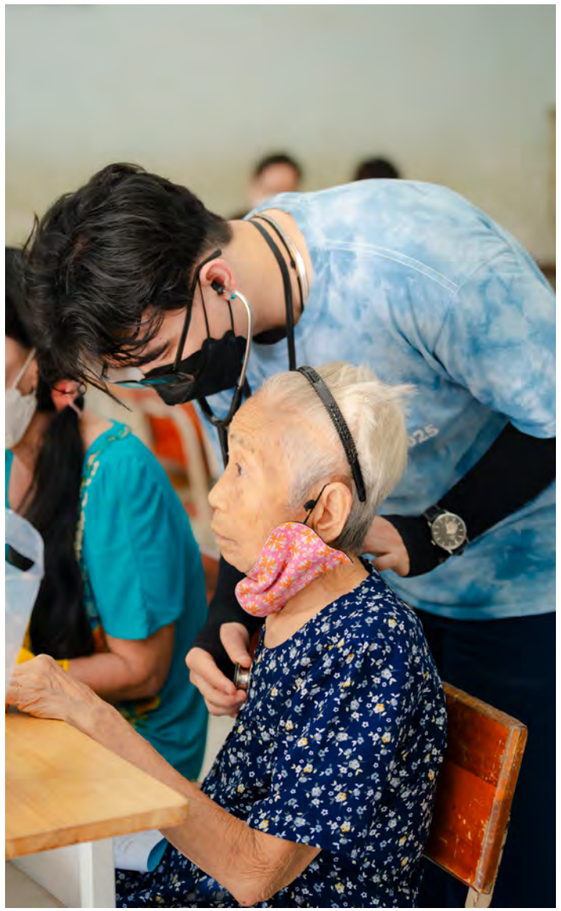
Carle Illinois College of Medicine physician-innovators are tackling the global issue of access to quality health care. As part of their immersive medical training, CI MED students have taken their unique approach to clinical and research innovation to countries like Vietnam, Taiwan, and Guatemala to make an impact on health care and how it's delivered.

Conway Hsieh (Class of 2028) spent the summer of 2025 volunteering with VnHOPE, a summer medical mission dedicated to serving rural communities in Vietnam. The mission provides free dental and optometric care, reading glasses, pap smears, and medications for under-resourced communities in Vietnam.

"I was able to experience first-hand how primary care, pediatrics, gynecology, and pain management are performed to serve such communities, and to take an active role in helping provide these services to the numerous patients who rely on such missions as their source of health care," Hsieh said.

"Moving forward, this work has strengthened my commitment to patient-centered care." — Conway Hsieh, Class of 2028

CI MED's Discovery Learning course immerses newly risen second-year medical students in global, clinical, research, engineering, and service experiences to support their growth as physician-innovators.



MEDICAL EDUCATION

GLOBAL STUDENT EXCHANGE ADVANCES MEDICINE ACROSS BORDERS

A new international student exchange between CI MED and National Yang Ming Chiao Tung University in Taiwan is building new pipelines for expanding collaborative medical research and global medical education connections.

"Through these cultural exchanges, we empower the next generation of physicians — both here and abroad — to better understand one another, while advancing the health, safety, and technological progress of our communities." — Dr. Greg Polites, Executive Vice Dean, CI MED

CI MED hosted five medical students from NYCU who teamed up with U. of I. graduate students to develop a new extended reality-based simulated patient aimed at improving medical education related to respiratory problems. As interns at CI MED's Jump Simulation Center, NYCU exchange students created a virtual patient simulation that presents more realistic symptoms and behaviors than high-fidelity manikins can achieve. By leveraging advanced technology such as AI-based dialogue, the life-like virtual patient simulation advances medical education through rich student collaboration around a patient case.

Meanwhile, five CI MED students traveled to NYCU's Taipei campus for an immersive research experience. Tony Tu collaborated with Taiwanese experts to develop a system to automate the analysis of magnetic resonance angiography (MRA) scans to efficiently identify signs of narrowed blood vessels within the brain before they lead to ischemic stroke.

"Working shoulder to shoulder with a bilingual group at National Yang Ming Chiao Tung University showed how an international research-sharing system lets countries build on one another's strengths," Tu said. "Each group filled gaps the other could not address alone, proving that global partnerships accelerate discovery and improve generalizability."

MEDICAL EDUCATION

CARLE ILLINOIS EXPANDS GLOBAL HEALTH INNOVATION TRAINING

Carle Illinois College of Medicine is opening new doors for professionals in health care, biotechnology, and technology with graduate-level courses designed to support continued education and transform ideas into impact.

Carle Illinois has launched new health care innovation, design, and entrepreneurship graduate courses. The courses offer opportunities to build critical leadership skills in product development, data analytics, design thinking, and entrepreneurship — skills essential for advancing medical care in a rapidly changing marketplace.

“These courses represent an opportunity to reach professionals already in health care, or a health-related industry, and students not enrolled in our MD program to help them understand what is needed to successfully innovate to advance medical care,” said CI MED’s Director of Graduate Studies Roberto Galvez.

The courses are a collaborative effort between Carle Illinois College of Medicine, Gies College of Business, Mayo Clinic, and Siebel Center for Design, offering convenient online training for professionals and students who are interested in improving health care through advanced innovation and entrepreneurial skills. World-class experts and thought leaders from the University of Illinois Urbana-Champaign design and teach the courses.

The three credit-bearing courses — Identify, Innovate, and Implement — are designed for professionals in health care, biotech, or health tech. The first two courses launched in the fall of 2025, with the third scheduled to launch in Spring of 2026.

MEDICAL EDUCATION

EXPANDED CLINICAL EXPERIENCE: ADDICTION MEDICINE AND RURAL PSYCHIATRY

Carle Illinois College of Medicine has expanded clinical training for future physicians who will care for the growing number of patients with mental health and addiction problems. The new training offers hands-on experience in caring for patients with psychiatric problems, exposure to emerging treatment methods, and understanding how these problems affect patients’ overall health.

Starting in March 2025, CI MED students could pursue clinical training in addiction medicine by working in an outpatient setting under the supervision of board-certified addiction medicine Drs. Kira Reich and Elise Wessol at Carle Health. The new training expands the psychiatry clerkship completed by all students during their major clinical year. Students were offered unique clinical experiences including attending drug court, working with a forensics specialist, and rotating through the interventional psychiatry clinic. Students also have the opportunity during their inpatient psychiatry rotation to work with in Electroconvulsive Therapy (ECT).

CI MED offers a new clinical rotation opportunity focusing on the unique mental health needs of people in rural areas and patients with legal problems. During this rotation, students gain real-world experience in forensics by attending court or visiting jails with providers.

DIVERSITY IN MEDICINE

(dis)ABILITY DESIGN STUDIO: A PLACE TO CREATE HEALTHY SOLUTIONS FOR ALL

CI MED's innovators are building solutions for people with a wide range of physical abilities, including older patients and people with physical challenges to health care workers of all shapes and sizes.

With resources, expertise, and user-centric input available through the University of Illinois Urbana-Champaign's (dis)Ability Design Studio, CI MED's problem-solvers can collaborate with patients and other users on sustainable solutions that meet human needs. Health Innovation Professor and Studio Director Deana McDonagh explains how the studio supports creating healthy solutions and spaces for all.

- *What is the guiding principle behind your work at the (dis)Ability Design Studio?*

  The guiding principle is that people are 'whole' just as they are. By focusing on diverse abilities, we can develop products, services, and environments that enhance, empower, and meet real needs beyond the typical consumer. Designing for existing, emerging, and unforeseeable needs provides a design strategy that is iterative and impactful.

- *How can the work at the (dis)Ability Design Studio advance health care in general?*

  Expanding our understanding of others (human-centered design) enables empathic patient-inspired innovation, identifying design opportunities that may be currently overlooked. Experiencing the experience of your patient will support more effective personal communication and interaction.

- *How can CI MED students work on solutions that remove barriers for people with disabilities who are working in or entering the medical professions?*

  Integrating empathic design into medical education involves embedding patient-centered innovation methodologies throughout the training of future physicians. This approach shifts the educational paradigm from a solely biomedical focus to one that actively incorporates the human experience of illness, care, and healing into problem-solving and clinical reasoning.

The (dis)Ability Design Studio, housed at the Beckman Institute, provides a human-centered, empathic design perspective on projects for both students and faculty/clinicians.

Image: Deana McDonagh is a professor of Industrial Design at the U. of I. School of Art and Design. She is pictured with Adam Bleakney, associate director of the (dis)Ability Design Studio.

DIVERSITY IN MEDICINE

MENTORING WOMEN IN ORTHOPEDIC SURGERY

When you need hip, shoulder, or knee surgery, the odds are overwhelming that your surgeon will be a man. Statistics indicate that less than 8% of practicing orthopedic surgeons in the U.S. are women.

Now, students at Carle Illinois College of Medicine are working to foster diversity in orthopedic surgery by encouraging women to consider a career in the field and providing mentorship along the way. They've formed a local chapter of a nationwide group that provides new professional opportunities to female medical students who are interested in specializing in orthopedic surgery.

Jona Kerluku, the president of the CI MED chapter of the Ruth Jackson Orthopaedic Society, says the group integrates CI MED students into the larger orthopedic surgery community. Kerluku says support is especially important for women.

"As women pursuing careers in orthopedic surgery, we are fortunate to have the opportunity to establish an infrastructure that supports the development and mentorship of others who are interested in orthopedic surgery," said Kerluku. The new group is open to all genders, connecting students with professional development, networking, and learning opportunities.

CI MED graduates have a strong history of securing residency placement in orthopedic surgery. Of the CI MED graduates who've entered residency in orthopedics, 25% are women.

The Ruth Jackson Orthopaedic Society provides students with opportunities to submit their research to local and national orthopedic conferences, supports professional goals and education through webinars and workshops, and provides access to scholarships throughout the medical education journey.

Image: Dr. Morgan Moon is an orthopedic surgeon and clinical sciences professor at CI MED.

PHILANTHROPY

DONOR GIFT TO FUND NEW STUDENT SCHOLARSHIP, PROFESSORSHIP

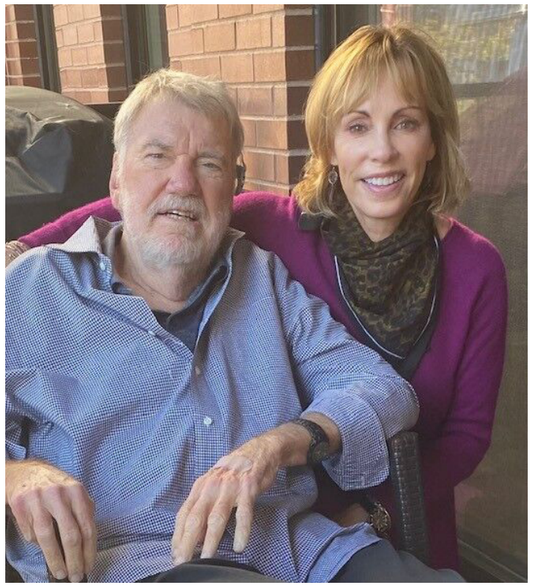
A generous gift from a longtime donor will help create a new student scholarship and a professorship at Carle Illinois College of Medicine.

One of CI MED's faithful donors, Dave Downey, has committed to a $2 million gift to the college. Half of the gift will fund a professorship in clinical translational research or innovation; the other half will support a student scholarship with preference for a student from Illinois. Downey's gift honors former Chancellor Phyllis Wise, who played a crucial role in in founding CI MED, the world's first engineering-based college of medicine.

Downey enthusiastically embraces the CI MED vision. "The university has one of the best public engineering colleges in the world. Carle Illinois leverages our faculty's renowned engineering and technical skills and applies them to all aspects of medical training and innovation," Downey said.

Downey and his wife Jane Hays have been deeply involved in the Champaign-Urbana, Carle Health, and University of Illinois communities for years. The couple previously gifted the college $1m for the Phyllis M. Wise Center for Student Excellence Fund, supporting student affairs programming.

The new professorship and the new scholarship are expected to be in place by the end of 2025.



CI MED-BUTKUS FOUNDATION PARTNERSHIP TO ADVANCE LIFE-SAVING CARDIOVASCULAR SCREENING

Carle Illinois College of Medicine and the Butkus Foundation have launched a new partnership to advance life-saving cardiovascular screenings. The partnership unites the Butkus Foundation's national reach and advocacy with Carle Illinois' expertise at the intersection of engineering and medicine.

The collaboration builds on the national Takes Heart™ initiative inspired by Hall of Fame NFL linebacker Dick Butkus after a 2001 heart scan revealed three 100% blocked arteries and two 95% blocked arteries, despite having no symptoms. The quintuple bypass that immediately followed extended Butkus' life by 23 years and inspired his advocacy for early detection and prevention.

The partnership will initially focus on CT Calcium Score screenings for University of Illinois and Big Ten football coaches during the 2025 season, but aims to expand offerings, including the creation of a center to leverage Carle Illinois' cutting-edge AI and advanced imaging to predict and prevent sudden cardiac death.

"We chose Carle Illinois College of Medicine because it's the world's first engineering-based college of medicine, uniquely positioned to harness pioneering AI technologies to advance health care, research heart health, and save lives. Together, we can make a next-level impact," said Matt Butkus, son of Dick Butkus and President of the Butkus Foundation.

The partners will lead the development of an AI-powered HIPAA-compliant cardiovascular health database that will collect and analyze screening results to identify patterns, inform new prevention measures, advance heart health knowledge, and develop innovative treatments.

ALUMNI IMPACT

ALUMNI MDS MAKING A DIFFERENCE

YUSI GONG, MD
Class of 2022
Graduate of Beth Israel Deaconess Internal Medicine residency; Fellow in Cardiology at University of California-San Diego

"Every time I'm on a cardiology rotation, whether it's heart failure or CCU (coronary care unit), I just think that 'oh my gosh, I want to do this.'" Dr. Gong foresees a future that involves both general cardiology practice and research.

KENNY LEUNG, MD, INTERNAL MEDICINE
Class of 2022
Graduate of University of California Irvine Internal Medicine residency; Fellow in Clinical Informatics at University of California-Los Angeles (UCLA)

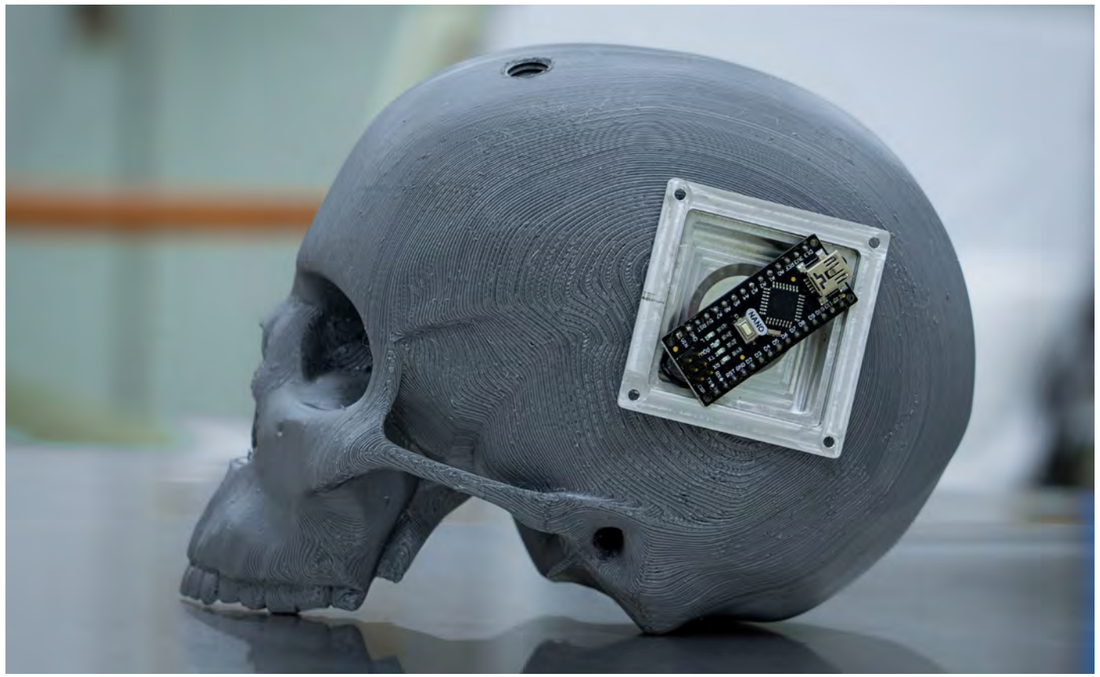
"I'm excited to pursue a clinical informatics fellowship while practicing in internal medicine at UCLA. My hope is to make both a personal impact on individual patient lives through compassionate patient care, as well as a positive system-wide impact through improving the health care system via technology."

ANANT NAIK, MD, NEUROSURGERY
Class of 2023
Resident, University of Minnesota

Dr. Naik continues his work to advance new treatments for brain cancer during his neurosurgery residency. Naik's concept for a transcranial implant for delivery of photodynamic therapy to treat glioblastoma was published by the US Patent and Trademark Office in April 2025. The device is now awaiting patent approval. Drs. Naik, Emily Smith (Class of 2023, Radiation Oncology, Stanford), and MD/PhD candidate Al Smith developed the system called Beacon as part of CI MED's Capstone course.

NICK TUCKER, MD, PEDIATRICS
Class of 2024
Resident, St. Louis Children's Hospital

Dr. Tucker is leveraging his computer science background to improve the quality of medical processes. "Residency workrooms are often noisy and not conducive to efficient, accurate work, so I hope to measure average sound intensity in the room before and after implementation of a silent, shared, electronic checklist for tasks to reduce distractions."



HONORS

2025 FACULTY AWARDS

ROHIT BHARGAVA has been elected to the 2024 Class of Biomedical Engineering Society (BMES) Fellows. This honor recognizes BMES members with the most outstanding records of achievement and advancements in the field of biomedical engineering.

BHARGAVA has also received the Executive Officer Distinguished Leadership Award, one of several Campus Awards for Excellence in Faculty Leadership. The award recognizes his role as founding director of the Cancer Center at Illinois. Bhargava is also the Grainger Distinguished Chair in Engineering, a professor of bioengineering, and a professor of biomedical and translational sciences at CI MED.

SHELDON JACOBSON has been selected for the Distinguished Award for Excellence in Public Engagement. This prestigious award honors faculty, staff, students, and community members who address critical civic and community issues at local, state, national, and global levels.

CHARISSE COLEMAN was selected to participate in the 2025 Professional Staff Leadership Academy (PSLA). PSLA is designed to foster a culture of dynamic and transformational leadership for academic professional and civil service staff throughout the University of Illinois System.

ANN-PERRY WITMER was named a Fulbright Specialist to advance project-based engineering education in Belgium. She was on site for two weeks in the summer at Haute Ecole Louvain en Hainaut (HELHA), helping to guide the university's implementation of project-based learning.

JANET JOKELA was selected to serve on the campuswide steering committee that will guide the University of Illinois Urbana-Champaign toward health-promoting milestones in all aspects of campus culture and in leading health promotion locally and globally. The work is part of campus's adoption of the Okanagan Charter and participation in the United States Health Promoting Campuses Network (USHPCN).

MANUEL HERNANDEZ has been elevated to IEEE senior member, an honor acknowledging experience and documented achievements of significance. IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

MATT WHEELER was named a 2024 Fellow of the American Association for the Advancement of Science, the world's largest general scientific society. An animal scientist, he was recognized "for distinguished contributions to the field of reproductive biology, particularly the use of transgenic and other biotechnological approaches to improve livestock and animal models of human disease."

DEAN MARK COHEN has been elected to serve on the administrative board for the Association of American Medical Colleges' council of deans. The administrative body provides leadership for medical school deans across the country on issues affecting medical education and health care. The Council of Deans (COD) is the only organization of its kind, convening deans of AAMC member medical schools to address issues affecting academic medicine and develop strategies to achieve excellence in medical education, research, and patient care.

GARY BECK DALLAGHAN has been elected to a two-year term as president of the Council on Medical Student Education in Pediatrics, the first non-physician, former clerkship coordinator elected as the group's president. COMSEP is an international community of educators committed to promoting exemplary teaching practices, innovation, and scholarship in medical student education in pediatrics.

JOE BRADLEY has been honored with a campuswide award for excellence in online teaching for his work in the department of bioengineering. He was the first to develop online courses for the program. His course is a template, and his lecture slide format and CITL studio recording system are models for all other bioengineering online courses.

JONATHAN SWEEDLER has been elected to membership in the American Academy of Arts and Sciences. He is a specialist in analytical chemistry and neurochemistry to understand cell-to-cell signaling pathways involved with learning, behavior, and memory.

MARK ANASTASIO has been awarded the William J. Morlock Award from the Institute of Electrical and Electronics Engineers (IEEE) Engineering in Medicine and Biology Society (EMBS), one of the most prestigious honors presented by the group. Anastasio was nominated "for outstanding contributions to image reconstruction and biomedical imaging technology." Anastasio is the head of the Department of Bioengineering at the Grainger College of Engineering and a professor of biomedical and translational sciences at CI MED.

HONORS

STUDENT HONORS

GREGORY RIDGEL earned the 2025 Community Impact Award from the University of Illinois Urbana-Champaign's Office of Diversity & Social Justice Education.

MAHIMA GOEL was awarded the prestigious Fiddler Innovation Fellowship for her work to develop a new portable device to prevent chemotherapy-induced hair loss in cancer patients. The fellowship includes a $10,000 prize that Goel plans to use to support her team's efforts to improve the lives of cancer patients. **JEFFREY LU** and **CHRISTIAN GUERRERO-JUAREZ** were selected as finalists for the Fiddler award, while **TESSABELLA MAGLIOCHETTI** and **BHARGAVEE GNANASAMBANDAM** were finalists for the Illinois Innovation Award. **GOEL** was also selected for the prestigious Physicians of Tomorrow Scholarship from the American Medical Association Foundation.

Students **PRATEEK DULLUR, HANNAH JUNG,** and **JACOB NAZARIAN** were selected for the AAMC RISE: Developing Future Leaders in Academic Medicine & Science program. The program helps second-year medical students build leadership skills and knowledge that are vital to both their journey in medical school and their future as leaders.

JOSE BELTRAN was selected by the American Association of Family Physicians Foundation to receive one of nine Family Medicine Leads Emerging Leader Institute 2024 Leadership Project Awards. As part of the Emerging Leaders program, Beltran spearheaded a project called "Strengthening a Veggies Rx Program: A Journey in Leadership and Adaptation."

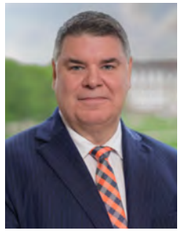
JONA KERLUKU was selected as a member of the American Academy of Orthopaedic Surgeons Innovation Committee, a national panel composed of six members. AAOS is the world's largest medical association of musculoskeletal specialists.

LEADERSHIP

LEADERSHIP BIOS

MARK COHEN, MD, FSSO, FACS, MAMSE
Dean

Dr. Mark Cohen is Dean of the Carle Illinois College of Medicine and Senior Vice President and Chief Academic Officer for Carle Health. He is a practicing surgical oncologist and endocrine surgeon and a tenured professor of Surgery and Biomedical and Translational Sciences at the Carle Illinois College of Medicine. He is also a Founder Professor in The Grainger College of Engineering in the Department of Bioengineering. His research covers several areas including novel approaches to tissue engineering to create functional organs from fat stem cells; the creation of a novel class of anticancer drug compounds that target chaperone proteins; nanoparticle drug-delivery systems for cancer and bone regeneration; and the use of mixed reality and AI/ML technologies to improve telemedicine and clinical care delivery.



GREGORY POLITES, MD
Executive Vice Dean

Dr. Gregory Polites joined Carle Illinois College of Medicine as Executive Vice Dean in 2023. He provides executive oversight for key academic areas, including academic affairs, student affairs, admissions, accreditation and assessment, the strategic plan, and post-baccalaureate programs. He also oversees international partnerships, serving on the executive council of the new Global Consortium for Innovation and Engineering in Medicine, actively fostering relationships with university partners throughout Europe, South America, the Middle East, South Africa, and Asia. Dr. Polites is also a professor of emergency medicine.

JANET JOKELA, MD, MPH, FIDSA, MACP
Senior Associate Dean for Engagement

Dr. Janet Jokela develops and supports international and national partnerships, helps build relationships with donors and alumni, mentors students and faculty, and works with college leadership on Liaison Committee on Medical Education (LCME) accreditation. Her previous academic and leadership roles include over 20 years on the faculty at the University of Illinois College of Medicine at Urbana (the legacy college) including five years as acting regional dean, serving on the faculty at Harvard Medical School, and as Director of Public Health in Revere, Massachusetts. She has received multiple awards, including Alpha Omega Alpha and the Leonard Tow Humanism in Medicine Award from the Arnold P. Gold Foundation.

ROSALIND GARCIA-TOSI, PHD
Chief of Staff

Rosalind Garcia-Tosi joined CI MED as Chief of Staff in 2021. She serves as a key advisor to the dean, providing organizational assessments and recommendations, and managing the development and implementation of initiatives to advance strategic priorities and optimize integrated operations. Previously, she served as Associate Director of Administration at the University of Michigan and the Eisenberg Family Depression Center. She is skilled in operations, fiscal management, strategic planning, program evaluation, staff management, community outreach and education, health equity initiatives, and translational research. Garcia-Tosi holds a doctorate in Health Systems Management from Tulane University School of Public Health & Tropical Medicine.

ASSOCIATE DEANS AND ASSISTANT DEANS

JESSICA BREITBARTH, JD
Associate Dean for Advancement

Jessica Breitbarth is the inaugural associate dean for advancement at the Carle Illinois College of Medicine, leading strategic vision and implementation for the advancement unit in the college. Breitbarth is an experienced attorney in corporate, tax, and estate planning. She received her bachelor's degree from the University of Illinois and her juris doctorate, summa cum laude, from Northern Illinois University.

CLAUDIUS CONRAD, MD, PHD
Associate Dean for Research & Innovation

Dr. Conrad directs CI MED's Office of Research and Innovation, advancing the vision and growth of research and innovation opportunities and partnerships for CI MED's students, faculty, and staff. He is a surgical oncologist who is an internationally recognized expert in minimally invasive surgery to treat liver, pancreatic, and biliary tract cancers. He has a wealth of experience in building teams and developing programs in clinical and translational research, as well as clinical programs and medical education, and currently holds leadership roles at CI MED, Carle Health, and the Cancer Center at Illinois. Dr. Conrad is also a classically trained concert pianist who has pioneered research into music's role in medicine to benefit both clinicians and patients.

KARA JOHNSON, MBA
Associate Dean for Finance & Administration

Kara Johnson provides strategic and administrative leadership for budget and resource planning, financial analysis and reporting, business and facilities operations, information technology, and human resources. She earned her bachelor's degree in accounting from Southern Illinois University Carbondale and a Master of Business Administration from the University of Illinois Urbana-Champaign. Before joining CI MED, Johnson was a staff member at Illinois' Beckman Institute for Advanced Science and Technology for 14 years.

KRISTINE CARPENTER, MD
Associate Dean for Academic Affairs

Dr. Carpenter is a seasoned medical educator, family physician, and academic leader with extensive experience in curriculum development, student advising, clinical integration, and faculty development. Her academic interests include competency-based education, early clinical immersion, wellness in medical training, and integrated curriculum models. Carpenter is a multi-time recipient of the "Golden Apple" Award in recognition of teaching excellence. She earned her medical degree from Albany Medical College. She completed residency at the University of North Carolina at Chapel Hill, followed by fellowships in maternal-child health and faculty development.

RUBY MENDENHALL, PHD
Associate Dean for Diversity and Democratization of Health Innovation

Professor Mendenhall has held leadership roles at CI MED since 2018, serving most recently as the college's Associate Dean for Diversity and Democratization of Health Innovation. As part of a $500,000 grant from the MacArthur Foundation to CI MED, Mendenhall and her research team are creating programming and wellness tools to foster healing from racial trauma, such as police killings, gun violence, and higher rates of COVID-19 deaths. The program focuses mainly on Black and Latinx high school students and young adults living in Chicago. Professor Mendenhall was selected as the 2022 Pearl Birnbaum Hurwitz Humanism in Healthcare Award by the Arnold P. Gold Foundation and as the 2024 Urbana Poet Laureate.

BLAIR ROWITZ, MD
Associate Dean for Clinical Affairs

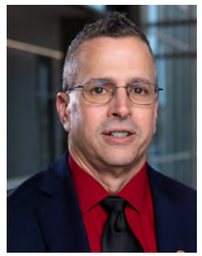
Dr. Rowitz is a bariatric and general surgeon at Carle Health and Associate Dean for Clinical Affairs at CI MED. In this role, he facilitates the integration of the college's innovation, research, and scholarship activities into its clinical partners' patient care missions. His work is critical to realizing the college's strategic goal of transforming regional health care systems into global leaders for health care delivery and innovation. Dr. Rowitz's research interests include physiologic changes associated with obesity and bariatric surgery as well as novel treatment approaches for small-bowel perforations.

DEB VIRANT-YOUNG, PHARMD, BCPS
Associate Dean for Faculty Affairs & Development

Deb Virant-Young joined CI MED in 2023 with a diverse background in academia, pharmacy, and medical education. At CI MED, she spearheads the College's annual Medical Education Experience (MEdX) Conference, which has enjoyed consistently strong attendance. She has implemented new faculty recognition and development programs, and helped launch the new Global Consortium of Innovation and Engineering in Medicine, where she serves on the executive council. She previously served as the director of Faculty and Professional Development at Michigan State University College of Osteopathic Medicine's (MSUCOM's) Statewide Campus System, which includes 28 hospitals.

MARK UROSEV, MA
Associate Dean for Student Affairs

Mark Urosev joined CI MED in 2023, leading the college's efforts to recruit the best and brightest students, provide the highest level of support for physician-innovators during their medical school careers, and assist them on their road to medical residency. Previously, he served for eight years as the assistant dean of student affairs at the University of Illinois College of Medicine – Chicago (UIC), where he led efforts to support a student body of approximately 1,000 students. His experience includes overseeing the student promotions process, as an academic advisor, and as assistant director of admissions at UIC.



GARY BECK DALLAGHAN, PHD
Assistant Dean for Accreditation

Gary Beck Dallaghan joined CI MED in 2024, overseeing the college's LCME accreditation process. He previously served as the assistant dean for evaluation and assessment at the University of Texas at Tyler School of Medicine. Beck Dallaghan is active with the AAMC Group on Educational Affairs regionally and nationally, as well as president-elect of the Council on Medical Student Education in Pediatrics. He received his doctorate in educational psychology from Capella University and holds a master's degree in mathematics from the University of Nebraska at Omaha. His educational research and scholarship interests include curriculum development, evaluation/assessment, statistics, and qualitative analysis.

VICTORIA RICHARDS, PHD
Assistant Dean for Curriculum

Victoria Richards joined CI MED in 2020, overseeing CI MED's unique engineering-based curriculum. Her expertise lies in medical education, curriculum development, policy development, and LCME accreditation, with extensive experience in teaching basic and clinical pharmacology and toxicology. Previously, she held faculty/administrator positions at Kaiser Permanente School of Medicine, the Frank H. Netter, MD School of Medicine at Quinnipiac University, and A. T. Still University. She earned her doctorate in pharmacology and toxicology from the University of Arizona.

HEATHER WRIGHT, MS
Assistant Dean for Student Affairs

Heather Wright joined Carle Illinois College of Medicine in 2017, serving in various roles, most recently as assistant dean for student affairs. She has played an integral role in CI MED's recruitment, retention, and student support initiatives. She has also played a central role in the LCME accreditation process and the success of CI MED's students in securing residency placements at some of the top teaching hospitals and clinics in the nation. She was honored with the Outstanding Faculty and Staff award by each of CI MED's graduating classes (2022-2025).

DEPARTMENT HEADS

KENNETH ARONSON, MD
Interim Department Head, Neurology and Neurosurgery

Dr. Aronson integrates the clinical and academic goals of the faculty, including translational and clinical research and the creation of additional electives in neuroscience. He participates in the neurology core rotation for CI MED students with a focus on introduction to electromyography. Dr. Aronson is a neurologist at Carle Health, the medical director of the Carle Neuroscience Institute, and a core faculty member in the neurology residency. He participated in founding CI MED when serving on the Carle Board of Trustees.

JAMES KUMAR, MS, FACP, FHM
Interim Department Head, Clinical Sciences

Dr. Kumar oversees delivery of the clinical components of CI MED's MD curriculum. He is a board-certified Internal Medicine physician and Medical Director and Designated Institutional Official for Graduate Medical Education at Carle Health. After his medical education at the Chennai (Madras) Medical College, Dr. Kumar completed graduate studies in Molecular Physiology and Internal Medicine Residency at University of Illinois College of Medicine at Urbana-Champaign. Dr. Kumar was an inaugural physical diagnosis facilitator at CI MED, and has won several awards (Golden Apple, ACP Laureate, Teacher of the Year, Cornerstone).

ISSAM MOUSSA, MD, MBA
Interim Department Head, Cardiovascular Medicine & Surgery

Dr. Issam Moussa oversees the integration of teaching, research, and innovation into its clinical partners' patient care mission. An interventional cardiologist and professor of Medicine and Bioengineering, Dr. Moussa also serves as medical director of Carle Heart & Vascular Institute. He has held numerous leadership positions in the American Heart Association, the American College of Cardiology, and the Society of Cardiac Angiography and Intervention. His research interests include heart and brain interactions, neurocardiology, and structural heart disease.

RYAN PORTER, MD, MBA
Interim Department Head, Surgery and Digestive Health

Dr. Porter champions surgical innovation and interdisciplinary collaboration in medical education and is dedicated to shaping the future of medicine in his role as a clinical department head. He is a board-certified otolaryngologist and neurotologist specializing in ear surgery, including cochlear implants. His research explores optical technologies in ear disease and hearing science. He completed his undergraduate work at Baylor University, his medical training at Loyola University Chicago, a fellowship in Otology, Neurotology, and Skull Base Surgery at the Michigan Ear Institute, and earned an MBA from the University of Illinois.

SINISA STANIC, MD
Head, Department of Oncology

Dr. Stanic's work is vital to realizing CI MED's strategic goal of transforming regional health care systems into global leaders in health care delivery and innovation. He is a board-certified radiation oncologist and the medical director of the Carle Cancer Center. Dr. Stanic graduated from the University of Belgrade Medical School in Belgrade, Serbia, and completed his radiation oncology residency at the University of California Davis Cancer Center. He has received several awards, including the American Brachytherapy Society Fellowship. His clinical interests include lung, breast, prostate, and gynecological cancers. His research focuses on lung and gynecological cancers.

DIRECTORS/OFFICERS

NICOLE DEL CASTILLO, MD, MPH
Chief Diversity & Inclusion Officer

Dr. del Castillo's work at CI MED focuses on recruiting and supporting students, faculty, and staff; implementing strategic initiatives, policies, and procedures that increase DEI and enhance culturally responsive care; and delivering DEI educational and enrichment programs. She oversees CI MED's pathway programs and belonging initiatives and serves as a clinical assistant professor in the Department of Clinical Sciences. After receiving her MD degree, she completed her general and child psychiatry residency at the University of Iowa Hospitals and Clinics, her MPH from Harvard T.H. Chan School of Public Health, and the Commonwealth Fund Fellowship in Minority Health Policy at Harvard.

KAREN MCLAUGHLIN, MHRIR
Executive Director of Human Resources

Karen McLaughlin joined CI MED in May 2017 to create and lead the office of human resources for the college. She previously worked in human resources at Illinois for approximately 15 years in other academic units, research units (NCSA), and central campus administration. Before joining the university in 2002, she worked in private industry human resources with a global technology company. She holds a master's degree in human resources and industrial relations, a bachelor's degree in psychology, both from the University of Illinois at Urbana-Champaign, and two national human resources professional certifications.

RYANN MONAHAN, MS
Executive Director, Marketing & Communications

Ryann Monahan serves as the Executive Director of Marketing and Communications. She is a leader in higher education research, health, and technology communications. She joined CI MED in 2020 and has previously led communication efforts at the Department of Electrical and Computer Engineering in The Grainger College of Engineering. She has presented at AAMC, CASE District V, and NIH/EPA Children's Environmental Health Center conferences in her areas of expertise.

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