

UCI Susan & Henry Samueli College of Health Sciences



2022-23

“UC Irvine is proud to be the only academic health system serving more than 3 million people in Orange County. We offer the most advanced care to our patients, innovate to achieve continuous quality improvement through research that moves the frontiers of health forward, and educate the future healthcare workforce to offer team-based, patient-centered, whole-person care by providers that reflect the diversity and richness of California.”

— Steve Goldstein, MA, MD, PhD, FAAP, Vice Chancellor for Health Affairs



ONE HEALTH

The Future of Health Happens Here

As a comprehensive academic healthcare system, founded on the mission to Discover, Teach, Heal, UCI Health Affairs is committed to offering the most advanced support for human health based on groundbreaking research, novel education and delivery of cutting-edge care at the right time and in the best place. UCI's nation-leading status is being elevated by a uniquely collaborative strategic trajectory — One Health. This is an alliance across the health disciplines of medicine, nursing, pharmacy & pharmaceutical sciences, public health and integrative health, with seamless implementation within the health delivery system and full engagement with the world-class expertise of UCI.

School of Medicine

Advancing high-impact medical research, educating a diverse health workforce and delivering evidence-based, patient-centered healthcare

Sue & Bill Gross School of Nursing

Championing interdisciplinary approaches that enhance the health of our communities

School of Pharmacy & Pharmaceutical Sciences

Accelerating innovations that save lives, reduce costs and optimize medication use

Program in Public Health

Future School of Population and Public Health

Creating, integrating and translating population-based knowledge into preventive strategies

Susan Samueli Integrative Health Institute

Pioneering a multidisciplinary, evidence-informed, integrative approach to health and wellness

Research Centers & Institutes of Health

Pushing the boundaries of innovation and discovery

UCI Health

Committed to being the best place to give and get care in Orange County and beyond through improving health, increasing sustainability and transforming our community



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Office of the Vice Chancellor for Health Affairs

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Message From The Vice Chancellor

Empowered by our ONE HEALTH strategy, UCI Health Affairs unites the Susan & Henry Samueli College of Health Sciences, UCI Health, and the UCI Centers and Institutes of Health to drive our mission to DISCOVER, TEACH and HEAL. A unique and nationally recognized interdisciplinary approach, ONE HEALTH brings together renowned clinicians, nurses, pharmacists, public health and integrative health experts, and scientists to pioneer breakthrough discoveries that cure disease, advance patient care and support lifelong wellness.



Steve Goldstein, MA, MD, PhD, FAAP
Vice Chancellor for Health Affairs
Distinguished Professor, Departments of
Pediatrics, Physiology & Biophysics, and
Pharmaceutical Sciences



Greetings friends! Our nation-leading ONE HEALTH model continues to be a powerful force for good in Orange County and well beyond. Once again this year, UCI Health Affairs has demonstrated that our distinctive model, empowered by the mission to DISCOVER, TEACH and HEAL, is creating a new future of high quality care and support for wellness for all people. This trajectory of innovation is harnessing scientific inquiry at the leading-edge of knowledge, training the next diverse generation of investigators and providers, and delivering superior, evidence-based, whole-person care. The successes of our faculty, staff and students have attracted others to follow our lead and marshaled the enthusiasm of advocates who are offering their generous support. Indeed, excitement for the UCI strategy has engendered the support of the UC Regents who have approved an expansion of facilities for UCI Health Affairs of 2.5 million square feet by late 2025.

DISCOVER: From developing new protocols to tackle cancer to restoring vision through stem cell transplants, examples of exciting scientific innovations fill this report. Every day our creative, world-renowned clinicians and investigators work tirelessly to advance our knowledge of the health sciences. To further empower the work of our experts, we have embarked on a new construction project in the UCI Health Sciences

District. In April, we broke ground on the Falling Leaves Foundation Medical Innovation Building (FLFMIB), thanks to the generosity of Dr. Robert Mah and Dr. Adeline Yen Mah's Falling Leaves Foundation. The FLFMIB is expected to open mid-2025 and, once complete, it will total more than 215,000 square feet, making it one of the largest buildings on the West Coast dedicated to basic and translational research and training. The medical innovation building will be home to elite, cross-disciplinary research teams who promise us breakthrough discoveries to tackle some of the most intractable diseases including cancer, blindness, neurodegenerative diseases and more. True to ONE HEALTH, spaces within the building will be intentionally designed to foster collaboration and a no-silos approach to investigation.

TEACH: The state-of-the-art, sustainable Susan & Henry Samueli College of Health Sciences building and Sue & Bill Gross Nursing and Health Sciences Hall are now vibrant homes to faculty, students and staff from the Sue & Bill Gross School of Nursing, the Program in Public Health, the School of Pharmacy & Pharmaceutical Sciences, and the Susan Samueli Integrative Health Institute. Part of the building is our 3,000-square-foot high-fidelity simulation lab, a testament to UCI's commitment to interprofessional education and practice. The simulation lab provides an opportunity for

medical, nursing, pharmacy and public health students to have hands-on training in a collaborative and highly-realistic healthcare setting. Adjacent, the new home for the Susan Samueli Integrative Health Institute is leading the nation in bringing evidence-based, whole-person healthcare to prevention and complex diseases, advancing cutting-edge research, and educating students and practitioners.

HEAL: As the only academic health system in Orange County, UCI Health provides tertiary and quaternary care — treating the most challenging and complex cases — and thereby supporting the 100 regional hospitals with services they cannot provide. True to what defines a university-based health system, our patients benefit directly from our scientific innovations through care only available at leading-edge systems like ours. And, the new UCI Health — Irvine medical complex, now under construction on Jamboree Road, will take our mission to the next level. First, the five-story, 168,000-square-foot Joe C. Wen & Family Center for Advanced Care will open in Spring 2024. This outpatient facility will offer adult and pediatric specialty care, urgent care, digestive health, neurosciences and comprehensive laboratory and radiology imaging services, and will be a home for the Center for Autism & Neurodevelopmental Disorders. Next, the new home

for the Chao Family Comprehensive Cancer Center and Ambulatory Care building will open in Summer 2024. Then, in 2025, our state-of-the-art 144-bed hospital with a 24/7 ER will start serving patients, the first all-electric hospital in the nation. The ultra-sustainable medical complex is attracting top talent to UCI from around the world and combined with the UCI Medical Center in Orange and our 14 distributed sites around the county, will provide unparalleled, world-class equitable care for Orange County.

On the pages of this annual impact report, you will see many examples of how our ONE HEALTH vision spurs discovery, teaching and healing. Of course, these examples are only a glimpse at the revelatory work transforming wellness and healthcare at UCI. We offer this annual report with pride in the remarkably talented and dedicated people of UCI Health Affairs who are changing the future of good health for Orange County and beyond.

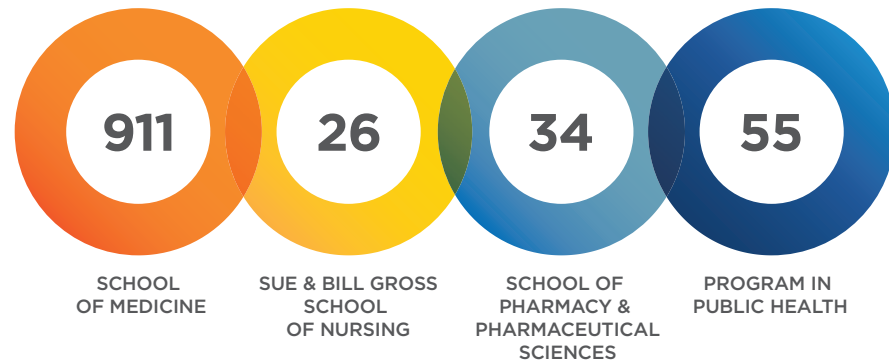
Onward,

Steve Goldstein

Who We Are

COHS Faculty Breakdown

The Susan & Henry Samueli College of Health Sciences has over 1,000 faculty



COHS Total Faculty, Staff, Students



11,000+ Faculty & Staff

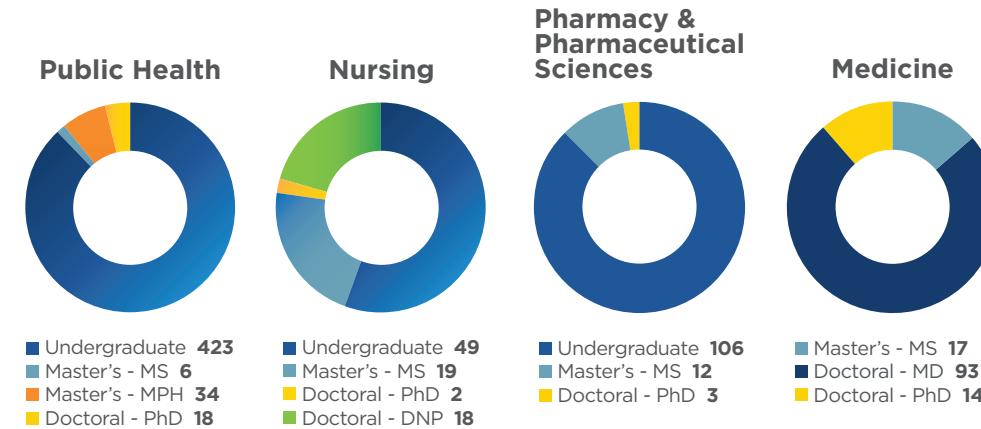


2,991 Students

Academic Impact

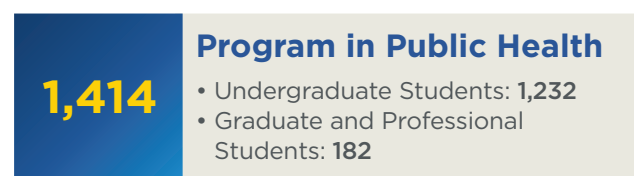
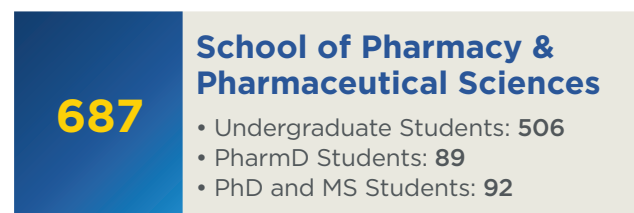
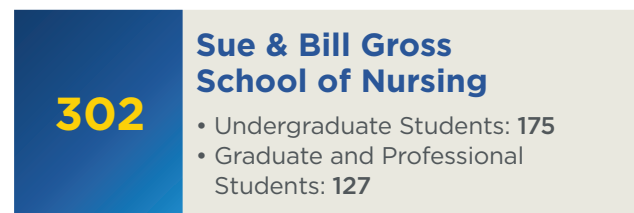
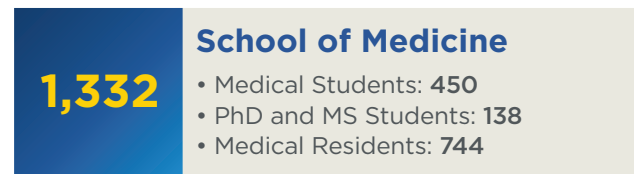
COHS Degrees Awarded

Degrees awarded in Summer 2021 - Spring 2022



814
Degrees Awarded in 2021-22

COHS Enrollment by School

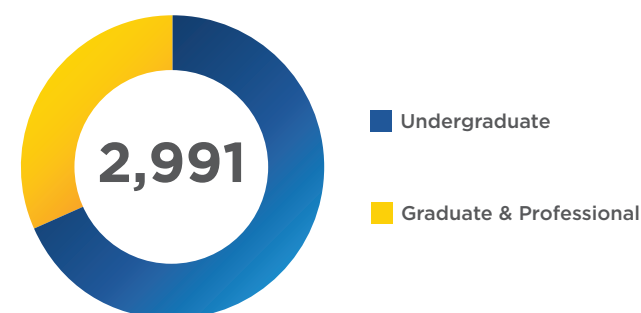


31% of COHS undergraduates, 25% of graduate students and 27% of professional students identify as an underrepresented minority

51% of COHS undergraduates identify as first-generation, students whose parents/guardians have not received a bachelor's degree

COHS Enrollment 22/23

Total Undergraduate Enrollment = 1,913
Total Graduate Enrollment = 1,078
2,991 Enrolled in COHS



COHS Degree Programs



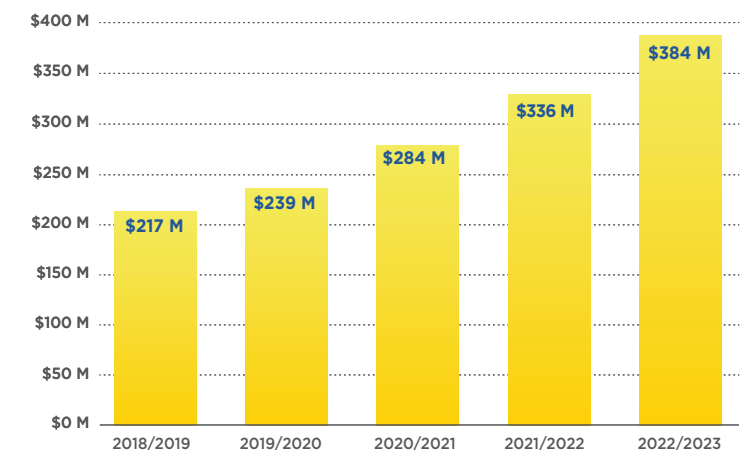
Research Impact

Health Affairs research awards have increased **77%** over the last five years

\$384 MILLION*

* In 2022-23 fiscal year research awards totaled \$384 million across Health Affairs

College Faculty Research Award Trends



Who We Are

Clinical Impact: UCI Health

As the region's **only university-based academic health system**, UCI Health serves **3.2 million people** across Orange County.



Home to:

- the only National Cancer Institute - designated comprehensive cancer center based in Orange County
- the region's only combined Level I and Level II pediatric trauma center
- the region's only high-risk maternal/fetal program
- the region's only American Burn Association-verified Regional Burn Center

1.2 million
Outpatient visits

22,000
Patient discharges

58,000
Emergency visits

21,000
Surgeries



**Magnet Hospital
for Nursing
Excellence
for 20 years**

— ANCC

**One of America's
Best Hospitals**

for 23 consecutive years

— U.S. News & World Report

**5-star hospital
and a
top 10 performer
nationally**

vizient.



UCI Health recognized as:

- 190+ UCI Health doctors named as "Physicians of Excellence" by Orange County Medical Association
- an Age-Friendly Health System
- one of the best maternity care hospitals in the country

The Hospital of the Future

UCI Health - Irvine Campus will encompass a 144-bed acute care **hospital with an emergency room**; the **Joe C. Wen & Family Center for Advanced Care**; and the **Chao Family Comprehensive Cancer Center and Ambulatory Care** building.



Key Clinical Services:

- Comprehensive Cancer Center
- Digestive Health Institute
- Center for Children's Health
- Endoscopy Center
- Infusion Advanced Imaging including Nuclear Medicine
- Neurosciences
- Orthopedics
- Primary, Multi-Specialty Care, and Urgent Care
- Spine

Susan Samueli Integrative Health Institute

7,953

Total number of inpatient acupuncture treatments

32,097

Total number of integrative nursing interventions delivered at UCI Health inpatient and ambulatory procedural units by direct care nurses

28,578

Total number of ambulatory visits



One Health Vision



One Health

UCI Health Affairs is a first-of-its-kind alliance uniting health disciplines, empowered by the entirety of the University of California, Irvine. We are change-makers, creating a future of wellness and optimal healthcare for all people through healthcare delivery, cutting-edge research, education and service.

One Health is our interdisciplinary approach uniting world-leading experts in medicine, nursing, pharmaceutical sciences, public health and integrative health to advance the frontiers of knowledge. We pioneer innovations in research and teaching to deliver superb evidence-based care through our comprehensive regional healthcare system.

We are transforming the future through a collective commitment to educate a diverse healthcare workforce, to provide patient-centered, whole-person, team-based care that is precise for individuals and communities.

One Health is our structure and vision – a learning health system dedicated to continuous improvement and innovation that directs our commitments – to Discover. Teach. Heal.

Mission

Discover. Teach. Heal. Our tripartite mission is accelerating the frontiers of knowledge, transforming the education of the diverse healthcare workforce of the future, and providing unequaled patient care for new cures, therapies, prevention and wellness. Driving a change in healthcare delivery from treatment only during episodes of illness to support of wellness through life.

One Health Strategic Priorities

- **Educate the Next Generation Healthcare Workforce**
A diverse future healthcare workforce is needed to serve communities with cultural expertise; interprofessional education and practice will prepare current and future health workers to work as teams to meet California's needs.
- **Discovery and Implementation**
Advance health through basic, translational and clinical research innovations where UC Irvine can uniquely address critical local and national needs.
- **Accelerate Precision Care**
Improve healthcare quality, safety, equity, cost and policy using big data.
- **Advance Health Equity**
Deploy strategies to achieve health equity for individuals, families and communities.
- **Innovate in Healthcare Service and Lifelong Wellness**
Lead the emerging discipline of integrative whole-person health and expand access to a regional provider by creation of UCI Health – Irvine and alliances across Orange County.



Committed to Excellence and Innovation

Powered by discovery, innovation and inclusive excellence, each year UCI School of Medicine educates more than 450 medical students and nearly 150 PhD and MS students. More than 750 residents and fellows are trained at the UCI Medical Center and affiliated institutions.

Under the leadership of Dean Michael Stamos, MD, four key goals chart the school's path for 2020-2025:

Research Distinction

Our researchers are world-renowned and are routinely awarded grants through National Institutes of Health, the California Institute for Regenerative Medicine and other leading grantors. In fiscal year 2022-23, School of Medicine faculty received more than \$350 million in research awards.

Innovative Education

UCI School of Medicine has 24 departments ranging from basic science research to clinical medicine and surgical specialties and offers multiple MD, PhD and MS degrees. There are also numerous concurrent dual degree programs, including an MD/MBA, MD/MPH and an MD/MS degree through one of three mission-based programs: the Health Education to Advance Leaders in Integrative Medicine (HEAL-IM), Programs in Medical Education for Leadership Education to Advance Diversity-African, Black and Caribbean

(PRIME LEAD-ABC), and the Program in Medical Education for the Latino Community (PRIME-LC).

An early proponent of interprofessional education and practice, UCI School of Medicine ensures students learn with a healthcare team-based approach in the classroom, in a simulation center and in the clinical setting with hands-on training at UCI Medical Center, as well as community clinics and healthcare centers.

Clinical Excellence

Dedicated to patient-centered, whole-person, precision health-informed care, students learn from — and become — proven healthcare leaders trained in a collaborative, multidisciplinary approach to care. An impressive 95% are matched with their desired location upon completion of their residency.

Complex Care Leader

With UCI Health and the UCI Medical Center, the School of Medicine is part of the only academic health system in Orange County and the region's top destination for complex care. For decades, UCI Medical Center has been ranked one of America's Best Hospitals by U.S. News & World Report. Our students learn complex care from some of the best healthcare providers in the country.

DONOR SPOTLIGHT

Taplin and Morrison, Class of 1972, Endow Community Health Scholarships

Drs. Geraldine Taplin and John Morrison, who met during medical school and have been together for 48 years, are part of the Class of 1972, the very first School of Medicine graduates.

After medical school, Taplin completed an infectious disease fellowship at UCI and Morrison taught in the Pulmonary Division of the UCI Department of Medicine for 3.5 years. The couple then moved to Monterey County, where they both practiced medicine for over four decades.

Last year, Taplin was instrumental in the committee that organized the Class of 1972's 50th reunion. Because the reunion took place in the wake of the pandemic, they focused on public health messaging and education. The MD Class of 1972 presented the School of Medicine an endowed scholarship in support of future students in the MD/MS in Public Health joint degree program. Taplin and Morrison kickstarted the fundraising and classmates joined in.

"Unfortunately, the pandemic politicized science and further divided the nation," says Morrison. "So we felt strongly that the class gift might help. We want to support people going into the public health subspecialty with a science background — a physician as opposed to a politician — involved in health communications to the public."



During the reunion festivities, Taplin and Morrison reconnected with the university, toured new facilities and talked with current medical students. They were delighted with the changes they observed, especially the medical school's progressive instruction and ability to offer students early hands-on clinical experiences. The couple, who have five UC degrees between them conferred by UC Berkeley, Davis and Irvine, planned to leave a large portion of their estate to the University of California.

But now they've decided that their final gift, like the '72 class gift, will be devoted specifically to UCI School of Medicine scholarship endowments that focus on alleviating the financial burden that might prevent some medical students from pursuing public health. The gift expresses what they truly want to change in the world.

"The health of populations is what medicine should be about — not just caring for individuals who have enough money to get insured," says Taplin.

PRIME-LC Celebrates Two Decades of Medical Education Focused on Latinx Communities; Looks to Build PRIME-LGBTQIA+

Next year marks the 20th anniversary of UCI School of Medicine PRIME-LC (Program in Medical Education for the Latino Community). The program admits approximately 12 Spanish-speaking students each year who participate in a five-year MD/MS program that focuses on medical training tailored to meet the needs of under-resourced and underserved Latinx communities.

PRIME-LC students, many who seek to give back to communities like the ones they grew up in, thrive in a program that integrates leadership, advocacy and service on top of the typical medical school training. Latinx communities too often have the biggest population with the poorest health outcomes. PRIME-LC aims to shift this dynamic, as more



patients are able to recognize themselves in the staff and healthcare providers and form effective health partnerships.

The School of Medicine will be offering the PRIME model to other schools across the country and is also seeking donors for a new initiative they are in the process of creating for the LGBTQIA+ community.

About Sue & Bill Gross School of Nursing



Nursing with Humanity in Mind

The UCI Sue & Bill Gross School of Nursing, ranked #41 in the country by U.S. News & World Report, is dedicated to the education of future nurse leaders who reflect the communities they serve and who will improve patient care and promote population health, locally and globally.

This year, the School of Nursing settled into its new home within the Susan & Henry Samueli College of Health Sciences. UCI nursing students and faculty now enjoy a state-of-the-art facility: flexible classrooms designed for maximum collaboration, dedicated meeting and study spaces, and a 9,000-square-foot, high-fidelity simulation center with lifelike medical manikins.

The school is dedicated to creating a future health workforce that reflects the diversity of the country. Roughly 65% of School of Nursing students identify as Asian, Black, Hispanic, Native American and/or Pacific Islander. More than 17% identify as men.

With Dean Mark Lazenby, PhD, APRN, FAAN, at the helm, School of Nursing faculty are recognized pioneers in nursing philosophy and innovators in interprofessional education and practice. But more than anything, nursing with humanity

and compassion is fundamental to the UCI nursing program. Faculty and students log more than 10,000 hours per year working with and learning from vulnerable populations like under-served children, the homeless population, seniors and people with mental health disorders. School of Nursing researchers have also received over \$17 million in funding that contributes to the improvement of health care in areas such as oncology, HIV/AIDS, pediatrics, self-care, mental health, women's health, clinical policy and nursing education.

Among its many honors, UCI School of Nursing has produced fellows of the American Academy of Nursing, American Academy of Nurse Practitioners and Western Academy of Nursing; a Fulbright Scholar; and a Sigma Theta Tau International Nurse Researcher Hall of Fame recipient.

More than 300 students are enrolled in UCI's BS in Nursing Science, Masters Entry Program in Nursing (MEPN), Doctor of Nursing Practice (DNP) or Doctor of Philosophy (PhD) in Nursing degree programs. Whether their nursing future is practitioner, educator or researcher, all are being prepared to claim meaningful seats at the health care table.

DONOR SPOTLIGHT

School of Nursing Offers OC Nurse Carol Pierson a Way to Make a Huge Impact

Orange County nurse Carol Pierson has had a lifetime of giving. She served as a U.S. Army nurse during Vietnam and was a critical care nurse for many years. She also trained LA County firefighters and police to become paramedics. After Pierson's husband Mike, an LA County firefighter, passed away in 2018, and her mother, Carolene Emrich, passed away in 2020, Pierson knew she needed to explore more ways to give and, in particular, support the nursing profession. She began by attending a UCI Day of Giving event in 2021 in support of nursing totes and essential supplies for students. Then she focused resources on the Nursing Student Award Fund. To date, Pierson has donated over \$40,000, providing impactful scholarships to four undergraduate and graduate students. This year she also partnered with Maureen & Robert Zehntner – each donating \$23,400 – for the purchase of stethoscopes for UCI's Sue & Bill Gross School of Nursing prelicensure students. At the recent School of Nursing pinning ceremony, Pierson had the opportunity to meet Lacye Lawson, one of her scholarship recipients. "I wish more people knew that you don't have to donate millions to have a significant impact. Lacye and her mother were so grateful for the scholarship.



It just made my day." But Pierson isn't done. "When I pass away, whatever I have left will go to scholarships for UCI nursing students." Pierson worked with the UCI Foundation, in partnership with her estate attorney, to establish upon her passing The Carolene Emrich and Carol Pierson Endowed Fund that will forever support students enrolled in the Master's Entry Program in Nursing (MEPN) in honor and loving memory of her mother.

RESEARCH SPOTLIGHT

Infectious Disease Expert on Quest to Better Identify TB Hotspots

Sanghyuk Shin, PhD, associate professor in the Sue & Bill Gross School of Nursing and director of the UCI Infectious Disease Science Initiative, received a five-year \$3.17 million NIH R01 award to study how TB spreads in high TB incidence settings. Shin will use advanced genetic techniques to elucidate different Mycobacterium tuberculosis strains and TB transmission dynamics in households and in community gathering places in Botswana. The project is expected to produce groundbreaking information for better identifying TB transmission "hotspots," which can guide public health interventions to prevent the transmission of the deadly global health threat.





Advancing Health and Wellness Through Team-Based Pharmacy Practice, Research and Healthcare

Founded in 2020, the UC Irvine School of Pharmacy & Pharmaceutical Sciences is the first public pharmacy school in the Los Angeles-Orange County region and offers the following undergraduate, graduate and professional degrees:

- Bachelor of Science in Pharmaceutical Sciences
- Master of Science in Pharmacology
- Doctor of Philosophy in Pharmacological Sciences (PhD)
- Doctor of Pharmacy (PharmD)

The UCI School of Pharmacy & Pharmaceutical Sciences is training future leaders and problem solvers who will advance scientific discoveries and bring progressive changes to our healthcare system to reduce inequities, expand access and optimize medication therapy for individual patients and across patient populations. Students are taught and mentored by scientists and clinicians who are pioneers in the discovery, development and delivery of new drugs, devices and diagnostics.

Under the leadership of Founding Dean Jan Hirsch, BS Pharm, PhD, the UCI School of Pharmacy & Pharmaceutical Sciences enrolls nearly 700 students within its four academic programs. Approximately half of the students are first in their family to pursue higher education.

The UCI School of Pharmacy & Pharmaceutical Sciences encompasses two departments – **Pharmaceutical Sciences** and **Clinical Pharmacy Practice**:

- **The Department of Pharmaceutical Sciences** offers undergraduate and graduate students unparalleled training for future careers in pharmacy, medicine and biomedical research. The innovative, rigorous curriculum integrates concepts from biology, chemistry, chemical engineering, pharmacology and physiology. Alumni pursue exciting opportunities including graduate studies and employment in government, academia and the pharmaceutical and biotech industries. The research productivity of the faculty is comparable to other top pharmaceutical sciences departments in the nation.
- **The Department of Clinical Pharmacy Practice** engages current and future pharmacists to enhance patient care, promote health equity and advance science through education, collaboration, innovation and health policy. The curriculum focuses on integrative health and patient-centered care. In robust synergy with UCI Health, the only academic health system in Orange County, the Department of Clinical Pharmacy Practice is transforming education, discovery and patient care to benefit the region, state and nation.

DONOR SPOTLIGHT

Jeff and Lynnette Yuen Endow Scholarship in PharmD Program

Giving had always been a part of their aspirations and now Jeff and Lynnette Yuen — founders of Jeff Yuen & Associates, Inc., a well-known pharmaceutical, biotech and medical device regulatory compliance consulting firm — are thrilled that their successful public health careers have enabled them to realize this dream. This year, with a \$50,000 initial donation, the couple endowed the Jeff and Lynnette Yuen School of Pharmacy & Pharmaceutical Sciences Scholarship, the annual income from which will provide a perpetual annual award to a student pursuing a Doctor of Pharmacy (PharmD) degree. Inspiration for the gift came from their families. There was one thing Jeff’s father, a surgeon in Sacramento, drilled into his children: work hard enough to ensure you can pay for your children’s education, so they can concentrate on their studies. Jeff’s father put him through undergraduate school at UCI and graduate school at UCLA. Lynnette’s family wasn’t able to put her through school, so she worked and took out student loans for her education at California State University, Sacramento. The couple can still recall how hard it was as newlyweds to pay off those student loans. After Jeff and Lynnette put their own children – Jeremy, Justin and Jennifer – through undergraduate and graduate school in physical therapy, veterinary medicine and clinical psychology, respectively, the couple agreed that it was time to rethink their goals. “The goal for us was always to be in a position



someday for philanthropy – so now the timing is really right,” says Jeff, who says he would also like to create internship and mentorship opportunities at their company and guest lecture at UCI. He is already a member of the UCI School of Pharmacy & Pharmaceutical Sciences Dean’s Leadership Council, which advises on a broad range of issues promoting the School’s diversity, public impact and professional development. The Yuens see big possibilities. “We think in terms of the ripple effect. We want to give a student what my father was able to give me and what we gave our children: the ability to focus on studies and do the best they can do. And then, maybe others in that student’s position will see it is possible — sometimes there is somebody out there who will help you. And, of course, we would be thrilled if it all came full circle and the scholarship recipient someday helped other students in the position they were once in.” For now, Jeff says simply assisting a student is enough. “Knowing that we contributed even just a little bit towards helping someone pursue their dreams and fulfill their aspirations will be the most awesome blessing and extremely rewarding to us.”



RESEARCH SPOTLIGHT

David Mobley Receives \$2 Million from National Institutes of Health to Develop Computational Tools for Drug Discovery

David Mobley, PhD, a professor in the School of Pharmacy & Pharmaceutical Sciences, received \$2 million in funding from the National Institute of General Medical Sciences. The funding will support advancing computational methods to guide early stage pharmaceutical drug discovery over the next five years. Mobley says the vision is to make modeling a tool that plays a key role in guiding drug discovery research. He envisions a day when researchers will routinely input their latest results and ideas into their computer at the end of the workday and return to work to find prioritized next steps for their research. Over the next five years, the Mobley Lab plans to develop an increasingly automated pipeline for iterated compound screening, design and optimization, which would substantially accelerate the discovery pipeline and potentially save money and other resources.

About Program in Public Health



Public Health Stresses Community Engagement and Co-Creation

With approximately 1,300 undergraduates, 200 graduate students and 200 faculty and staff, UCI Public Health has one of the largest and most diverse undergraduate public health programs in the country. In fact, the undergraduate program was among the first of its kind in the country. Students, staff and faculty are dedicated to contributing to health equity for all populations through public health practice, research, service and teaching.

The Program in Public Health has four distinct departments: the Departments of Environmental and Occupational Health; Epidemiology and Biostatistics; Health, Society and Behavior; and Population Health and Disease Prevention.

Now, under the direction of Founding Dean Bernadette Boden-Albala, MPH, DrPH, the program is readying for the next momentous step: becoming an actual school of public health. UC Irvine is in the process of establishing the School of Population and Public Health, which would make it the fourth school of public health in the 10-campus UC system.

True to the One Health model, UCI Public Health stresses a multidisciplinary approach to both learning and practice. Students explore epidemiology, genetics, health informatics, biostatistics, chronic and infectious diseases, environmental and global health sciences, social and behavioral health

sciences, and health policy and administration. And UCI Public Health students investigate critical issues such as air and water pollution, natural disasters and emergency health response among many other public health challenges.

Faculty members and alumni are pioneers in crucial areas of public health, taking part in innovative research, policy analysis, global environmental assessments, occupational health, and clinical and translational sciences that impact Orange County and beyond. Faculty research contracts have more than doubled in the last few years to sit at roughly \$23 million, annually.

More than anything, UCI Public Health is committed to advancing a philosophy that rests on community engagement and sustainable solutions that are not imposed from the outside but, rather, are co-created with its valued community members.

By being actively involved within a community as part of each student's culminating health practicum experience, students learn first-hand to appreciate diverse perspectives, respect cultural values, and tailor public health projects and services to meet the specific needs of the community. This experience also prepares them for a future as a public health leader locally, nationally or globally.

DONOR SPOTLIGHT

Irvine Health Foundation Awards \$14 Million to Program in Public Health

The Irvine Health Foundation awarded UCI a \$14 million grant to establish seven endowed chairs in the Program in Public Health. The funding will allow the program to recruit and retain the field's top academic leaders and experts, who will focus on health equity among Orange County residents. The chairs will be named in honor of Irvine Health Foundation board members: Chairman Timothy Strader Sr., founder and chairman of Starpointe Ventures and a UCI Foundation trustee; Carol McDermott, a principal at MIG/Entitlement Advisors; Dr. Thomas Cesario, a UCI Health infectious diseases specialist who served as dean of UCI's School of Medicine from 1994 to 2006; Jeffery Flocken, whose 35-year healthcare career has spanned a variety of organizational settings; Douglas Mancino, the author of five books and treatises and more than 90 articles concerning tax-exempt organizations



and healthcare issues; Dr. Margarita Pereyda, a physician executive with extensive experience in senior-level management of healthcare services; and President Edward Kacic, a UCI alumnus who earned an MBA at The Paul Merage School of Business. In addition, the grant will also support research to help improve outcomes and inform health policy.

Faculty members and alumni are pioneers in crucial areas of public health

RESEARCH SPOTLIGHT

Jun Wu Finds Link Between Postpartum Depression and Green Space

Jun Wu, PhD, professor of environmental and occupational health in UCI's Program in Public Health, and colleagues, are adding to the growing body of evidence that climate change will have a major impact on public health. Wu's team analyzed more than 415,000 electronic health records of healthy, full-term births in Southern California and determined that exposure to eye-level green space and tree coverage on the streets of the neighborhoods where women reside was associated with a decreased risk of postpartum depression. Wu says the study, published in the journal *The Lancet Regional Health – Americas*, suggests that researchers, city planners and public health professionals must work together to develop policies and interventions that increase the amount



of tree coverage to create an environment that supports mental and physical health, especially for vulnerable populations like new mothers.

About Susan Samueli Integrative Health Institute



Photo by Tonya Becerra

Susan Samueli Integrative Health Institute Opens to Fanfare

The Susan Samueli Integrative Health Institute (SSIHI), embedded within the new Susan & Henry Samueli College of Health Sciences' 110,000-square-foot complex at the corner of California Avenue and Michael Drake Drive, opened its doors to patients – and fanfare – in fall 2022. SSIHI's Oct. 13 ribbon cutting ceremony was covered by a number of major media outlets.

The Institute emerged from a long-standing commitment to integrative medicine. In 2001, Susan and Henry Samueli gave \$5.7 million to establish the Institute's first iteration: UCI's Susan Samueli Center for Integrative Medicine. Then, in 2017, the Samuelis pledged \$200 million to support a first-of-its-kind college of health sciences that embraces interdisciplinary, integrative health. The generous donation – the seventh largest to a single public university at the time – enabled the center to become the Susan Samueli Integrative Health Institute and positioned UCI to become the preeminent national and international academic institution for pioneering, multidisciplinary research and developing education and healthcare practices for whole-person care.

The Samueli Institute's new flagship location aims to significantly increase community access to integrative health services such as acupuncture, mindfulness, biofeedback, neurofeedback, nutrition counseling, massage therapy, cardiac rehabilitation and more. The facility incorporates soothing color schemes, tones and textures and elements such as living-plant walls that reinforce a human connection to nature. Encompassing approximately 33,000 square feet, SSIHI has:

- 42 rooms for examination, treatment and consultation
- Lab facilities
- Infusion services
- Pharmacy services
- Mussallem Nutritional Education Center (broadcast-ready gourmet teaching kitchen)
- Herb garden
- Cardiac rehabilitation services
- Palmer Family Research and Conference Room
- Activity spaces for mindfulness, Tai Chi and group medical visits

In addition, SSIHI has three research neighborhoods in the building that are designated for integrative health research and education and offers Tai Chi, nutritional cooking classes, educational lectures and integrative health events open to the public.

DONOR SPOTLIGHT

Community Leaders Advance Integrative Healthcare in Orange County

Generous gifts by Orange County leaders means work is off to a great start at the new home for the Susan Samueli Integrative Health Institute (SSIHI) in the College of Health Sciences Building. Areas throughout have been named for these visionary community leaders who are supporting the evolution of evidence-informed integrative healthcare services and programs.

SSIHI Advisory Board member Laura Khouri, president, Western National Property Management, and Michael Hayde, chairman and chief executive officer, Western National Group, donated \$2.25 million to the Institute. As an expression of gratitude, the COHS lobby is designated the Laura Khouri Lobby. A portion of the Khouri-Hayde gift has also been set aside for research and education programs considered significant by SSIHI Founding Executive Director Shaista Malik, MD, PhD. A nameplate also identifies Malik's office as the Khouri-Hayde Family Executive Director's office in honor of Shaista Malik, MD, PhD.

Linda Mussallem, community leader and member, SSIHI Advisory Board, and Mike Mussallem, chairman and chief executive officer, Edwards



Lifesciences; member, COHS Advisory Board; and trustee, UCI Foundation, donated to advance culinary medicine education, which blends the art of food and cooking with evidence-informed medical practices. The teaching kitchen on the first floor is now the Mussallem Nutritional Education Center.

Sally and Greg Palmer made a commitment of \$500,000. Greg is founder of GPalmer & Associates and sits on UCI Health's advisory board. Sally is a former kindergarten teacher. In recognition of their gift, the multi-purpose room on the second floor of the Institute has been designated the Palmer Family Research and Conference Room.

Sherry Phelan, PhD, chair, SSIHI Advisory Board, and John Phelan contributed \$1 million to support research, education and programs that address brain health and/or diabetes. The second-floor lobby, the gateway to the new flagship clinic, is now the Sherry and John Phelan Lobby.

Thanks to the generous space-naming donations from these individuals and others, UCI is advancing integrative health in Orange County and beyond.

SERVING OUR COMMUNITY

Medical Students Pitch in to Help OC Families Learn How to Cook Healthier



UCI medical students have been teaming up with Orange County-based nonprofit Kid Healthy to offer Healthy Connections, a workshop-style cooking class to support local families in learning more about nutrition and healthy food prep. The one-hour class is delivered in Spanish and brings together 30 to 40 parents each session in the kitchen of the Ponderosa Park Family Resource Center in Anaheim. Medical students and instructors prepare family favorites like tamales or chicken tortilla soup with adjustments to make the recipes more nutritious yet still tasty. For those who can't attend class, there's an option to watch the live broadcast remotely online. Healthy Connections seeks to support parents in raising healthy children. A study by the Orange County Health Care agency says 1 in 6 OC sixth-graders is obese. The highest obesity rates are in the cities of Anaheim, Buena Park, La Habra and Santa Ana.

Research Centers and Institutes of Health



Institute for Precision Health

The IPH consolidates expertise across UCI in the application of data science, machine learning-artificial intelligence, genomics-multiomics and public health measures to individualized healthcare. The IPH leverages the collection, curation, access and analysis of multimodal data to deliver the most effective health and wellness strategy for each person in a whole person approach. In doing so, the institute confronts the linked challenges of health inequity and the high cost of care.

Center for Clinical Research

The UCI Center for Clinical Research is a premier clinical research organization providing life-saving clinical trials by strengthening and accelerating the pathway of discovery from bench to bedside. Aligned with a top academic medical center, the CCR is uniquely positioned to deliver world class clinical care and access to innovative trials designed by investigators and industry partners to treat the most complex medical conditions.

Chao Family Comprehensive Cancer Center

As a National Cancer Institute (NCI)-designated comprehensive cancer center, UCI's cancer program integrates world-class research, prevention and the most advanced diagnostics, treatment and rehabilitation programs to provide the best possible care for patients and their families. Designated as "comprehensive" in 1994, and renewed in 2021, the cancer center continues to serve as a vital resource for Orange County and surrounding areas in the fight to alleviate the burden of cancer.

Sue & Bill Gross Stem Cell Research Center

The mission of the SCRC is to accelerate the discovery of stem cell and regenerative medicine therapies and their delivery to patients. To achieve this goal, the SCRC provides state-of-the-art infrastructure to support basic, translational and clinical stem cell research. Its training programs will equip the next generation of stem cell researchers and regenerative medicine providers with new therapeutics for neurological disease and injury.

Institute for Clinical and Translational Science

The ICTS is funded by the National Institutes of Health under the Clinical and Translational Sciences Award program. The ICTS functions as a local centerpiece for the national program, and is dedicated to advancing scientific discovery and medical breakthroughs. Collectively, our goal is simple: to accelerate these discoveries from the lab and translate them into life-altering medical care.

Leadership

Aileen Anderson, PhD

Director
UCI Sue & Bill Gross
Stem Cell Research Center

Dan Cooper, MD

Interim Director
Institute for Precision Health

Maheswari Senthil, MD, FACS

Medical Director
UCI Center for
Clinical Research

Richard Van Etten, MD, PhD

Director
UCI Chao Family Comprehensive
Cancer Center

Eric Vilain, MD, PhD

Director
Institute for Clinical and
Translational Science

About Sue & Bill Gross Stem Cell Research Center

Stem Cell Research Center Leading Way for Cell-Based Therapeutics

Under the direction of Aileen Anderson, PhD, the Sue & Bill Gross Stem Cell Research Center (SCRC) is one of the most advanced centers in California for the discovery and translation of stem cell and regenerative medicine therapeutics.

SCRC's mission is to span the spectrum of stem cell research, supporting transformative work in new areas from basic biology all the way to the production and delivery of novel cell-based therapeutics for 40+ diseases – including cancer, and immunological and neurological disorders such as MS, Alzheimer's, Huntington's disease and spinal cord injury.

SCRC encompasses:

The **UCI Alpha Clinic for Cell and Gene Therapy**, one of 9 California Institute for Regenerative Medicine funded Alpha Stem Cell Clinics, has conducted more than 80 clinical trials with more than 400 patients since 2014.

The **Infusion Center**, a four-chair center with nursing station, exam room, monitoring equipment and IT infrastructure to support outpatient procedures needed for phase 1-3 clinical trials.

The **Current Good Manufacturing Practice (cGMP)** facility, which manufactures innovative treatments using stem cells, gene therapy, engineered chimeric antigen receptor (CAR)-T natural killer cells and advanced bone marrow transplant protocols. UCI is proud to be among



the few academic institutions in the nation to have a cGMP facility.

The **Core Facilities** support various cell and gene therapy research projects across the UCI campus, enabling faculty to utilize a variety of instruments to perform cutting-edge research. It is also used to support educational and training initiatives.

More than 60 UCI faculty members from medicine, biological sciences, pharmaceutical sciences, engineering, law and the arts are affiliated with SCRC.



Early Phase Study Looks for Stem Cell Treatment for Muscle Atrophy Related to Knee Arthritis

UCI Health and UCI Alpha Clinic launched the first U.S. clinical trial to test the safety and tolerability of IMM01-STEM in patients with knee osteoarthritis. The aim is to find a treatment to prevent muscle atrophy in patients with knee osteoarthritis. These patients often reduce exercise because of pain. This leads to a vicious cycle: atrophy of important leg muscles actually leads to more arthritic problems. Strong leg muscles stave off problems. UCI Health orthopedic surgeon Dean Wang, MD, associate professor of orthopaedics at the UCI School of Medicine, is the trial's principal investigator. Up to 18 patients ranging in age from 50 to 75 will be enrolled in the phase 1/2a clinical trial sponsored by Immunis Inc., a biotech company developing novel treatments.

About Chao Family Comprehensive Cancer Center



UCI's Cancer Program at the Helm of Breakthroughs

The Chao Family Comprehensive Cancer Center is a national leader in cancer research, education and treatment. Established in 1989 as Orange County's first cancer center and designated as NCI "comprehensive" since 1994, the cancer center meets rigorous criteria aimed at providing world-class patient care and innovative research to Orange County, the second most densely populated county in California.

Through interdisciplinary dedication and boundary-pushing innovation, the cancer center has taken diseases that used to be fatal and transformed them into treatable conditions. Patients receive multidisciplinary care by integrative and interprofessional teams. Care is culturally informed and patients have unparalleled access to clinical trials, precision medicine and breakthrough treatments, extensive follow-up care, patient tracking through the cancer data system and much more.

Scientists and clinicians from more than 32 departments across seven schools, including the schools of medicine, biological sciences, physical sciences, information and computer science, engineering and business are part of the dedicated cancer center family, organized into three elite programs:

- **The Biotechnology, Imaging and Drug Development** program brings strengths in chemistry, physics, optics, engineering, biology and medicine to utilize novel computational, chemical and engineering-based approaches to detect, diagnose and treat cancer.
- **The Systems, Pathways & Targets** program integrates traditional cancer biology experimentalists with researchers who have expertise in the systems biology of cancer to study the fundamental biology of individual cancer cells as well as the interactions among cells in the tumor environment and metastatic sites.
- **The Cancer Control** program fosters and facilitates research designed to identify and reduce cancer risk, and improve cancer outcomes and quality of life throughout the care trajectory.

In addition, researchers team up to tackle specific diseases. These teams bring together basic, translational, patient-centered and clinical investigators to take cancer program discoveries from scientific bench to clinical bedside.

In 2020 the cancer center became the home to OC's only adult hematopoietic stem cell/bone marrow transplant program. The center has also become a leader in innovation and clinical care of gastrointestinal diseases and cancers, pioneering techniques that have revolutionized treatment.

Dedicated to supporting nascent research, since 2017 the cancer center has hosted the annual UCI Anti-Cancer Challenge, a community-wide fundraising event founded by Richard Van Etten, MD, PhD, director of the Chao Family Comprehensive Cancer Center. Proceeds from the event fuel a diverse range of innovative cancer research projects at the cancer center and its pediatric cancer affiliate, Children's Hospital of Orange County. The Anti-Cancer Challenge has so far raised more than \$3.7 million, which UCI cancer researchers have leveraged to secure an additional \$33.3 million in extramural funding.

This year the cancer program will move to its new state-of-the-art home in the UCI Health – Irvine medical complex. The new facility will expand opportunities for world-class care driven by the latest in precision medicine, promising clinical trials and leading edge cancer therapies.



On A Quest: Getting the Immune System to Attack Stubborn Cancers

Michael Demetriou, MD, PhD, professor of neurology, is determined to find an answer for cancers that don't respond to treatment (called "refractory" cancers) or have metastasized and spread to other parts of the body. To help him along, this year Demetriou received a \$1.4 million Quest Award from the California Institute for Regenerative Medicine (CIRM). Demetriou will use the CIRM funds to further his research on carbohydrate toxins associated with the cancers. His quest is to develop immunotherapies that spur a patient's immune system T cells to fight the toxins and cancers.

New Protocol Fights Back Against Gastric Cancer

Gastric cancer has become less common in the U.S. over the past 50 or so years, but it is still the fifth most common cancer worldwide, with more than a million new cases each year. And, unfortunately, it's tough to treat – especially when the cancer has spread, as was the case for patient Aparedida Bernjak. But UCI Health is the home to STOPGAP, the first U.S. clinical trial to test a novel treatment protocol for gastric cancer patients whose disease has spread. STOPGAP is under the supervision of medical oncologist Farshid Dayyani, MD, PhD, medical director of the Sue and Ralph Stern Center for Cancer Clinical Trials and Research, and Maheswari Senthil, MD, a surgical oncologist and medical director of the Center for Clinical Research. Traditional treatment for gastric cancer delivers chemotherapy intravenously, which cannot penetrate the peritoneum – the lining of the abdomen – to reach the abdominal cavity. STOPGAP, however, delivers high-dose chemotherapy infused through a port across the peritoneum, as well as IV chemotherapy. Patients then receive surgery to remove any remaining visible cancer from the abdominal cavity. And the area is bathed with a heated solution of chemotherapy to eliminate any



remaining microscopic cancer cells (a process called HIPEC). Lastly, the protocol calls for immunotherapy treatments to boost the immune system to recognize and fight cancer recurrence. The STOPGAP protocol is onerous, but for Bernjak, a retired nurse, it was a life saver. She is now healthy and happily back to yoga and gourmet cooking.



Celebrating First Decade and a Very Bright Future

Since opening its doors in 2013, the Gavin Herbert Eye Institute (GHEI) has become Orange County's premier eye-care provider, offering state-of-the-art ophthalmic services, ranging from routine evaluations to complex surgical care and medical management.

Under the direction of Baruch Kuppermann, MD, PhD, GHEI is an exemplar of One Health collaboration and home to internationally recognized physicians, surgeons and scientists on a mission to develop innovative technologies to diagnose and treat eye diseases, train the next generation of ophthalmic trailblazers and lead the way toward sight-saving solutions.

GHEI is currently one of the nation's only two medical institutions – and the only one on the West Coast – to offer ocular stem cell transplants for patients with severe cornea damage. Other innovative GHEI offerings include the low vision rehab program, a mobile eye clinic for underserved children, a team of neuro-ophthalmologists who specialize in disorders that affect both the brain and the eyes, and the Center for Translational Vision Research (CTVR), a bench-to-bedside model to bring clinical trials and cutting-edge therapies to patients.

CTVR researchers are on the brink of possibly curing many forms of blindness. They have now successfully used precision gene editing to restore sight to animal models with Leber congenital amaurosis, a condition that is responsible for vision impairment in 20% of children in schools for the blind. They anticipate human clinical trials of the treatment will begin during the next decade. Once fine-tuned, the researchers anticipate the treatment may be adapted for age-related macular degeneration, glaucoma, congenital stationary night blindness and dozens of inherited eye diseases.

A testament to the hard work and brilliance of GHEI researchers, the institute now garners nearly \$7.7 million in National Institutes of Health funding for ophthalmology studies. This places GHEI among the top eye research institutions nationwide for NIH funding.

Since opening, Gavin Herbert Eye Institute has expanded clinical programs, boosted grant funding, posted major research breakthroughs and served increasingly more patients, nearly doubling the number seen in its first year. GHEI celebrates 10 years of success and looks toward a future of expanded visionary research and sight-saving care for Orange County and beyond.

Marjan Farid Performs Rare Limbal Cell Transplants that Restore Vision and More

UCI Health patient Karen Ketchum had just gone through surgery to remove a melanoma followed by immunotherapy when she developed an alarming new condition: blistering lesions that began appearing on her body – including her eyes, which severely impacted the 80-year-old's vision. Working together, UCI Health dermatologist Sergei Grando, MD, PhD, and Gavin Herbert Eye Institute ophthalmologist Marjan Farid, MD, a specialist in cornea surgery and ocular stem cell transplantation, eventually cracked Ketchum's case. The doctors diagnosed Ketchum with an extremely rare autoimmune disease called pemphigoid. Grando set about helping Ketchum deal with the skin-blistering disease, but one of the worst outcomes was that it had already seriously damaged the surface of her corneas. In fact, Ketchum could no longer see well enough to live alone or take care of herself. Severe ocular surface damage can result from heat or chemical exposure. About 100,000 people experience such accidents annually, often in the workplace. But some autoimmune diseases – pemphigoid – can also burn the eye surface from the inside out. And side effects from chemotherapy and radiation therapy can contribute to limbal cell damage as well.

In Ketchum's case, standard therapeutics or cornea replacement couldn't reverse the damage because too



many of her eye surface stem cells had been destroyed. Farid, who leads the recently established UCI Health Severe Ocular Surface Disease Program, presented a treatment solution, however; she could transplant eye tissue called limbal cells from a donor. UCI Health is only the second location in the world to offer the highly effective transplant procedure pioneered by University of Cincinnati ophthalmologist Edward Holland, MD, who trained Farid and now mentors her. A donor with healthy eye tissue can give up to half of their limbal stem cells because they grow back naturally. Siblings are often the best match. That was the case for Ketchum, whose sister allowed Farid to harvest her limbal cells and immediately transplant them into Ketchum's right eye. The procedure was a success. Within just a few months, Ketchum's eyesight improved. These days she's back to reading and, importantly, living independently. Ketchum is already talking with Farid about having the transplant procedure on her left eye.



UCI Health — Irvine Sets New Bar for Eco Friendly and Equitable Hospitals

When the seven-story, 350,000-square-foot, acute care hospital opens at UCI Health — Irvine in 2025, it will usher in a new level of care for the community. But it will also hold another major distinction: the medical complex will be the nation’s first all-electric, carbon-neutral, inclusive hospital.

The 1.2 million-square-foot medical campus with 800,000 square feet of clinical space, will be powered by clean energy generated by a state-of-the-art central utility plant running on solar and electric.

Designed by CO Architects, designers embraced the challenge of reducing “embodied carbon” – that is, they created a building with the least amount of polluting building materials possible. In fact, UCI Health — Irvine will have about 20% less embodied carbon than similar medical centers. Designers also

considered structural resilience, creating buildings that would need only the simplest and most environmentally friendly response should possible future earthquake damage occur.

Besides the environmental pluses, designers focused on integrating multiple specialties and treatment programs on one campus designing with a real commitment to creating an equitable, accessible community healing experience. They’ve capitalized on the location between the natural preserve of the San Joaquin Marsh and the university’s campus, designing native healing gardens, outdoor event spaces and walkways. And, better than simply being ADA compliant, the new medical complex is utilizing “universal design” – a design strategy meant to improve access for all and health equity.

Khouri-Hayde Give \$7.25 Million to Support Integrative Health and UCI Health — Irvine

Longtime UCI supporters Laura Khouri and Michael Hayde extended a \$7.25 million gift to support the new UCI Health — Irvine medical campus and the university’s integrative health programs. The couple has previously made donations in support of the UCI Medical Center in Orange and the UCI School of Medicine. Hayde has participated on the Cancer Campaign Committee, UCI Health CEO Advisory Board and the UCI Health Gala Committee. Khouri has been a member of the Susan Samueli Integrative Health Institute Board of Advisors since 2019. The new gift will support the following programs:

- \$4 million for the construction of the UCI Health — Irvine medical complex.
- \$2.25 million for the Susan Samueli Integrative Health Institute, including capital expenses and integrative health programming for clinical, educational or research programs.
- \$1 million to create the “Laura Khouri and Michael K. Hayde CareConnect Endowment” to support the expansion of patient services at the UCI Health — Irvine medical campus.



UCI Health — Irvine Edges Closer to Completion

Wondering about the latest news on the UCI Health — Irvine medical complex? Building is going swimmingly on the northern edge of campus. Here’s an update:

The Joe C. Wen & Family Center for Advanced Care, a five-story, 168,000-square-foot facility with urgent care and the full range of multidisciplinary specialty care for children and adults, including the UCI Health Center for Autism & Neurodevelopmental Disorders is scheduled to open in spring 2024.

The Chao Family Comprehensive Cancer Center and

Ambulatory Care building, a five-story, 225,000-square-foot tower with 36 private exam rooms, numerous infusion bays and operating rooms, and clinical programs in oncology, neurology, neurosurgery, orthopedics/spine surgery and digestive health will open in Summer of 2024.

The acute care hospital will be a seven-story, 350,000-square-foot, state-of-the-art facility with 144 inpatient beds, 10 operating suites and a 24-hour emergency department. The hospital will hold the distinction of being the first all-electric facility of its kind in the nation. On schedule to open in 2025.



The Healing Power of One Health



Nitin Bhatia Offers a Pro Athlete a Winning Alternative to Traditional Spine Surgery

UCI Health spine surgeon Nitin Bhatia, MD, professor and chair of the School of Medicine's Department of Orthopaedic Surgery, scored a touchdown when he helped preserve the mobility of patient Vince Bruno – former linebacker for the Miami Dolphins and two-time world champion in Brazilian jiu jitsu. Bruno suffered a spill while mountain biking on his 47th birthday. In a local ER, Bruno was told he'd need immediate spinal fusion surgery for spinal stenosis, a condition that occurs when the spinal canal, the space between each vertebrae, narrows and puts pressure on the column of nerve tissue running the length of the spine. His fall had exacerbated a pre-existing condition. Left untreated, stenosis can lead to paralysis. Fusion surgery and spinal laminectomies, the traditional treatments, however, can leave patients with limited range of motion. Bruno sought a second opinion with Bhatia, one of the few surgeons in Southern California who offer an alternative to fusion: spinal laminoplasty. Also called open-door laminoplasty, bone is not removed but instead is cut and repositioned. Bruno spent four days in-patient at UC Irvine Medical Center, which he reported was like a "5-star resort." The surgery was successful and Bruno is now back to biking, working out and coaching his son's flag football – thanks to Bhatia and his UCI Health team!



Immune System Reboot Offers New Hope for MS Patients

Multiple sclerosis, a neurodegenerative autoimmune disease, has had no cure and no disease altering treatment, but the UCI Health bone marrow transplant program is now offering new hope to some MS sufferers. UCI is now among a handful of U.S. hospitals to offer, outside of clinical trials, autologous hematopoietic stem cell transplantation (aHSCT) – a leading-edge experimental stem cell therapy usually reserved for blood cancers. The procedure, which is akin to an immune system reboot, has been extensively researched and used in Europe. A study of 120 British patients published in 2021 showed the approach yielded no new MS lesions in 90% of patients 2 years after treatment and no new damage in 85% of patients after 4 years. Other studies have shown up to 65% of patients with no disease progression at 5 years. Patient Jessica Reinhardt was the first to undergo the treatment last year at UCI Medical Center. Stefan Ciurea, MD, director of the Hematopoietic Stem Cell Transplant and Cellular Therapy Program at Chao Family Comprehensive Cancer Center and UCI Health neurologist Michael Sy, MD, PhD, oversaw Reinhardt's care – a months-long process that included shots to boost bone marrow production of healthy blood stem cells, the stem cell transplant and a three-week post-transplant recovery in an isolation room. Reinhardt's aHSCT was successful and she reports it has, indeed, given her a new lease on life. She says she now claims April 7 – the day she received the transplant – her new birthday.

UCI Dermatologist Helps Usher in New Treatment for Alopecia

As many as 6.8 million people are affected by alopecia areata – an autoimmune disorder that causes the immune system to attack and destroy hair follicles on the scalp, leading to hair loss. But now a new treatment – the drug baricitinib – will help many of them restore some or all of their hair. UCI Health dermatologist Natasha Mesinkovska, MD, PhD, who also serves as chief scientific officer for the National Alopecia Areata Foundation, was one of the principal investigators for the clinical trial for baricitinib. The drug, a janus kinase (JAK) inhibitor, is now the first systemic treatment for alopecia areata; it works by blocking the activity of certain enzymes and pathways that lead to follicle damaging inflammation. Clinical trials show it is most effective on patients with moderate to severe alopecia areata who have lost 30% or more of the hair on their head, but it also may be effective for people with eyebrow and eyelash loss. The medication is now widely available and dermatologists can prescribe it to alopecia areata patients.



New Procedure May Improve Kidney Stone Removal

UCI Health Kidney Stone Center Director Jaime Landman, MD, performed the first U.S. robot-assisted surgery to successfully remove kidney stones with ureteroscopic and percutaneous nephrolithotomy (PCNL) procedures simultaneously.

Landman is the principal investigator in a first-in-humans clinical trial of the surgical platform – called the Monarch™ – which allows surgeons to use a handheld controller, potentially offering superior control when navigating within the kidney. It also allows doctors the ability to use simultaneous removal techniques when one isn't adequate.

The device was cleared for use in kidney stone procedures by the U.S. Food and Drug Administration in spring 2022. The current clinical study gathers performance data to optimize the platform and inform better physician training and education.





One Health Strategic Priority: Educate the Next Generation Healthcare Workforce



Paving the Way for Collaborative Care Workforce

Interprofessional education is a method of instruction that involves bringing together medical school, nursing, pharmacy and other students to learn from and with one another in various ways – including mock scenarios in simulation labs, classroom discussions, workshops, lectures and more. UCI has been on the forefront of interprofessional education and practice (IPEP) for many years. For the last 10 years the UCI medical and nursing students have been practicing delivery of emergency care in the state-of-the-art simulation center in the School of Medicine. And with the recent opening of a second simulation center, located in the new Sue & Bill Gross School of Nursing and Health Sciences Hall, UCI is increasing IPEP access. The simulation centers (SIM labs) – high-tech, state-of-the-art spaces that provide students with an ultra-realistic environment – allow students to explore different patient scenarios and experience complicated, realistic, hands-on clinical learning experiences. Medical, nursing, pharmacy and other health sciences students exercise clinical judgment and critical thinking. UCI students engage in case studies, small groups and other activities to simulate an authentic and truly collaborative medical environment. In the inaugural issue of the *Healthcare Workforce Pathways* newsletter, faculty shined light on UCI's IPEP innovations. Here's an edited excerpt of a recent Q&A:

Q: You've said SIM Labs are places for mistakes. Can you explain?

Stephanie Au, FNP, assistant clinical professor, Sue & Bill Gross School of Nursing: One of the best ways to learn is to make a mistake. But naturally mistakes aren't something that you want to do with a real patient. SIM centers provide that safe learning experience where mistakes are okay and where we can have a meaningful

learning opportunity without any negative repercussions. Students collaborate and see exactly how actions have consequences on a patient, which in the SIM lab is a medical manikin. If a fatal mistake is made with a manikin, no harm is done. And students physically experience this process in a real time setting. It's much more meaningful than walking through it intellectually in a theory discussion.

Q: What do you hope students gain from collaborating across health sciences?

Robert McCarron, DO, director of education, Susan Samueli Integrative Health Institute: Whether you're a medical, pharmacy, nursing or some other health sciences student, you have a role to play in the healthcare process and you have a perspective. Being able to understand that role but also understand the bigger picture and the perspective of other health professionals is crucial. You learn how to communicate, learn from one another and solve problems. This kind of learning can truly transform healthcare delivery. It is the whole idea behind IPEP – an innovative approach to collaborate in the area of education, with the ultimate goal of optimization and transformation of healthcare delivery. That for me is the goal anyhow. I spend 80% of my time doing interprofessional education these days and in my mind every model we build, every initiative we create together – the final goal should be: are we making a quantifiable change in healthcare delivery?

Q: What do you hope students who have experienced IPEP bring to the healthcare profession?

Cheryl Wisseh, PharmD, MPH, assistant professor of clinical pharmacy, Department of Clinical Pharmacy Practice, School of Pharmacy & Pharmaceutical Sciences: All the different health professions go to school for a number of years, and we're told all these things and we learn evidence-based practice. We think we just know based on what we've learned. But when a patient comes in front of you, you have to approach them with humility. You gain humility by working within an interprofessional team and collaborating with other professions. You discover that sometimes you don't know and it's okay to admit it. You need your team in order to see the problem from a different perspective. You get different resources by working with a team. I hope our students learn to face patients with humility and an openness to work as a team to solve problems better.

Alisa Wray, MD, associate professor, Clinical Emergency Medicine; director of Clinical Skills Assessment, School of Medicine: My hope is that everything will become more collaborative within our professions and for our patients. Medicine has a history of being very paternalistic in terms of the healthcare providers telling patients what to do instead of having an open dialogue and having conversations with our patients about what their goals are and what they're looking for. I'm hoping that by increasing the communication and the collaboration within pharmacy, nursing, social work, public health and medicine that we will create or foster this idea of incorporating what everyone would like to have done and incorporating everyone's hopes and wishes.



Researchers Lead IPEP Seminar Focusing on COVID

Sora Park Tanjasiri, DrPH, a professor of epidemiology and biostatistics, and Shu Farmer, PhD, a UCI lecturer in the program in public health, brought together nearly 100 graduate-level students from various disciplines to think deeply about COVID-19. With support from two experienced public health teaching assistants, Emilia Fields and Lewis Simon, they offered a week-long interprofessional education and practice (IPEP) course featuring a joint lecture and case study presentations focused on hypothetically managing and even stopping the COVID-19 pandemic. Through various practicum experiences, students were exposed to the impact of team-practice work, which is a crucial component of the future healthcare workforce. The concept behind IPEP is that once various types of professionals break down silos and work together in a highly collaborative manner, health care will improve. The students tried it themselves, working together across disciplines to develop campaigns to reduce COVID-19 vaccine hesitancy among the hardest hit communities, including rural, elderly, African American, Latinx and Native Hawaiians. The course culminated with small groups presenting papers with analyses and recommendations.



One Health Strategic Priority: Advance Health Equity



Driving Health Equity Among the Health Sciences

Achieving health equity has emerged as an imperative shared by all sectors in healthcare, especially within the field of public health. Health equity, one of the five priorities of the One Health vision, represents the principle that every individual should have an equal opportunity to attain optimal health regardless of their socio-economic status, race/ethnicity or geographic location. This fundamental goal is not only morally right but also critical for promoting a healthier and more prosperous society.

For the UC Irvine Program in Public Health, the pursuit of health equity is at the core of its mission. By addressing disparities in health outcomes and access to services, public health interventions can effectively combat various diseases and reduce the burden of illness within vulnerable populations. Prioritizing health equity ensures that resources are allocated more efficiently, preventing the escalation of health crises and promoting resilience in the face of emerging threats like pandemics and a dramatically changing environment.

A few examples of the Program's researchers driving health equity initiatives include Denise Payán, PhD, with her work building a health policy network among other UC campuses to invest in local health equity research opportunities; Jun Wu, PhD, uncovering how our era of massive wildfires and air pollution disproportionately impact the health of low-income and vulnerable California residents; and Michael Hoyt, PhD, shedding light on LGBTQ cancer survivors experiencing more health-related challenges and ultimately experiencing lower quality of life.

The impact of health equity must extend farther beyond the confines of academia. Communities at large stand to gain immensely when health equity becomes a priority and, ultimately, a reality. Healthier populations contribute to stronger and more cohesive communities, fostering productivity and economic growth. Embracing health equity requires collaboration – especially among the health sciences' professions – compassion, and continuous efforts to transform our healthcare systems and society, ultimately paving the way for a brighter and healthier future for all.

Bridging the Gap Series

Bridging the Gap, launched in 2020, examines the work we do to meet the needs of our diverse patients and students and to advance the health of all people, especially those in vulnerable communities. We continue to work toward closing all gaps in our goal to achieve health equity through awareness, understanding, compassion and action.



Innovations in Nursing to Address Disparities

Associate Professor of Nursing Miriam Bender, PhD, MSN, says because of their close relationship with patients, nurses play a particularly critical role in addressing healthcare inequities. Yet a key to success will always be “cultural

humility”, a practice of self-reflection on how one’s background and the background of others impacts care, teaching, learning, research and community engagement.



Addressing Food Insecurity and Promoting Nutrition in Low-income Communities

Denise Payán, PhD, MPP, assistant professor of health, society and behavior, UCI Program in Public Health, looks into food insecurity and the unequal impact on various

communities. Minority communities, whether rural or urban, face the greatest barriers to accessing food, especially fresh foods like fruits and vegetables. Payán’s work provides evidence that impactful, sustainable programs and policies to bring nutritious food into neighborhoods can be achieved when the programs are community-based and community-engaged.



Latinx Children with Cancer, Culturally Appropriate Support for Families

Michelle Fortier, PhD, associate professor in anesthesiology & perioperative care and psychology & social behavior, brings to attention the health inequity and the inadequacy of

pain management treatment in Latinx children compared to non-Latinx white children. To address these disparities, a prototype support program was uniquely designed to be culturally relevant to Latinx families in Orange County. Fortier’s work provides encouraging feedback on effective methods to address these knowledge gaps and health disparities surrounding palliative care and pediatric oncology.



UCI Team Investigates PFAS in Drinking Water, Especially in Marginalized Communities

Scott Bartell, PhD, professor of environmental and occupational health, UCI Program in Public Health, and professor of statistics at the Donald Bren School of Information & Computer

Sciences, focuses on the impact of toxic “forever” chemicals called PFAS (per- and polyfluoroalkyl substances) in the drinking water of Orange County. Bartell points out that while PFAS are ubiquitous, marginalized populations seem to repeatedly bear an unfair burden of water and air pollution. Bartell serves as the UCI lead investigator for the PFAS Health Study, a national multi-site investigation with the Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry. His work at UCI includes researchers from his own schools, The Henry Samueli School of Engineering, the School of Social Ecology and the UCI Medical Center. As these researchers uncover the effects of PFAS in drinking water on human health, they’re also working to implement solutions with community leaders and the Orange County Water District.



Dylan Roby Explores How Insurance Coverage Impacts Unwanted Pregnancy

Dylan Roby, PhD, interim chair and associate professor of health, society and behavior, UCI Program in Public Health, considers the impact on women’s health of insurance coverage

for contraception, exploring the role of coverage in the disproportionate burden of unwanted pregnancy on women of color. He looks at the consequences of improving access to Long-Acting Reversible Contraception (LARC) and other methods of contraception through increasing funding for family planning services, training programs for providers and removing barriers in Medicaid reimbursement for LARC insertions and removals.



One Health Strategic Priority: Accelerate Precision Care



It's a New Data-Based Healthcare World, but Values Stay the Same

This year, artificial intelligence – the ability for machines to do what we normally only associate with human capabilities – monopolized many discussions. AI. Machine learning. ChatGPT. Dall-E2. All of these became household terms. And in healthcare, as in banking, education, logistics and many other pursuits, AI has been a hot topic – and widely employed – for a long time. What is the enabler underneath all of these pursuits? Data. Lots of it.

Electronic health records, real-time alerting, supply chain management and improved prescription management are all examples of how healthcare is using data to make decisions. Back in 2015, President Barack Obama announced the Precision Medicine Initiative during a State of the Union address. Precision health also fits within the broader concept of data-driven decision science. Obama's 2016 budget included money to launch All of Us, a federal research effort to collect bio data from a million people in order to build one of the most diverse databases in history to facilitate precision medicine. UCI is the biggest enroller of All of Us participants in Southern California. In February 2022, UCI launched the Institute for Precision Health (IPH), an endeavor that has as much to do with data as it does health.

Why now? Progress in many areas – everything from biostatisticians pioneering extremely complex decision-science methodology to improvements in cloud storage and computing power – means the time has come. Furthermore, the newest form of AI, called deep-learning neural networks, has revolutionized the way machine-learning algorithms learn and think. Researchers believe new forms of AI oftentimes represent major improvements to human thinking.

Getting people's biological blueprints – genetic sequencing, heritable modifications of DNA (epigenetics) and omics, which include sequence RNA and cellular building blocks determined by DNA and RNA (transcriptomics), proteins (proteomics), and profile metabolites (metabolomics) – into health records will be a huge precision health achievement. But the time has also come for an embrace of new kinds of data.

Patient-centered health services research has sometimes revealed a divide between what patients value and what clinicians value. And research has also concluded that personal experiences – sometimes having to do with systemic barriers like bias and discrimination – can alter, for example, a treatment's impact or a patient's perception

In February 2022, UCI launched the Institute for Precision Health (IPH), an endeavor that has as much to do with data as it does health.

of the value of care. This info is also data and the machinations and methodologies behind precision health aim to embrace all of it.

So now when data is being crunched by precision medicine processes, it might include clinical information (biomarkers, mortality, etc.), patient-reported impacts (e.g., function, mood, symptoms), treatment-related attributes (mode of administration, dose frequency, adverse events, etc.), use of resources (e.g., hospitalizations) and/or societal effects (ability to work, caregiver burden, productivity, etc.). Data, data everywhere – and yet we will likely also discover that we sometimes haven't collected the right data and we need more or different data.

UCI's IPH aims to be at the center of these discussions as the hub for data, cheerleader for precision health research and the advocate for patient-centered and -controlled use of information. Researchers believe that data may hold the key to some of healthcare's most perplexing diseases, including Alzheimer's, incurable cancers, rare genetic diseases and much more.

IPH comprises eight programs focused on three goals: redesigning health practice to improve care and decrease costs, deploying solutions to achieve health equity, and empowering effective health policy. While IPH represents a new data-centric era in healthcare, it's reassuring to know that its success will be measured by traditional values: improved patient outcomes, cost-effectiveness and equity.

UCI is conducting a national search for a director for the Institute for Precision Health.



UCI Launches New Center for Data-Driven Drugs Research

In July, UCI launched the Center for Data-Driven Drugs Research and Policy. Led by Jonathan Watanabe, PharmD, PhD, professor of clinical pharmacy, the center aims to increase access to high-quality care; reduce healthcare costs; improve health outcomes; and bolster the inclusion of minorities in clinical research. The Center aims to be a hub for collaboration, with experts across campus as well as from government, industry and nonprofit foundations coming together to identify, examine and confront pressing societal and health issues that impact both individuals and groups. Leveraging large-scale, population-level, real-world data, the center will focus on empowering the integration of underserved populations too often left out of many traditional trials. The ultimate goal is to make clinical research more relevant and effective for clinicians, patients and health policy decision-makers. As part of the effort, Watanabe also co-chaired the "Preparing the Future Workforce in Drug Research & Development" workshop in October for the National Academies of Sciences, Engineering and Medicine.

A Period of Growth



Parking Structure

Our new COHS six-level parking structure consists of 2,043 stalls, supporting the growing parking needs of the expanding Health Sciences District. The structure was built for maximum accessibility and includes Level 1 & 2 EV charging; students, staff and faculty charge at a discounted rate.



Chao Family Comprehensive Cancer Center and Ambulatory Care

The Chao Family Comprehensive Cancer Center and Ambulatory Care, a recognized beacon of hope and innovation, is the only Orange County-based NCI-designated comprehensive cancer center. With a new state-of-the-art home, the cancer program will improve access for patients living in coastal and south Orange County; offer advanced specialty services in oncology, neurology/neurological surgery, orthopedics, spine and digestive disease; and draw leading medical and research talent to UCI from around the world.



Hospital with Emergency Department

At the corner of Jamboree and Birch, UCI Health — Irvine medical complex will be a state-of-the-art 144-bed acute care hospital with a 24/7 emergency room. Our new hospital and medical complex will be the first all-electric facility of its kind in the country and will connect with the UCI Health primary care network throughout Orange County, comprising the region's only health system supported by one of the nation's premier academic research institutions.

Fall 2022

Mid 2023

Spring 2024

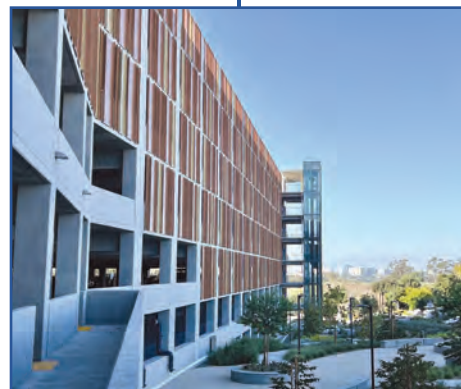
Summer 2024

Mid 2025

Late 2025

Susan & Henry Samueli College of Health Sciences and Sue & Bill Gross Nursing and Health Sciences Hall

The epitome of One Health, the two buildings are a vibrant home to Health Affairs leadership, faculty, students and staff from the schools of nursing, pharmacy and pharmaceutical sciences, public health and the Susan Samueli Institute for Integrative Health. The 180,000-square-foot LEED-certified buildings are designed for maximum collaboration and offer 10 classrooms, 18 conference rooms, a 3,000-square-foot skills lab and high-fidelity simulation center, a 200-seat auditorium and outdoor/indoor event spaces. In the Susan Samueli Institute for Integrative Health you will find 42 exam rooms, an infusion clinic and a pharmacy.



Joe C. Wen & Family Center for Advanced Care

The 5-story, 168,000-square-foot Joe C. Wen & Family Center for Advanced Care is our future outpatient facility for adult and pediatric specialty care and urgent care. It will provide comprehensive laboratory and radiology imaging services and be the new home for the Center for Autism & Neurodevelopmental Disorders.



Falling Leaves Foundation Medical Innovation Building

At 215,000 square feet, Falling Leaves Foundation Medical Innovation Building will be the largest building on the West Coast dedicated to basic and translational research and training. The building is an embodiment of our collaborative One Health alliance; it is the future home of elite teams of researchers and practitioners working together on some of healthcare's most intractable problems.



Advancement and Engagement



\$30 Million Gift Breaks Ground on Building Dedicated to Medical Innovation

In April, the College of Health Sciences held a groundbreaking ceremony for the Falling Leaves Foundation Medical Innovation Building (FLFMIB), an innovative building made possible by the extraordinary generosity and vision of Drs. Robert and Adeline Mah through a \$30 million lead gift from their Falling Leaves Foundation. At 215,000 square feet, FLFMIB will be the largest building on the West Coast dedicated to basic and translational research and training. The edifice’s design embodies UCI’s One Health no-silos approach to world-changing progress. Created in every aspect for collaborative “bench to bedside” research, elite teams of UCI investigators working on some of the world’s

most intractable health problems will join forces in cutting-edge labs that facilitate groundbreaking multidisciplinary discovery. Programs for the building are currently being selected through an extremely competitive proposal review process. To enter the building, programs must have the potential to change the face of biomedical research and care. Moreover, programs must also meet philanthropic targets. FLFMIB is on track for a ribbon cutting ceremony in Summer 2025.

Philanthropic Impact



\$97 Million

average raised annually in philanthropic support over the last 3 years

CAMPUS IMPROVEMENT	RESEARCH
DEPARTMENTAL SUPPORT	STUDENT SUPPORT

Visionary Patrons: Robert and Adeline Mah

During their careers, Robert Mah, a professor emeritus at UCLA, taught environmental microbiology, and Dr. Adeline Mah practiced internal medicine and anesthesiology. The Mahs established the Falling Leaves Foundation and in 2021 made a transformational gift of \$30 million to the new Falling Leaves Foundation Medical Innovation Building (FLFMIB).

They had long dreamed of doing medical research together. In UCI, they found the ideal partner to transform their vision for interdisciplinary collaboration into reality.

FLFMIB will be a destination that empowers UCI’s distinguished researchers today and educates the leaders of tomorrow.

“Successful collaboration is helped greatly by physical proximity,” Adeline said. “We were impressed by the many sprawling, open workspaces in UCI’s Innovation Building, where scientists will interact with one another and exchange ideas. It gives us enormous satisfaction to imagine the possibility of brilliant young minds working together and bringing concepts to fruition, some as a result of serendipitous encounters in the building’s atrium, coffee shops and numerous scattered seating areas.”



From left: Roger Mah, Robert Mah, Adeline Mah, UCI Chancellor Howard Gillman, UCI School of Medicine Dean Michael Stamos, Vice Chancellor for UCI Health Affairs Steve Goldstein and Associate Vice Chancellor for UCI Health Advancement Caroline Pereira

Top News in National Media UCI Big Hits List

UCI Health Affairs had more than 3,000 placements in the media across the region, nationally and abroad this year. With 16 billion impressions over the 12-month period, UCI boasted a 29% share of voice in the OC market.

One Molecule May Be the Key to Whether or Not You Lose Your Hair



Maksim Plikus, PhD, professor of developmental & cell biology, Christian Guerrero-Juarez, PhD, postdoctoral researcher in mathematics and Yingzi Liu, MD, PhD, postdoctoral researcher in developmental & cell biology, are among the UCI team that made big news when they discovered a unique signaling molecule called SCUBE₃ stimulates hair growth and may offer a therapeutic treatment for androgenetic alopecia, a form of hair loss that affects more than 50 million men and over 30 million women in the U.S. Their study, published in the journal *Developmental Cell*, determined the precise mechanism by which specialized signal-making fibroblasts at the bottom of each hair follicle – called dermal papilla cells – promote new growth with the help of SCUBE₃. Their experiments provided proof-of-principle data. Further research is being conducted in the Plikus lab and at Amplifica Holdings Group Inc., a biotech company co-founded by Plikus.

Researchers Identify Symptoms Associated with Increased Risk for Long COVID



Here's a new term for many of us: Post-acute sequelae of SARS-CoV-2 (PASC). Of course you may know PASC by the layperson name "long COVID". UCI's Melissa Pinto, PhD, associate professor, Sue & Bill Gross School of Nursing, has become plenty familiar with the emerging public health problem. Pinto, along with colleagues from the Donald Bren School of Information & Computer Science, investigates symptoms of PASC and who potentially falls prey to the fatigue, headache, shortness of breath, difficulty concentrating and other problems sufferers report. Pinto told the *LA Times* the absence of strict diagnostic criteria for PASC remains a major issue for patients attempting to get help. Long COVID is currently considered an "exclusionary diagnosis," which means patients must endure an arduous and often costly process of submitting to various tests so practitioners can rule out all other valid possibilities.

Researchers Tackle RSV with Nasal-Drop Vaccine



Respiratory syncytial virus (R.S.V.) is a leading cause of infant mortality around the globe. Several research teams, including that of UCI's Coleen Cunningham, MD, chair of the pediatrics department and pediatrician in chief at Children's Hospital of Orange County, are working on promising R.S.V. vaccines. Cunningham's team is developing a nasal-drop vaccine containing a weakened version of the virus for children 6 to 24 months of age. Cunningham told the *New York Times* that the vaccine would rouse antibodies in the nose, where the virus enters, rather than the blood and so may be better at preventing infection. Her team is finetuning dosing – aiming for the point in which the virus is too weak to cause symptoms and yet strong enough to produce an adequate immune response. Results so far are promising, Cunningham told NYT.

Time Magazine Covers Diabetes & Silent (but not really) Heart Attacks



The FDA recently granted clearance for the MinuteKidney test, developed by Boston-based company Healthy.io. The test uses a smartphone camera to look for the presence of albumin, a specific protein in the urine that can signal kidney dysfunction. The test, also known as the albumin to creatinine ratio (ACR) test, may be a boon to the estimated 37 million Americans who have chronic kidney disease (CKD). Surprisingly, as many as 9 in 10 people with the condition don't realize they have it. Kamyar Kalantar-Zadeh, MD, MPH, PhD, chief of the Division of Nephrology, Hypertension and Kidney Transplantation at UCI Health, in Orange, told Healthline that home-based testing can fulfill an unmet need by enabling people at risk of CKD to monitor their kidney health at home.

The Dangers of PFAS



Over the past seven decades, experts have identified more than 9,000 different types of PFAS, the indestructible, man-made compounds that can build up in our environment. PFAS are linked to an increased risk of high cholesterol, certain cancers, asthma, thyroid disease, liver damage and obesity. Scott Bartell, PhD, professor of environmental and occupational health, shed light on PFAS for the readers of *U.S. News & World Report*: "There are relatively minor chemical differences between many of these compounds, which is why they sort of behave similarly," Bartell said. "They're all difficult to break down in the environment because they have a carbon fluorine bond, (which) is one of the strongest bonds known to man." Want to limit PFAS? Avoid clothes or furniture labeled water- or stain-resistant, use cast-iron cookware instead of non-stick and filter your water, for a start. But Bartell said PFAS are very hard to avoid completely and scientists haven't yet determined the line between unsafe and safe exposure levels.

Diabetes in Kids and Young People is Projected to Dramatically Surge. Can It Be Prevented?



The Centers for Disease Control and Prevention estimates that by 2060 there could be as many as 220,000 people under age 20 with Type 2 diabetes, an increase of nearly 700%. Type 1, the most common type in young people, could realize a 65% increase. UCI researchers like Luohua Jiang, MD, PhD, an associate professor at the Program in Public Health in the Department of Epidemiology and Biostatistics, are also sounding the alarms about disparity that exists in these stats: Black, Hispanic/Latino, Asian, Pacific Islander, American Indian and Alaska Native young people have higher rates of Type 2 diabetes and are expected to continue this trajectory, according to recent studies. Jiang told *USA Today* that the projected disparities are concerning, but something can be done. It's crucial, according to Jiang, to educate American youth about healthy lifestyles and potential ways to prevent diabetes in their early lives in order to 'flatten the curve' for the rising number of young people with diabetes, especially among underserved and minority populations.

nature

UCI Researchers on the Brink of a Cure for Many Forms of Blindness

In a recent *Nature* publication, Krzysztof Palczewski, PhD, and UCI collaborators illuminate the future of gene editing in the treatment of ocular diseases such as glaucoma, inherited retinal diseases and retinitis pigmentosa. The article, which appeared in the August 2023 edition of the journal *Experimental & Molecular Medicine*, expands on the scientists' ongoing work which has already shown proof of concept with genome-editing technologies for ocular diseases in animal studies. Approximately 2.2 billion people worldwide are affected by diseases that lead to severe visual impairments that the researchers posit could be cured by advancements in genome-engineering techniques.

Executive Leadership



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Director and Founding Dean
Program in Public Health



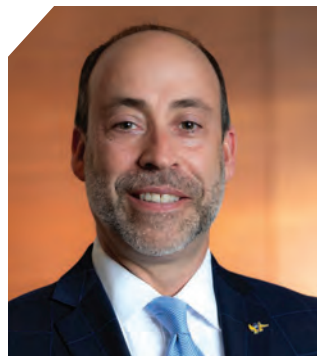
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To learn more about the meaningful work happening across UCI Health Affairs, contact **Caroline Pereira** at **949-824-5577** or **caroline.pereira@uci.edu**.



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