



**UCI** Susan and Henry Samueli  
College of Health Sciences

Planned School of Pharmacy and Pharmaceutical Sciences

**THE CASE FOR SUPPORT**

**BRILLIANT FUTURE**  
THE CAMPAIGN FOR **UCI**

***“Combining our amazing Department of Pharmaceutical Sciences with clinical pharmacist faculty will only enhance both areas, and I’m glad to be part of this transformative future!”***

***– Christia '20***



Michelle Kalu, a pharmaceutical sciences major, came to UC Irvine wanting to learn more about how drugs interact with the body to cure diseases.

## Pharmacy and Pharmaceutical Sciences for the Future

The UCI Susan and Henry Samueli College of Health Sciences is building bridges across the health sciences, and the planned School of Pharmacy and Pharmaceutical Sciences will play an instrumental role. Under the leadership of Jan D. Hirsch, B.S. Pharm, Ph.D., our director and founding dean, we are transforming our top-10-rated Department of Pharmaceutical Sciences into a world-class school that focuses on the whole patient by spanning the continuum from drug discovery to clinical practice.

Over \$500 billion is wasted annually in America on medications that unsuccessfully treat patients or cause new medical problems. Pharmacists and pharmaceutical scientists of the future will reduce this waste and, more critically, help save more than 275,000 lives every year.

“Unrestrained by outmoded traditions, the UCI School of Pharmacy and Pharmaceutical Sciences will teach a new generation of healthcare leaders to accelerate scientific, clinical and educational innovations that save lives, reduce healthcare costs and optimize medication use,” says Dean Hirsch.

Our acclaimed Bachelor of Science in Pharmaceutical Sciences, the top feeder program for pharmacy schools in the United States, is now expanding. The pioneering Pharm.D. and Ph.D. programs that we are developing will retain some of these talented undergraduates and attract top students from across California. Educating a diverse workforce equipped to deal with healthcare inequities is central to our mission.

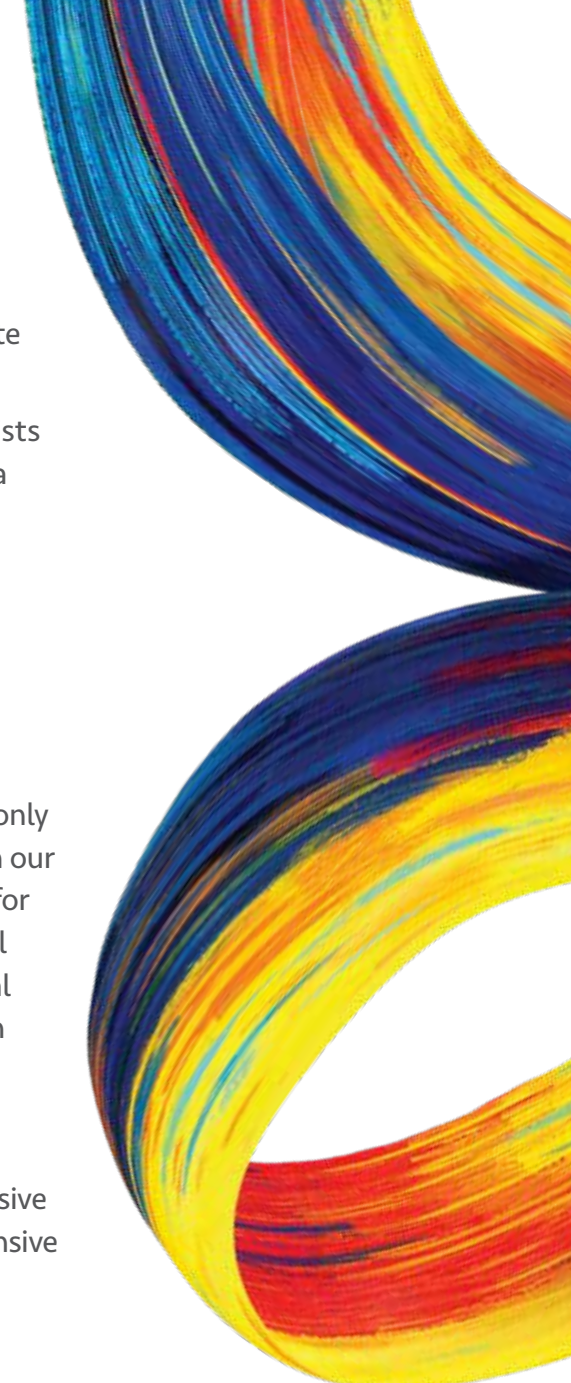
As we launch the new School of Pharmacy and Pharmaceutical Sciences, we will focus on four primary goals:

- Collaborating with the other schools in the Susan and Henry Samueli College of Health Sciences, the Susan Samueli Integrative Health Institute and UCI Health to educate clinical pharmacists and pharmaceutical scientists for the future
- Creating cost-effective, team-based patient care models and optimizing the use of advanced practice pharmacists
- Facilitating translational research designed to prevent and treat diseases

- Educating patients and community members on safe and effective uses of prescription, over-the-counter and complementary medications that promote health and wellness


Our pharmacists and pharmaceutical scientists are revolutionizing the profession to create a brilliant future for you, our community and the people of California, while also yielding strategies that will travel the world.

Because we are part of UCI Health Affairs, we are able to collaborate seamlessly with UCI Health on multiple fronts. An absence of barriers allows UCI Health, Orange County's only academic health system, to benefit first from our advances and serve as an educational venue for UCI trainees. The planned UCI Health Medical Complex in Irvine will strengthen our regional and global impact, as will collaborations with UCI Medical Center in Orange (consistently ranked as one of America's best hospitals), UCI Health clinics across Orange County, the NCI-designated UCI Chao Family Comprehensive Cancer Center, the UCI H.H. Chao Comprehensive Digestive Disease Center and the rest of UCI Health's rapidly growing enterprise.





Creating ***cost-effective, team-based patient care models*** and optimizing the use of ***advanced practice pharmacists***



Your investment in our vision will ensure that the planned UCI School of Pharmacy and Pharmaceutical Sciences gets off to an auspicious start. Please join us on our promising journey of discovery, teaching and healing.

### **Empowering the Healthcare Leaders of Tomorrow**

Bolstered by UCI Health and strategic alliances, we are fearlessly implementing a bold plan to empower a new breed of pharmacists and pharmaceutical scientists. Our team-based, whole-person approach to healing and cutting-edge research are preparing students from all backgrounds to reshape the future of health and wellness.

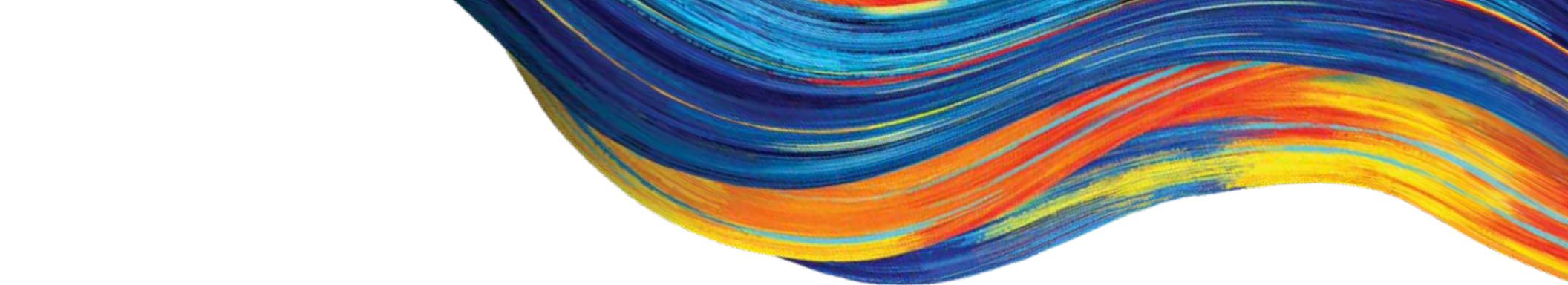
### **Clinical Pharmacists for the Future**

No longer limited merely to dispensing medicine, pharmacists are increasingly practicing as medication experts on integrated teams that include physicians, nurses and allied health professionals. At UCI, students in our clinical pharmacy program will learn to thrive on such teams and to face the challenges ahead.

Given our aging population and the shortage of primary care physicians, the demand for well-trained clinical pharmacists who are experts in preventive medicine and management of chronic disease will continue to increase.

***“Not only was the road to earning an undergraduate degree in pharmaceutical sciences at UCI filled with memorable experiences, but it also helped me stand out when applying to graduate pharmacy schools. I do not believe I would have received the same opportunities for growth and involvement in any other program. Now that UCI is starting a pharmacy school of its own, I am confident it will provide students with the skills and knowledge necessary for success.”***

***— Alex S. '19, Pharm.D. '23 (USC)***



The demand is especially high in California, where a landmark law signed in 2013 and implemented in 2014, the “Pharmacist Expanded Scope of Practice Bill,” granted pharmacists healthcare provider status and created the new category of Advanced Practice Pharmacists (APPs). As providers, pharmacists may furnish many treatments directly to patients without a prescription from a physician, such as contraceptives, smoking cessation products and immunizations. APPs are authorized to assess patients, order and interpret drug therapy-related tests, refer patients to other healthcare providers and manage patients with a variety of health conditions in collaboration with healthcare teams.

The UCI School of Pharmacy and Pharmaceutical Sciences will optimize the use of pharmacists by developing cost-effective, team-based care models in partnership with colleagues in medicine, nursing, and population and public health. Students will learn to operate with greater authority on healthcare teams and fill gaps in primary care.

UCI students will have another advantage: an understanding of integrative health. In collaboration with colleagues from the UCI Susan Samueli Integrative Health Institute, student pharmacists will learn how to incorporate evidenced-based complementary medicines and preventive strategies into their practices, alongside prescription and over-the-counter medications. With this unique training, graduates with the Doctor of Pharmacy degree will be able to offer patients important, integrative health services generally missing in pharmacy practice today.


### **Pharmaceutical Scientists for the Future**

Pharmaceutical scientists in the current UCI Department of Pharmaceutical Sciences are studying some of the most pressing health-related problems our society faces, such as cancer and mental health disorders, as well as improving drug delivery mechanisms. The UCI School of Pharmacy and Pharmaceutical Sciences will build on this strong track record.





***We will train students to identify high-value, conventional and complementary, evidence-based solutions along a continuum from drug discovery to clinical practice.***



In our expanded research program, we will train students to identify high-value, conventional and complementary, evidence-based solutions along a continuum from drug discovery to clinical practice. Students will learn to capitalize on novel strategies that target previously unknown mechanisms of disease and modalities for treatment.

A solid foundation in translational research will prepare the next generation of pharmaceutical scientists to facilitate scientific breakthroughs that pave the way for new treatments and possible cures within the clinic.

Both the clinical pharmacists and the pharmaceutical scientists whom we educate will be ready to solve healthcare challenges of the future. As the School of Pharmacy evolves, we will invest in a variety of endeavors designed to enhance the student experience and generate new knowledge — while also reaching out to the community.

### Creating Research and Educational Hubs

To advance our goals and broaden the scope of pharmacy and pharmaceutical sciences, we plan to establish dynamic hubs that investigate high-impact conventional and complementary solutions to today's unmet healthcare needs.



### **Entrepreneurial Research Hub**

Our faculty have engaged in a broad range of entrepreneurial research, such as developing rapid, sensitive diagnostic tests to combat the global threat of antibiotic resistance. The Entrepreneurial Research Hub will provide new opportunities for scientific breakthroughs.

We are particularly excited about combining pharmaceutical sciences' strengths with chemistry and biomedical engineering to support groundbreaking research in RNA molecules. Future collaborations with clinical faculty in the School of Pharmacy and Pharmaceutical Sciences and the School of Medicine within an RNA therapeutics concentration will further strengthen this largely unexplored approach to treating disease.

### **Drug Discovery Hub**

Drug discovery research has the potential to radically improve patient care. For example, by investigating how pediatric tumors form, our investigators are generating knowledge that could lead to effective treatments for children with cancer. The Drug Discovery Hub will open up more opportunities for our researchers to make a positive difference in patients' lives.

One of our goals is to stimulate translational research that enhances our ability to prevent and treat diseases via high-throughput screening and toxicity and pharmacokinetics testing. In this way, we will swiftly drive new compounds to clinical testing in humans.

### **Optimizing Medication Utilization Hub**

Improving how medications are used will save lives, enhance quality of life and reduce healthcare costs. UCI faculty and students will spend quality time with members of the community to teach them how to use all their medications most effectively — a service that is difficult for healthcare providers to offer in a fast-paced clinical environment.

Capitalizing on our collegewide approaches to interprofessional education and team-based care, our pharmacy students and faculty will engage with a wide array of populations, such as underserved individuals referred by local nonprofits, seniors living in assisted living facilities, and employees opting into corporate wellness programs. We will dramatically improve the safe, effective and cost-effective use of medications for patients and the community as a whole.

## How You Can Help

With your partnership, we will build a School of Pharmacy and Pharmaceutical Sciences that empowers the healthcare leaders of tomorrow to accelerate lifesaving innovations on regional and global scales. Let's blaze new trails together.

## Campaign Funding Priorities

### **Foundational Support for the Planned School of Pharmacy and Pharmaceutical Sciences**

Your gift will galvanize support for our transformative vision as we prepare to launch the third School of Pharmacy in the prestigious UC system and build a new home for our talented students and dedicated faculty. Their success will be linked with your generosity for generations to come.

### **Endowed Faculty Chairs**

The endowed chairs that you establish will provide the prestige and resources necessary to recruit and retain top clinical pharmacists for our new clinical program and to hire additional faculty for our expanding pharmaceutical sciences program. Chair holders will mentor future generations of healthcare professionals.

## Faculty Testimonials

*"My lab studies childhood cancers in order to develop effective, new therapies. Team members focus on retinoblastoma, a common type of eye cancer in children, and osteosarcoma, a type of bone cancer. Our studies of how pediatric tumors form increase our understanding of both childhood and adult cancers and move us closer to scientific breakthroughs that will save lives."*

— **Claudia Benavente, Ph.D.**, assistant professor, pharmaceutical sciences; program member, Chao Family Comprehensive Cancer Center; joint faculty, developmental and cell biology, School of Biological Sciences

*"The researchers in my lab investigate the biological functions of RNA molecules, functions that scientists are just beginning to explore. RNA molecules play critical roles in normal biology, but nearly every neurological disorder and many cancer types can be traced back to an RNA that is not performing the right job. We always begin our projects with particular biological questions in mind and then use these questions to start our 'catalytic cycle of discovery.' Ultimately, we aim to design novel therapeutic strategies for controlling and preventing deleterious RNA functions that could contribute to disease."*

— **Rob Spitale, Ph.D.**, associate professor, pharmaceutical sciences; program member, Chao Family Comprehensive Cancer Center; joint faculty, department of chemistry, School of Physical Sciences



## The Planned School of Pharmacy and Pharmaceutical Sciences: Differentiators

- Only public pharmacy school in Orange and Los Angeles counties
- Strong pharmaceutical sciences research
- Interprofessional education and integrative health approaches focused on the whole person
- Close ties with UCI Health (UCI Medical Center, the planned UCI Health Medical Complex in Irvine, and clinics throughout Orange County)
- B.S., M.S., M.S.P., Ph.D., and Pharm.D. degree programs
- Science, evidence and education related to complementary and alternative medicine

Jasmin Arabit, pharmacological sciences Ph.D. student



### **Research and Educational Hubs of Excellence**

Your gift will provide startup funding for our dynamic hubs: The Entrepreneurial Research Hub will strengthen the groundwork for largely unexplored approaches to treating disease. The Drug Discovery Hub will stimulate translational research that catalyzes medical breakthroughs. The Optimizing Medication Utilization Hub will sponsor activities that teach community members how to optimize the use of their prescription, over-the-counter and complementary medications.

### **Student and Trainee Support**

Scholarships and fellowships will enable the School of Pharmacy and Pharmaceutical Sciences to attract the best, brightest and most diverse undergraduate, graduate and professional students to work together in a unique interprofessional educational environment that supports all of UCI Health Affairs.

**For more information, please visit:**

***[brilliantfuture.uci.edu/school-of-pharmacy-and-pharmaceutical-sciences](https://brilliantfuture.uci.edu/school-of-pharmacy-and-pharmaceutical-sciences)***



101 Theory, Suite 100 • Irvine, CA 92617  
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