HIT THE GROUND RUNNING
Experts weigh in on the implementation of SB 493.
ABOUT THE USC SCHOOL OF PHARMACY

One of the top 10 pharmacy schools nationwide and the highest-ranked private school, the USC School of Pharmacy continues its century-old reputation for innovative programming, practice and collaboration.

The School created the nation’s first Doctor of Pharmacy program, the first clinical pharmacy program, the first clinical clerkships, the first doctorates in pharmaceutical economics and regulatory science, and the first PharmD/MBA dual-degree program, among other innovations in education, research and practice. The USC School of Pharmacy is the only private pharmacy school on a major health sciences campus, which facilitates partnerships with other health professionals as well as new breakthroughs in care. It also is the only school of pharmacy that owns and operates five pharmacies.

The School is home to the International Center for Regulatory Science at USC, and is a partner in the USC Leonard D. Schaeffer Center for Health Policy & Economics and the USC Center for Drug Discovery and Development. The School pioneered a national model of clinical pharmacy care through work in safety-net clinics throughout Southern California. A focus on clinical pharmacy, community outreach, regulatory science, drug discovery and development, and health economics and policy positions the USC School of Pharmacy as a leader in the safe, efficient and optimal use of medication therapy that can save lives and improve the human condition.

Results magazine, published semi-annually, highlights some of the School’s latest advances and achievements, as well as the faculty, students, alumni and donors who make this work possible.
Practice Makes Perfect

Experiential learning rotations give students invaluable opportunities to build and hone their skills by serving patients in inpatient, outpatient and community pharmacy settings.
The School of Pharmacy continues full speed ahead, because time is short and standing still moves us in the wrong direction. All too often, interim deans are perceived as temporary caretakers whose purpose is to keep an organization afloat instead of steering it into the future. That's not my way — and that's not the USC way.

Our School is known to be **boldly first**. We were first to launch a PharmD program in 1950, first to offer a PhD in pharmaceutical economics in 1990 and first to offer a professional doctorate in regulatory science in 2008. Like all of USC, the School is innovative, progressive and dedicated to achieving real advances that improve society and the world. Big aspirations can only be realized by taking bold steps, and that's what we're doing. Let me give you some examples.

Since taking the helm, I have made some administrative changes to make our School's structure more efficient and to spread leadership roles among more of our outstanding faculty (see page 9). Previously, a few faculty members were overburdened with multiple titles and duties. We've also hired several new faculty, who will open up new research, practice and educational opportunities in transitions of care, genomics and innovative experiential learning (see page 14).

The School's bold new curriculum was launched in the fall with the Class of 2019. While it's too early to tell definitively, all systems are working well, and we are enthusiastic about the novel approach that promotes connectivity throughout the program, builds on foundational courses and gives students a better understanding of how this knowledge is applied in therapeutic practice. Further, the new structure covers social and interpersonal skills that are imperative in today's workplace and gives students an opportunity to explore a scholarly project of their choosing. We believe this new curriculum will prepare our students to be the innovative leaders of tomorrow.

Pete Vanderveen, our former dean, remains busy at the School. He now serves as a senior advisor at the Leonard D. Schaeffer Center for Health Policy & Economics and as my special assistant for development. He also has agreed to head the new Margaret and John Biles Center for Leadership. Pete's direction of the Biles Center promises to provide essential leadership skills to students and the entire community.

I've met and reconnected with many alumni and friends at various School events. I thank you for your warm welcome and confidence. If you have a thought about the School — our programs, our students, our future — or about the profession, please email me at stimmel@usc.edu. Your perceptions are among the bold new ideas that will propel our School and our profession ever forward.

Fight On!

Glen L. Stimmel, PharmD  
*Interim Dean  
*John Stauffer Dean’s Chair in Pharmaceutical Sciences
14 **PRACTICE MAKES PERFECT**
USC pharmacy students benefit from hundreds of hands-on experiential learning rotations to hone their skills, interact with patients and prepare for their careers.

22 **WE ARE THE WORLD**
As an international leader in pharmacy education, the USC School of Pharmacy attracts students, faculty and administrators who want to leap forward in their careers or emulate its successful programs to help others get a head start.

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40 **Photo Shop**
The USC School of Pharmacy’s landmark three-year research project to take pharmacists into Southern California safety-net clinics has garnered preliminary results demonstrating the clear benefit of having pharmacists work directly with high-risk patients to enhance medication adherence. The study demonstrates that integrating clinical pharmacy services with primary care results in significantly improved patient outcomes that more than offset the costs of the pharmacy teams.

Funded by the largest grant ever awarded to the School — $12,007,677 from the Center for Medicare & Medicaid Innovation — the effort not only improved patient health but also reduced avoidable hospitalizations and emergency department visits. Patients discharged from the program after reaching their treatment goals also retained their clinical gains at six to 12 months, boding well for long-term, sustained health benefits.

Geoffrey Joyce, director of the School’s new Department of Pharmaceutical and Health Economics, served as the project’s principal investigator. Its clinical aspects were overseen by Steven Chen, the William A. and Josephine A. Heeres Chair in Community Pharmacy.

The following numbers illustrate challenges faced and improved outcomes that could potentially be replicated nationwide.

### USC CMMI SAFETY-NET GRANT OUTCOMES

<table>
<thead>
<tr>
<th>THE CHALLENGES</th>
<th>THE PARTICIPANTS</th>
<th>THE OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 million</td>
<td>6,000</td>
<td>11.4</td>
</tr>
<tr>
<td>Number of people injured each year due to medication misuse</td>
<td>Number of high-risk patients with conditions such as diabetes and hypertension enrolled in the study since October 2012</td>
<td>Medication problems identified per patient — mainly related to incorrect dosing and usage</td>
</tr>
<tr>
<td>1:1</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>For every dollar spent on ambulatory medications, another is spent to treat new health problems caused by the medication.</td>
<td>Number of Federally Qualified Health Centers participating in the study</td>
<td>Outcome measures: healthcare quality, safety, total cost and return on investment, patient and provider satisfaction, and patient access</td>
</tr>
<tr>
<td>$209 billion</td>
<td></td>
<td>Reduction in cholesterol 16.2%</td>
</tr>
<tr>
<td>Annual estimated amount of avoidable medical spending due to poor prescription adherence</td>
<td></td>
<td>22% Reduction in blood-sugar levels</td>
</tr>
<tr>
<td>25%</td>
<td></td>
<td>2.2% Reduction in blood pressure</td>
</tr>
<tr>
<td>Estimate of ambulatory patients who experience adverse drug reactions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate of chronic diseases that require medications as first-line therapy 90%</td>
<td></td>
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</tr>
</tbody>
</table>

For every dollar spent on ambulatory medications, another is spent to treat new health problems caused by the medication.
Associate Professor Julio Camarero received a four-year, $1.3 million research project grant from the National Institutes of Health for work focused on the screening and selection of cyclotides, a novel class of protein-based therapeutics. The project will employ both genetically and chemically encoded cyclotide-based libraries to screen intracellular and extracellular protein-to-protein interactions using high-throughput screening.

Camarero’s previous efforts evaluated millions of compounds to identify those with the most potential to bind and inhibit targets. The process helps target proteins since it allows for broad-range screening and altering of structures to generate novel binding mechanisms. The next phase of his research could potentially transform the treatment of cancer.

“These combined approaches could have profound implications for human health and the way protein-based therapeutics are used to target specific extra- and intracellular protein–protein interactions involved in the development of cancer,” says Camarero.

Steven Chen, chair of the Titus Family Department of Clinical Pharmacy and the William A. and Josephine A. Heeres Chair in Community Pharmacy, and Geoffrey Joyce, chair of the Department of Pharmaceutical and Health Economics, won the Innovative Pharmacy Practice Award from the California Society of Health-System Pharmacists (CHSP) for “Improving Healthcare Quality and Safety While Reducing Costs through Clinical Pharmacy Service Integration.” Joyce served as the project’s principal investigator, while Chen oversaw its clinical aspects. The award lauds the program’s commitment to the “triple aim” of “better quality, better care and lower cost.” The award was presented at the CHSP’s 2015 seminar in San Diego.

“To those who pay the bills — employers, health plans, and even the government — value often means paying as little as possible for services. To patients, many of whom do not pay the full price of the care that they receive, value often means better outcomes regardless of cost.”

**SCHOOL OF PHARMACY SET FOR LIFTOFF**

The USC School of Pharmacy is about to become the first pharmacy school to leave our planet. Professor Clay Wang is working with NASA, in collaboration with Jet Propulsion Lab (JPL) colleague Kasthuri J. Venkateswaran, on a project to study how microgravity environments influence drug effectiveness. Two of Wang’s students — Jillian Romsdahl and Adriana Blachowicz — will travel to Florida to deliver the experiment, which will be rocketed into orbit in January, headed for the International Space Station (ISS). In preparation for the blastoff, Wang’s group conducted a dry run of the entire experiment in the lab, exactly as it will be conducted on the ISS.

**MEDICAL CONTROVERSIES AND THE LAW**

Since the early 1990s, Associate Dean Fred Weissman has taught a freshman seminar to the newest Trojans each fall. His consistently popular offering, “Medical Controversies and the Law,” provides students with an understanding of how medical issues are resolved in the courts and how judicial decisions are constructed. Weissman holds PharmD and JD degrees.

During the 10-week course, students address topics such as euthanasia, abortion and human experimentation by reviewing decisive cases on these issues. The seminar is a unique opportunity for students to share opinions, knowledge, experiences and beliefs. For example, during a discussion on abortion, students volleyed differing ideas on when life begins, appropriate limitations on the availability of abortion and whether the father should have a say in abortion.

Fred Weissman (center) with Ryan Fatemi, a neuroscience major who hopes to pursue a career in medicine, and Harper Hunt, a philosophy/politics/law major who aspires to be a lawyer.
MORE THAN NUMBERS

While improving patient health and ensuring medication safety are the pharmacist’s primary concerns, client satisfaction also ranks high. The USC Medication Management Center earned top marks in a recent survey for helping patients understand their correct drugs and dosages.

Assistant Professor Edith Mirzaian, who directs the center, explains that, in telephone conversations, “pharmacists spend more time with the patient than the physician does during visits.” As a result, patients “tell us more than they tell their physician.” This relationship — combined with access to patients’ electronic records — enables the center’s pharmacists to glean a lot of information. The following numbers tell the story of how the center puts that knowledge to use in improving medication adherence.

- **30–60 minutes** typical length of the initial telephone consultation
- **2,003** patients served between January and September 2015, yielding:
  - **5,198** adherence gaps addressed
  - **7,170** omission gaps identified
  - **15,944** safety alerts regarding drug interactions and/or duplications
- **3** USC alumni currently work at the center full time: Richard Dang, PharmD ‘13, Roya Mohajer, PharmD ‘12, and Oscar Gallegos, PharmD ‘12
- **8** minimum number of medications a patient must be taking to qualify for the program
- **4** times per year new patients are added through the qualifying process
- **4** number of categories for qualifying patients: rural, inner city, elderly and disabled
- **94.9%** patients said the session improved their understanding of the usage and purpose of medications
- **98.8%** patients expressed satisfaction with the overall services provided
- **97.9%** said the pharmacist thoroughly answered their questions

Patients in the program are enrolled in Medicare Advantage Plans. To be eligible for the medication management service, they must have at least three of the following chronic conditions: chronic obstructive pulmonary disease, diabetes, dyslipidemia, heart failure (chronic/congestive), hypertension and asthma. Additionally, they must be on at least eight chronic/maintenance medications.

Among the targeted patient population, 9,374 patients meet the criteria for the program, and the pharmacy team hopes to serve each one of them. On average, these patients:

- **are 72.5 years old**
- **have 3.6 conditions**
- **take 9.9 medications**
- **spend $11,164 on medications each year** (projected)
School of Pharmacy students participate in community health fairs with extraordinary care and enthusiasm. Here’s a glimpse at the School’s health fair outreach during the 2014–15 academic year:

35 local health fairs included School of Pharmacy student volunteers

2,950 people received services from students

780 immunizations were provided

5,670 screening tests were provided, including those for cholesterol, diabetes, body-fat analysis and osteoporosis

134 preceptors made this service possible

12 health fairs featured preceptor Lisa G. Lum, PharmD ’86, who was honored as the 2014–15 Health Fair Preceptor of the Year by the USC branch of the American Pharmacy Student Alliance

The healthcare landscape increasingly requires scientists who are adept at translating basic science into clinical advances — taking revolutionary research from the lab to the clinic, where it can directly impact patients.

In 2010, the USC School of Pharmacy launched the PhD program in Clinical and Experimental Therapeutics (CXPT) to train translational scientists who are exceptionally equipped to connect fundamental biomedical research with advancements against human disease.

The CXPT program has already graduated two rising stars.

The program’s first graduate, Jason Yamaki, PharmD ’09, PhD ’13, is now an assistant professor of Pharmacy Practice at Chapman University School of Pharmacy in Irvine, Calif., where he is pursuing translational studies in molecular epidemiology, virulence and bacteria resistance.

He says his two USC degrees make different but complementary contributions to his work. “My PharmD has provided me with the clinical skills and knowledge required for educating pharmacy students on rotations and in the classroom setting on therapeutic applications,” says Yamaki. “I use my PhD training at my clinical site as part of my contributions to the antimicrobial stewardship program, as well as the design of clinical studies.”

In September, CXPT graduate Melissa Agnello, PhD ’15, began a postdoctoral research position with Wenyuan Shi, PhD, chair of the Section of Oral Biology at the UCLA School of Dentistry. Agnello is pursuing a number of projects to investigate the oral microbiome and its role in cavity formation with a goal of bringing new therapies to the marketplace, helped by a prestigious and competitive Training for a New Interdisciplinary Research Workforce (T90) grant from the National Institutes of Health (NIH).

“The translational nature of the CXPT degree is what allowed me to get this postdoc position,” says Agnello. “I appreciate the personalized nature of the CXPT program that let me tailor my project and my classes to what I was interested in, allowing me to become a well-rounded scientist. My ultimate career goal is to be a leader in industry developing novel antimicrobials to fight infectious diseases and combat antibiotic resistance.”

While these graduates continue their upward trajectory, a current CXPT student is close behind.

Tim Bensman, PharmD ’11, is focusing on drug discovery as well as new uses for existing medications to combat chronic inflammation in chronic obstructive pulmonary disease and cystic fibrosis. Last year, he was awarded a two-year, $82,000, F31 fellowship from the NIH.

“I chose the PhD in Clinical and Experimental Therapeutics because it afforded me a foot in the biomedical research doors of both clinical and foundational science,” says Bensman.
LEADERSHIP CHANGES

Dean Glen L. Stimmel has initiated a slate of new appointments — and one key department change — to augment the USC School of Pharmacy’s leadership in advancing education and the profession.

The School’s new Department of Pharmaceutical and Health Economics will be chaired by Associate Professor Geoffrey Joyce, director of health policy for the USC Leonard D. Schaeffer Center for Health Policy & Economics. The new department was previously part of the Titus Family Department. Joyce, who joined the faculty in 2009, is a health economist who specializes in the costs of medical care and the role of insurance. His research garnered the largest grant ever awarded to the School — $12,007,677 from the Centers for Medicare and Medicaid Services to place pharmacists in safety-net clinics for improving patient health while reducing avoidable hospitalizations and emergency department visits.

Professor Annie Wong-Beringer has been named associate dean for graduate affairs and interdisciplinary graduate programs. She plans to more closely integrate the School’s degree programs in pharmaceutical sciences, molecular pharmacology and toxicology, and clinical and experimental therapeutics. In addition, she will expand collaborative opportunities for graduate students throughout the School. Wong-Beringer is an expert in infectious diseases who also maintains a clinical practice at Huntington Hospital. She has served on the School’s faculty since 2003.

The new associate dean for research is Wei-Chiang Shen, the John A. Biles Professor in Pharmaceutical Sciences, who joined the faculty in 1987. An internationally renowned scientist, Shen explores more efficient, user-friendly ways to deliver large-molecule drugs for improved patient outcomes. Under his leadership, the research office will optimize collaborative opportunities across the School’s three departments, spanning basic science, clinical care, outcomes and regulatory issues.

Professor R. Pete Vanderveen, who stepped down as dean on July 1 after a decade of leadership, has rejoined the faculty. He also now serves as Dean Stimmel’s special assistant for development. Meanwhile, he continues promoting the pharmacist’s expanded role in healthcare as a senior advisor at the Schaeffer Center.

Associate Professor Ian Haworth has been appointed the new director of assessment. As part of his responsibilities, he will chair the School’s assessment committee.

“The School is poised to continue its trajectory of leadership in education, research and clinical care,” says Stimmel. “We are fortunate to have leaders of this caliber willing and able to serve in these key roles.”
While campus-based pharmacies are an important training ground for students, it’s the rare pharmacy school that operates more than one location. The USC School of Pharmacy remains in a class of its own with five separate pharmacy practices.

**USC PHARMACIES**

**USC PHARMACY**
University Park Campus
Student Union Building, Suite 101
3601 Trousdale Parkway
Los Angeles, CA 90089

This longstanding pharmacy offers services ranging from health screenings and immunizations to smoking cessation, diabetes self-management and medication therapy management. It’s been proudly serving USC students, staff and faculty since 1954.

**USC HEALTH CENTER PHARMACY**
University Park Campus
1150 W. Jefferson Avenue
Los Angeles, CA 90089

This relatively new location is adjacent to the new Engemann Student Health Center and offers the same services as the original University Park Campus pharmacy branch.

**USC MEDICAL PLAZA PHARMACY**
Health Sciences Campus
1510 San Pablo Street, Suite 144
Los Angeles, CA 90033

In addition to screening services, immunizations and numerous clinical services — including latent tuberculosis management and anticoagulation management — the Medical Plaza Pharmacy is home to an international travel clinic, compounding services and a transplant medication service.

**USC VERDUGO HILLS PROFESSIONAL PHARMACY**
Verdugo Hills Professional Building
1808 Verdugo Boulevard, Suite 111, Glendale, CA 91208

As part of USC Verdugo Hills Hospital, this pharmacy offers convenience to patients served by the important regional community hospital that’s been part of the Trojan Family since 2013.

**KECK MEDICINE OF USC SPECIALTY PHARMACY**
1000 South Fremont Avenue, Suite 10150
Alhambra, CA 91803

The newest pharmacy location provides specialty medication services for the USC community by combining the efforts of the Doctors of USC and the USC School of Pharmacy, in collaboration with the Keck Medical Center of USC.
NEW MASTER’S PROGRAM TRAINS PROFESSIONALS TO GUIDE MEDICAL PRODUCT QUALITY

Quality control is a concern for every manufacturer — especially in the pharmaceutical and medical device industries, where product failures can damage patient health. The School of Pharmacy’s new master of science in Medical Product Quality (MPQ) will provide an ideal training ground for professionals to fill the growing need for this expertise in the medical device, pharmaceutical and biologics marketplace sectors.

“We developed this program with feedback from industry,” says Program Director Michael Jamieson. “They told us these are hard positions to fill.”

According to Joaquin Kurz, senior director of Complaint Management and Post-Market Surveillance at Johnson & Johnson, “This program fills a critical gap in industry … because traditionally there hasn’t been a place where people could get training in medical device quality.”

The inaugural MPQ class will begin coursework in spring 2016. The program is aimed at people with backgrounds in biological, pharmaceutical, and biomedical sciences and biomedical engineering, whether they are completing their academic studies or are already working professionals wanting to enhance their careers.

The 32-unit MPQ program will provide comprehensive education about the regulations and guidelines that drugs and devices must meet before they can come to market in the United States and internationally.

“This program fills a critical gap in industry … because traditionally there hasn’t been a place where people could get training in medical device quality.”

—Joaquin Kurz, senior director of Complaint Management and Post-Market Surveillance, Johnson & Johnson

Students will learn current and future regulations that impact product quality, as well as practical tools for careers in the private and public sectors.

Those who want to try out the program prior to admission are welcome to take a single class. Upon admission, any courses taken earlier count toward the degree.

Questions about the program can be answered by contacting 323-442-3521 or regsci@usc.edu. More information is also available online at medquality.usc.edu.

SB 493 IMPLEMENTATION UPDATE

The Sacramento Bee interviewed Associate Professor Kathleen Hill Besinque for an article about the wider range of prescriptions California pharmacists can now provide patients without physician consultation — including hormonal contraceptives. “There’s no reason a woman needs to have a physical exam or a Pap smear before being prescribed,” she told the newspaper. “Contraception is a wellness thing, not a sickness thing.”

The article highlighted how passage of Senate Bill 493, which gives pharmacists healthcare provider status in California, better equips pharmacists to support patient wellness. Besinque was instrumental in putting the legislation into practice, along with fellow faculty member Steven Chen, chair of the Titus Family Department of Clinical Pharmacy and the William A. and Josephine A. Heeres Chair in Community Pharmacy. Besinque worked on the contraception task force, while Chen served on the laboratory test task force.
**CAREER ACHIEVEMENT AWARD**

Dean Glen L. Stimmel, John Stauffer Dean’s Chair and professor of Clinical Pharmacy, Psychiatry and Behavioral Sciences, is the recipient of the 2016 Career Achievement Award by the College of Psychiatric and Neurologic Pharmacists (CPNP) Foundation. One of the highest honors in the specialty, the award recognizes a CPNP member whose career has demonstrated sustained excellence in psychiatric or neurologic pharmacy and the profession of pharmacy.

“Through his practice, research and teaching, Glen Stimmel has had a remarkable impact on the development of psychiatric pharmacy,” said CPNP Foundation President Barbara Wells. “He has established new models of practice, and he has opened doors for so many who followed him into our discipline.”

In addition to serving as interim dean, Stimmel lectures pharmacy students and maintains hours in the Primary Care Geriatric Clinic every Friday at Los Angeles County+USC Medical Center, where he sees patients and teaches pharmacy and medical residents as well as occupational therapy and gerontology students. He lectures on depression in the elderly among other psychiatric topics and remains a prolific scholar, publishing in numerous journals.

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**TREATMENT PRICES VS. HUMAN COSTS**

“How long should you wait to treat a possibly fatal but curable disease?” asked Jeffrey S. McCombs — associate professor at the USC School of Pharmacy and director of graduate studies at the USC Schaeffer Center for Health Policy & Economics — in a *Los Angeles Times* op-ed, co-authored by D. Steven Fox of the Keck School of Medicine.

“In the last year this question has focused on hepatitis C, a viral infection of the liver that, left untreated, can lead to cirrhosis, cancer, liver failure and death,” they wrote. “The virus can be eliminated in more than 90 percent of [those infected] but at a staggering cost of $75,000 to $100,000 per patient.”

Pricing breakthrough treatments is often controversial and remains a key area of investigation at USC.

A recent study by the Schaeffer Center and partnering institutions suggests the new hepatitis C treatment is worth its cost because of its value. The research, published in *Health Affairs* in October, shows that treating 5 percent of all hepatitis C patients with the latest drugs would more effectively reduce infections and healthcare expenditures.

“We made a mistake with HIV by limiting access to treatment to just people who had AIDS, and we ended up with a virus that has thousands of Medi-Cal patients will have to wait for treatment,” wrote McCombs and Fox, who nonetheless see the state’s action as a positive step. “The department is helping to lead the way out of the hepatitis C conundrum with a sensible policy: Treat everyone who needs it, but not until treatment is necessary.”

The issue remains a particularly complex one. As Goldman notes: “By treating the disease [earlier], patients are being cured and are not infecting others. When you think about the price per pill for the latest hepatitis C treatment with its high cure rate, compared with a $500,000 liver transplant, the value is clear.”

Goldman and his fellow investigators found the “treat 5 percent” approach would reduce infections from 2.7 million to 39,000 cases in 50 years — compared with the current approach of relying on older drugs, which would only reduce infections to 207,000 cases over the same period.

California, however, is taking a more cautious approach. “In July the California Department of Health Care Services ordered a new protocol that will mean many thousands of Medi-Cal patients will have to wait for treatment,” wrote McCombs and Fox, who nonetheless see the state’s action as a positive step. “The department is helping to lead the way out of the hepatitis C conundrum with a sensible policy: Treat everyone who needs it, but not until treatment is necessary.”

The issue remains a particularly complex one. As Goldman notes: “By treating the disease [earlier], patients are being cured and are not infecting others. When you think about the price per pill for the latest hepatitis C treatment with its high cure rate, compared with a $500,000 liver transplant, the value is clear.”

Darius Lakdawalla, Quintiles Chair in Pharmaceutical Development and Regulatory Innovation, suggests finding a way to spread out payments. Interviewed by the *American Journal of Managed Care*, he said, “[If] we had a chronic therapy that was sold every year over the patient’s lifetime, that would actually, ironically, be a lot easier to finance.”
ALUMNI/PRECEPTOR SPOTLIGHT

**RITA SHANE**

After decades of leadership in the profession, Rita Shane still exudes an excitement about pharmacy equaling that of a fresh-faced student. Her enthusiasm is fueled by its possibilities and supported by the progress she has helped foster on behalf of patients and practitioners — including her part in ensuring pharmacists take their rightful place as the medication experts on healthcare teams.

A 1978 USC PharmD graduate, Shane started her career as a pharmacy intern at Cedars-Sinai. She now serves as the medical center’s chief pharmacy officer, overseeing more than 300 staff members.

“The opportunities are infinite but you must love pharmacy if you’re going to work here,” Shane says. She expanded the role of pharmacists at Cedars-Sinai and developed a team that provides optimal care to patients across multiple hospital units. When asked whether other professionals on the team appreciate the value that the pharmacist brings, she answers affirmatively and with ready examples. A physician recently called her from a unit that did not have a pharmacist to participate in rounds. The doctor wanted to know what he needed to do to get a pharmacist on the floor.

“Our chief nursing officer has said we need more pharmacists in some areas,” says Shane. “Our nurses cannot provide good patient care without pharmacists.”

Progression-of-care rounds are held daily at the medical center, during which pharmacists, physicians, nurses and other team members meet to ensure each patient’s healthcare needs are being satisfied and that he or she is equipped for success after going home. This necessitates obtaining an accurate medication list upon admission, including learning whether the patient is taking the medications as directed. An equally meticulous list of medications must be completed on discharge.

At Cedars-Sinai, pharmacists talk to patients, making sure they understand their medications, how to take them and why they are taking them. The team pays special attention to high-risk patients, who typically need more help managing their care.

Shane advises students that “We need to question orders. We need to ask ‘What’s wrong with this medication list?’ Just because a drug is prescribed doesn’t mean a patient needs it. It doesn’t mean that it isn’t going to cause harm. Owning responsibility for the accuracy and the safety of that list for the patient is critical.”

Shane’s advocacy for the profession and its pivotal role in healthcare has been widely recognized. The American Society of Health-System Pharmacists honored her with the 1995 John Webb Visiting Professorship in Hospital Pharmacy, the 2005 Distinguished Leadership Award and the 2012 Harvey A. K. Whitney Award. She is included on the 2013 Becker Hospital Review list of the “50 Experts Leading the Field of Patient Safety.”

Shane has also authored scores of papers and was an investigator in a multicenter study of medication errors published in the Annals of Emergency Medicine.

“Pharmacists are the safety net for the patient,” she says. “They are kind of like the guardian angels. No one has the knowledge and training that a pharmacist has when it comes to medications.”

SCIENTIST OF THE YEAR

Roberta Diaz Brinton, R. Pete Vanderveen Chair in Therapeutic Discovery and Development, has been named Scientist of the Year by the Alzheimer’s Drug Discovery Foundation. The distinction honors Brinton’s research focusing on how the brain develops Alzheimer’s and on translating the resulting discoveries into therapeutics to prevent, delay and treat the disease. These innovations include treatments that restore energy production and neural stem cell regeneration in the brain.
HIT THE GROUND RUNNING
The USC School of Pharmacy helps students and pharmacists prepare to become leaders in all aspects of the profession. Through hundreds of experiential learning opportunities that include patient interaction in a variety of healthcare settings, students receive hands-on training and mentoring from dedicated preceptors. Meanwhile, the School also attracts students, faculty and administrators from around the globe who want to leap forward in their careers or emulate the School’s programs to help others get a head start.
The deepest understanding of any pursuit comes from hands-on learning. That includes becoming a pharmacist. The USC School of Pharmacy equips its students with the finest pharmacy education, including opportunities for in-depth patient interaction and real-world, on-the-job experience through a variety of experiential learning rotations.

In addition to several sites at USC — including five pharmacies operated by the School, Keck Medicine locations and the School’s Medication Management Center (see page 7) — hundreds of distinguished partners offer rotations that allow pharmacy students to hone their skills and engage with Southern California’s diverse patient population.

Students complete a slate of Introductory Pharmacy Practice Experiences (IPPEs) during their first three years in the program, and Advanced Pharmacy Practice Experiences (APPEs) during their fourth year. Expert preceptors — many of them School of Pharmacy alumni — guide USC PharmD students through rotations that reflect all of the challenging and rewarding aspects of the profession they will join after graduation.

The following highlights just three examples of the School’s dedicated experiential learning partners, representing inpatient, outpatient and community pharmacy settings.
“Every student should have the opportunity for patient education ... Usually that involves discharge counseling of patients’ medications when they go home.” Tram Cat, PharmD, education coordinator at the Cedars-Sinai Department of Pharmacy Services
“Being in a rotation teaches skills you can’t learn in a classroom.” — Lily Feng, PharmD student, who recently completed a rotation at Kaiser Permanente
INPATIENT CARE ROTATION: CEDARS-SINAI

At Cedars-Sinai, the largest freestanding, independent, nonprofit medical center in the Western United States, pharmacy students interact with attending physicians, pharmacists, case managers, nurses, fellows, residents and medical students.

Student rotations offered at Cedars-Sinai include acute care/medicine, infectious diseases, critical care, transplantation medicine and transitions of care, which ensures medication accuracy throughout the entire inpatient experience, from admission to discharge. Students review prior-to-admission medication lists to find inaccuracies; in addition to talking with patients and their families, the process often involves communication with physicians’ offices, transferring facilities and pharmacies. The students then continue to monitor and reconcile medications at every level of care within the medical center, as well as after discharge.

“Every student should have the opportunity for patient education,” says Tram Cat, PharmD, education coordinator at the Cedars-Sinai Department of Pharmacy Services. “Usually that involves discharge counseling of patients’ medications when they go home.”

“I’ve always encouraged students to be involved in taking histories, including allergy histories, and teaching patients about their anticoagulants, but we are trying to increase that interaction — especially for patients who need to take drugs when they go home,” says Chief Pharmacy Officer Rita Shane, PharmD ’78.

“I feel like every patient is unique and helps us see how much we’ve learned at school, and how it really does make a difference,” says PharmD student Sanam Roufeh, who recently completed a Cedars-Sinai rotation.

Roufeh was pleased to find that her suggestions were heeded by doctors, nurses and patients. “For example, I had a patient who could have benefited highly from a statin therapy but left the hospital without one,” she recalls. “We recommended it, and they implemented it.”

“It’s rewarding to see the recommendations being taken and see how we’re making a meaningful impact on patients’ lives to help optimize the best medication regimen,” adds PharmD student Rachel Banafsheh.

Like the USC School of Pharmacy, Cedars-Sinai was a pioneer in embracing the pharmacist’s crucial role in the healthcare team — years before Senate Bill 493 recognized that fact in legislation.

“Pharmacists have long had the opportunity to practice at the highest level of their license in our organization, simply because they’ve been able to work with our medical staff to get approval for dosing under protocol and be supported in medication management in many, many ways,” says Shane.

That support extends to students on rotations at the medical center.

“By the end of the rotation, my goal is to have students be confident in what they’re doing and have excellent clinical skills to provide the best recommendations for the patients so they can optimize their regimen and feel confident to provide their recommendations to physicians,” says Olga Zaitseva, PharmD, a clinical pharmacist in transitions of care at Cedars-Sinai.

“It’s a privilege to watch them grow and become better healthcare practitioners,” adds Zaitseva. “They have a chance to apply all the knowledge that they learn in the classroom to real life and treat real patients. And my patients have expressed gratitude to the students when they realize how much they have learned from them.”

AMBULATORY CARE ROTATION:
KAISER PERMANENTE

Kaiser Permanente offers pharmacy rotations in outpatient care, including asthma, acute care, pediatrics, anticoagulation, cardiology, nephrology, pain management and pediatric oncology, at several Southern California locations. Students can also choose rotations in administration to gain business and management experience, in inpatient and critical care and in nine different pharmacies.

Scott Takahashi, PharmD ’89, a Kaiser Permanente pediatric ambulatory care pharmacist, emphasizes with students the importance of communication. “They become versed in how to communicate with patients from different cultures — from the Spanish-speaking population of East Los Angeles to the people from Korea and the Middle East who reside in Glendale,” he says.
Takahashi, who has mentored students as a preceptor for 25 years, believes that the ability to counsel and interview patients is crucial to being an effective pharmacist. While counseling is about ensuring that patients understand their medications and take them properly, interviewing is about the pharmacist understanding the patient’s circumstances, notes Takahashi. This helps pharmacists speak in ways that let the patient understand why the medication is important to their health. “It’s all about medication therapy management,” he says.

PharmD student Lily Feng was rotating through the anticoagulant service and congestive heart failure clinic when she learned that not all healthcare providers understand the importance of the pharmacist’s medication therapy management (MTM) role. She discovered that a patient had been discharged from another hospital with no instructions about the proper use of the medicines prescribed. “I took that as a chance to explain and educate them,” she says. She ensured that the patient knew how to take the prescription properly.

Kaiser primarily welcomes fourth-year USC students to rotations, but also accepts some second- and third-year students. Takahashi has advice for first-year students: “Get an intern job and work the hours,” he says. “It’s hard to work every weekend, but it’s really worth it in terms of what you gain, and in terms of how easy it is to get through classes. And when you come into rotation you’re going to be prepared to work with your preceptors side by side.”

With so many rotations available, Feng believes students should explore areas in which they are less knowledgeable “so you can learn it before you graduate.” She adds, “Being in a rotation teaches skills you can’t learn in a classroom.”

COMMUNITY ROTATION: RALPHS PHARMACY
During the Ralphs community pharmacy rotation, School of Pharmacy students and residents enjoy extensive interaction with patients in a community setting. Students also consult with physicians’ offices, administer immunizations, provide health screenings and assist with Ralphs’ new travel health clinic.

PharmD student Anet Minassian has learned that community pharmacy settings are about much more than filling prescriptions and she is enjoying expanding her abilities. “I was giving flu shots and performing MTM, so I could employ all my drug-interaction knowledge.” And, she says, “I really like interacting with patients.”

“It’s one thing to sit in a classroom and learn the textbook cases. It’s another thing to actually have a patient come in and get to know them,” says Karin Kharloubian, PharmD ’15, a USC community pharmacy resident at Ralphs. “Now that I’ve finished my PharmD, I get to apply everything I’ve learned and put it all together.”

Dikran Parsekyan, PharmD ’00, chief pharmacist at Ralphs in Sherman Oaks, says that pharmacists’ responsibilities have come a long way in the 15 years since he earned his degree. “When I graduated, flu shots were relatively new in the pharmacy, and we started cholesterol screenings about 10 years ago,” he says. “We’ve seen a big transition in the mindset of pharmacists as well as patients. People now just expect more clinical services from the pharmacy.”

The entire pharmacy team at Ralphs helps prepare students for this spectrum of responsibilities. “We go through the whole gamut, from filling prescriptions, doing the clinical services and the business aspect. We show them about ordering and how to keep the inventory at a good level,” says Parsekyan.

Salpi Yaghoubian, PharmD, patient care coordinator for the Ralphs site in Sherman Oaks, says that students work alongside pharmacists from day one. “Anything that we as pharmacists are involved in, we try to integrate students and residents,” she says. “If I’m going to have a conversation with a patient about a disease state, I involve a student or resident. Students may not expect that from a community pharmacy rotation.”

Minassian says her Ralphs rotation is a valuable experience with supportive mentors. “I’m learning how to resolve problems, how to work directly with patients — and my preceptors have been really helpful.”
“I’m learning how to resolve problems, how to work directly with patients — and my preceptors have been really helpful.” Anet Minassian, PharmD student, giving a patient a vaccination during her rotation at Ralphs
As a world leader in pharmacy education, the USC School of Pharmacy attracts students, faculty and administrators who want to leap forward in their careers or emulate its successful programs to help others get a head start.

Many universities outside the U.S. offer only undergraduate or master’s-level training for pharmacists, limiting research experiences and career options for graduates. International faculty and administrators have increasingly sought help from USC to develop doctoral pharmacy degrees at their own institutions, while students visit to gain experience in labs and see the inner workings of American pharmacy practice.

This year’s guests from around the world were warmly welcomed by Associate Dean of Global Initiatives and Technology Michael Z. Wincor, as well as by School faculty, students and alumni. They got an inside view of clinics, labs and community pharmacies, listened to informative lectures and enjoyed some Los Angeles-style entertainment. The following is a glimpse of just some of the international action at the School of Pharmacy over the last year.
Several Brazilian pharmacy students came to the School to collaborate with faculty in labs as part of the Brazil Scientific Mobility Program. The prestigious one- to two-year exchange program, funded by the Brazilian government, allows students pursuing degrees in science, technology, engineering and mathematics (STEM) fields to spend time studying at top U.S. universities.

Ana Beatriz Cantuaria da Silva worked in Professor Daryl Davies’ lab, where she assisted with electrophysiological investigations of pharmaceuticals that may be used to treat alcohol abuse. “I was able to learn how to inject DNA/RNA in *Xenopus* oocytes [frog ova], how the equipment works, how to handle the oocytes the right way and how to collect the results,” she says. “This experience was essential for the development of my education. I have grown so much, not just as a professional but as a person, too.”

Another student in the program, Leticia Diniz Guimaraes, worked in the lab of Associate Professor Ian Haworth, where she had her first exposure to computational chemistry. “This was a completely different focus from what I’ve done in the past,” she says. “I hope I can continue to explore it.”

“At home, I just do theoretical work. Here, I actually did experiments,” says Lorena Chaves, who worked on a biochemistry project with Davies and USC graduate student Daniel Freire. “Once I graduate, my USC experience will influence my pharmacy practice, for sure.”
China

南京 [Mandarin]

Three students from China Pharmaceutical University spent several months at USC this year, learning about drug development and regulation in customized classes through the School’s International Center for Regulatory Science.

In turn, the center sent 13 doctoral students to China and other Asian countries to study those regions’ regulatory and commercial systems. Four other graduate students accompanied center faculty to Binhai, China, where they presented regulatory information for food and drug agency personnel.

In addition, the center hosted several visiting scholars this year, including Yang Cao, PhD, a department chair in the School of International Pharmaceutical Business at China Pharmaceutical University, and Yingfeng Zhu, an evaluator with the Shanghai Food and Drug Administration.

Cyprus

Kıbrıs [Turkish]

In 2014, the Accreditation Council for Pharmacy Education certified the MPharm degree program at Near East University (NEU), on the eastern Mediterranean island nation of Cyprus.

The head of NEU’s Faculty of Pharmacy, Mehmet Ilker Gelisen, spent a month at USC over the summer, observing the School’s clinical and regulatory science programs and learning about the curriculum and teaching methodologies. Gelisen also discussed potential future collaborations with Wincor and Professor Frances Richmond, director of the International Center for Regulatory Science.

Denmark

Danmark [Danish]

The School’s International Center for Regulatory Science continued talks this summer to develop a cooperative relationship with Copenhagen University’s new MS program in regulatory science.

Germany

Deutschland [German]

This fall, Wincor logged thousands more frequent-flyer miles as he traveled to Düsseldorf for the 75th annual meeting of the International Pharmaceutical Federation (FIP). Wincor serves as an elected member of the FIP.
Academic Pharmacy Section Executive Committee and represented the School at the meeting’s Global Deans Forum.

HONG KONG

Vivian Lee, PharmD ’98, relocated to Hong Kong to become a professor after graduating from the USC School of Pharmacy. This summer she returned to campus, along with 13 of her fourth-year pharmacy students.

Lee says that Hong Kong is “a few paces behind countries with developed clinical pharmacy research and teaching,” and she hopes that visits like these, along with her advocacy, will help advance the profession in the region, particularly in allowing pharmacists to take on more clinically focused roles.

“In the United States, there are protocols that allow the pharmacist to adjust prescriptions. In Hong Kong, pharmacists are not able to do that,” explains visiting student Li Hong “Esther” Kiu.

Another student, Wong Chi “Wilson” Ho, says his favorite part of the program was the in-depth case conferences with USC students and residents, allowing a deeper look at disease states and the entire health status of the patient.

“I want to be a clinical pharmacist in oncology. But that’s still in development in Hong Kong,” says Ho. “I hope this aspect will become more developed when I start to work.”

Along with tours of USC’s clinical sites, the students enjoyed time in Santa Monica, on the beach and strolling down the pier.

As Ho puts it, “I really liked those waves.”

IRELAND

Shauna Warren is pursuing a bachelor of pharmacy degree at the School of Pharmacy & Pharmaceutical Sciences at Trinity College in Dublin. She spent the summer months at USC in the lab of Professor Clay Wang, whose work focuses on natural product drug discovery.

ITALY

Two pharmacy students from the University of Calabria had the chance to work with Associate Professor James Adams over the summer. Filomena Perri and Adriana Coricello assisted Adams in his studies of compounds made from native California plants that may provide future pharmaceuticals to treat a number of disorders, from eczema to stroke.
Also visiting from Italy was Arianna Romani, a doctoral student from the Department of Biomedical and Specialist Surgical Sciences, Section of Medicinal Biochemistry, Molecular Biology and Genetics, at the University of Ferrara. Romani studied in the labs of Enrique Cadenas, Charles Krown/Pharmacy Alumni Professor in Pharmaceutical Sciences, and Roberta Diaz Brinton, R. Pete Vanderveen Chair in Therapeutic Discovery and Development.

**JAPAN**

日本 [Japanese]

Two faculty members and 14 students traveled from Tokyo University of Pharmacy and Life Sciences to USC for a two-week program at the School that focused on American pharmacy practice and clinical pharmacy education.

The School has active partnerships with five Japanese universities and each year sends USC students to partner schools through various programs. John Carlson, who earned a BS in biochemistry and a BA in East Asian languages and cultures from USC in 2014, is studying regulatory science in a yearlong exchange program at Waseda University in Tokyo as part of his master’s program in regulatory science.

USC faculty also participate in exchanges. For example, Wincor heads to Japan about once a year for a stint teaching in partner pharmacy schools.

**KOREA**

대한민국 [Korean]

The School’s International Center for Regulatory Science this year hosted Kwon-soo Kim, a scientific officer and reviewer for the Korean Ministry of Food and Drug Safety.

The center also held its second annual Summerfest in July. Students from Sungkyunkwan University in Seoul were among the 30 students from Asian countries who toured USC facilities and participated in regulatory science courses during the month-long event.

The Korean students joined an international group from USC that attended an L.A. Dodgers game for a genuinely American experience.

Preceptor Ken Thai, PharmD ’02, shows Dr. Mehmet Ilker Gelisen from the Near East University in Cyprus and visiting students from Taiwan how his pharmacy operates.
AN AMERICAN PHARMACY STUDENT IN JAPAN

While USC was hosting pharmacy students from abroad, a USC pharmacy student had an international experience of his own. Jarett Gatchalian spent several weeks in Japan as part of the competitive International Pharmaceutical Students’ Federation exchange program, which has facilitated international study for nearly 70 years.

Gatchalian says that in the cities of Fukuoka and Kyoto he had chances to observe the daily life of a pharmacist and learn how pharmacy works in hospital, community, industry and wholesale settings. He notes that Japanese pharmacists have fewer patient care privileges — for instance, they cannot administer vaccinations — but they must master Kanpou, or Chinese herbal medicine. “They have whole pharmacies dedicated to Chinese medicine instead of Western medicine,” he says.

The experience was a positive one for Gatchalian. “The memories I made will always be dear to me because of the people I met. I definitely recommend that students go to Japan if they have the chance.”
NEW FELLOWSHIP SUPPORTS STUDENT RESEARCH

When he was a student, Jerry Chang, PharmD ’08, MS in Pharmaceutical Economics and Policy ’11, received a fellowship that was presented to him by then Dean R. Pete Vanderveen.

“I always remember receiving that fellowship and how it impacted me,” says Chang, now vice president of business services for PharMedQuest, a healthcare management company located in Brea, Calif. Now he wants to help other students receive a similar opportunity.

Chang and Associate Professor Jeffrey McCombs, with whom he has stayed in touch, began discussing the idea of creating a fellowship sponsored by PharMedQuest. Chang recognized that the management process developed by PharMedQuest, called ARC™, presented a wealth of distinctive data that if mined properly could provide valuable information on specialty drug management — and a valuable research experience for select students from the health economics graduate program at the School of Pharmacy.

Together, Chang and McCombs designed a two-year, pre-doctoral fellowship that aims to examine the cost and value of a given treatment to a patient regimen. As part of the fellowship, the student will write a publication focusing on specialty drug management and present posters at the annual meetings of the International Society for Pharmacoeconomics and Outcomes Research and the Academy of Managed Care Pharmacy.

Duane Saikami, PharmD ’85, MBA, co-founder and chief operations officer of PharMedQuest, approved fellowship support of $112,000, and student Cho Han Lee received the inaugural award. Lee started his fellowship in August and will focus his research on specialty drug management.

“With Dr. Chang as the on-site mentor, our student will have an opportunity to pursue original research evaluating therapies that are added to a patient regimen and how they really affect the patient,” says McCombs. “This is valuable information for providers, payers and patients.”

TRANSFER RETIREMENT PLAN ASSETS TAX-FREE

Avoid Double Taxation

Retirement accounts such as IRAs, 401(k) plans and 403(b) plans can be subject to double taxation — both ordinary income tax and estate tax — meaning that more than 60 percent can go to taxes if left to your heirs.

Retirement plan assets left to USC will transfer tax-free. In planning your estate, consider leaving USC your retirement plan assets and leaving more favorably taxed assets to your family.

Did You Know?

Most retirement accounts allow the owner to select beneficiaries to receive the plan assets remaining at death. To designate USC as a beneficiary, contact your plan’s account administrator.

Lifetime withdrawals, even for charitable gifts, are typically treated as taxable income. Proposed changes to federal tax law may allow for future tax-free distributions made directly to USC or other charities. Please check with the Office of Gift Planning for up-to-date information.

The USC Office of Gift Planning is a valuable resource to any member of the Trojan Family considering a gift to USC. For more information or to meet with a gift planning officer, call 213-740-2682, email giftplanning@usc.edu or visit usc.plannedgiving.org.
With the continuing evolution of the pharmacy profession toward direct patient care, the School is working with pharmacists in various settings to experiment with new models of care and evaluate their efficacy. One current project focuses on comprehensive medication therapy management.

Jean-Francois Ly, PharmD ’00, is collaborating with the School to test the model in the community. Ly made a $90,000 gift to support the demonstration project and offered the use of one of his pharmacies: Mercy Medical Center Pharmacy, in Santa Ana, Calif. The project makes it possible for first-year ambulatory care residents to work with community pharmacists in the development of a comprehensive medication management program.

Residents evaluate the impact on patient outcomes and physician prescribing. Of special note, they also analyze how physicians react to pharmacist recommendations regarding drug therapy changes.

“We’re exploring how to best work with patients and physicians in the community to ensure optimal drug therapy,” says Assistant Professor Rory O’Callaghan, who oversees the MTM project. “We’re fortunate to have a community pharmacist, like Dr. Ly, to pilot these projects with us.”

Each year, the USC School of Pharmacy loses some prospective students to other institutions even though USC is their first choice for their PharmD studies. The reason? The School does not yet have sufficient endowment support to offer any student a full-ride scholarship.

With the high cost of graduate education nationally — and the increasing debt burden many students face upon commencement — the reality is that scholarship support, especially full-tuition benefits, makes a meaningful difference in students’ choice of institution. In this competitive admissions arena, building the endowment for student scholarships is more important than ever.

How you can help

The School needs to build a robust endowment to support scholarships for our PharmD program. Even small gifts — when combined with support from other like-minded, generous donors — can add up to have a significant impact on the School and its students. Whether you can endow and name a full scholarship on your own, or as part of a class reunion challenge, or can contribute $100 to a larger effort, your support in any amount does make a difference.

To learn more about scholarship needs at the School, contact Joann Tusia at tusia@usc.edu or 323-442-0162, or visit pharmacyschool.usc.edu/giving/making-a-gift.

**SCHOOL OF PHARMACY SCHOLARSHIP GOALS**

$25 million

SUPPORTING recruitment scholarships, diversity scholarships, need-based scholarships and merit scholarships
HEALTHCARE ANALYSIS DEGREE THE RIGHT DECISION

The USC School of Pharmacy’s new master’s program in healthcare decision analysis (HCDA) seems to have been tailor-made for Patrick Gless, its first graduate.

As a medic in the Army Reserve, Gless encountered military doctors who were unhappy with their civilian practices. “This stunned me,” he says, but it began a fascination with the complexities and shortcomings of healthcare in the U.S. and foreign countries that would reorient his career.

His passion became analyzing and addressing healthcare’s most vexing problems — especially the challenges of getting innovative technologies to market — and led to his job as an associate director in the Los Angeles office of the consulting firm Precision Health Economics.

“With rapid advances in the development of breakthrough medical technologies, the future of healthcare holds tremendous promise,” says Gless. To realize that promise, he believes healthcare professionals need the tools and experience provided by the master of science in HCDA.

Gless learned not only from the curriculum’s focus on analyzing complex, real-world issues but also from the quality and diversity of lecturers and fellow students. On any given day, the classroom consisted of an interdisciplinary group of professionals representing a cross section of the industry, from private payers to pharmaceutical and medical device manufacturers. The range of expertise resulted in something akin to a “well-crafted advisory board,” Gless says, directly benefiting the work he does now on behalf of clients.

“Mr. Gless is a very distinguished first graduate of our program,” says Grant Lawless, HCDA director. “This program meets an unmet global demand for professionals like him who are able to navigate at the intersection of health economics, policy and business intelligence to advance therapeutic value, access and reimbursement.”

Becoming the first graduate of the program is just the latest in Gless’ rise from a patriotic teenager with no particular career aspirations to a respected healthcare industry analyst.

The 9/11 terrorist attacks motivated him, at age 17, to join the Army Reserve — the only branch of the military that would allow him to enlist before turning 18. “I was eager to join the fight,” he says.

Gless became a combat medic less because of an interest in healthcare than due to thinking it would improve his chances of deployment to a combat zone. He got his wish in 2004, when he was sent to East Africa on a U.S. military campaign to deny safe haven to terrorist organizations.

He learned of his second deployment while sitting in a public policy lecture at USC. It was fall of his junior year in the USC Price School of Public Policy, where he was pursuing a degree in public policy, management and planning with a concentration in health policy and management.

He finished the fall semester, then spent all of 2009 in Iraq with a unit supporting redevelopment and counter insurgency efforts, including development of Iraqi healthcare organizations.

After returning to USC to complete his undergraduate degree, Gless earned his master of health administration from the Price School. Just before finishing that degree he got the offer at Precision Health Economics.

“For a health policy enthusiast, this was a dream offer that continues to afford me the opportunity to professionally pursue my passion for analyzing and addressing healthcare’s most complex problems,” he says.

Gless, who was honorably discharged from military service in 2014, says the primary impetus for entering the HCDA master’s program was to augment his existing knowledge and specialized focus within the life sciences industry.

“Enrolling in the HCDA program was an opportunity to gain additional insights into the life-cycle management challenges of new and existing medical technologies.”
GOODIS RECEIVES PRESIDENT’S AWARD

Eileen Goodis, PharmD ’77, received the 2015 President’s Award from the USC Alumni Association at a ceremony in September at Town & Gown. The award, which honors exemplary leadership, service, achievement and overall contributions to the university, went to just six alumni this year. Goodis is a member of the USC School of Pharmacy Board of Councilors and an adjunct clinical professor. She and her husband, Eric Strom, MD, support the school financially as well; the couple has endowed a scholarship and contributed to translational research.

QSAD CENTURION 2016 WINTER RETREAT

Save the dates and join us for a special continuing pharmacy education seminar at the Omni Rancho Las Palmas Resort and Spa in Rancho Mirage, Calif., January 29–31, 2016. The eight-hour program has been developed to assist pharmacists by providing comprehensive knowledge in several key aspects of pharmacy practice. This year’s program features Interim Dean Glen Stimmel, Associate Professor Jason Doctor, Professor Julie Dopheid, Associate Professor Cynthia L. Lieu and Professor Bradley Williams.

THE SKILLS THEY WILL HELP BUILD FOR PARTICIPANTS INCLUDE:

- Determining which symptoms indicate likelihood of post-traumatic stress disorder and decide upon the best, most cost-effective, evidence-based treatments, as well as counsel patients on what to expect from prescribed medications
- Addressing treatment options for sexual dysfunction in men and women
- Integrating the use of prebiotics, probiotics and nutrition to improve the gut microbiota
- Providing potential prevention and treatment strategies to reduce the risk for Alzheimer’s disease
- Describing treatment options for opioid- and alcohol-use disorders

The weekend kicks off with a welcoming reception Friday night before sessions begin Saturday morning. The event is present by QSAD Centurion, the premier support group of the USC School of Pharmacy.

For more information, call 323-442-1360 or email stanovich@usc.edu.

IN MEMORIAM: BENJAMIN MARGOLIS

Benjamin Margolis, PharmD, JD, died in July at the age of 70. For the past 10 years, he shared his expertise as both a pharmacist and a lawyer with USC students in the Pharmacy, Law and Ethics course. Originally from Philadelphia, he earned his PharmD degree from the USC School of Pharmacy in 1969 and his law degree from Southwestern University School Law in 1984. Margolis is survived by his wife, Lea, and son, Jay.

ALUMNI UPDATES

Andrea Cooper, PharmD ’95, MPH, has been named assistant dean for pharmacy and industry relations and professor of practice at the Keck Graduate Institute School of Pharmacy in Claremont, Calif.

Scott Evans, PharmD ’98, was named CEO of Sharp Grossmont Hospital in La Mesa, Calif.

Cesar Medina, DRSc ’15, published an article in Therapeutic Innovation & Regulatory Science in September about ways to incentivize quality in pharmaceutical manufacturing.

Reyna Raya, PharmD ’15, a 52-year-old mother who returned to college and pursued her dream of earning a graduate degree despite battling an aggressive form of breast cancer, was featured on NBC News and Telemundo.

Jeff Stone, PharmD ’81, was elected in 2014 to serve as a state senator representing the 28th Senate District in Southern California. His district stretches from southwest Riverside County (Temecula, Murrieta and Lake Elsinore) all the way to the Arizona border. He is the only pharmacist currently serving in the California state legislature. He continues to own and operate Innovative Compounding Pharmacy in Temecula, Calif.

Pamela Tarlow, PharmD ’81, a preceptor and adjunct faculty member for the School of Pharmacy, authored a free online continuing education program, available on POWER-PAK CE, that introduces homeopathic medicine to pharmacy professionals. She also participated in a precepting panel at the California Pharmacists Association’s Academies Weekend in Orange, Calif., in September.
FACULTY UPDATES

James Adams, PhD, presented his work on the treatment of severe pain using a linear assembly made from a native California plant at the Omics International Pain Medicine Conference in Chicago in June; and was quoted by the Associated Press in July about the clinical history of Quaaludes in light of Bill Cosby’s legal testimony.

Liana Asatryan, PhD, was awarded a $3,200 grant from the 2015–16 Undergraduate Research Associates Program for her project on the role of P2X7 receptor antagonists in alcohol-related brain damage.

Melvin Baron, PharmD, was awarded a $35,000 USC Good Neighbors Grant for his fotonovela on immunizations; and gave a talk at the USC Norris Comprehensive Cancer Center in October on the development of fotonovelas for low-literacy Latinos.

Paul Beringer, PharmD, was awarded a $75,425 grant from the Gilead Respiratory Medical Affairs Sub Team for his project on pharmacist-directed medication management of cystic fibrosis patients; and he and Annie Wong-Beringer and collaborators published an article in the Journal of Antimicrobial Chemotherapy in October on a novel macrocyclic peptide for use with cystic fibrosis patients.

Kathleen Hill Besinque, PharmD, MSED, completed the American Association of Colleges of Pharmacy (AACP) Leadership Program in July; and was quoted by The Sacramento Bee in August regarding California giving pharmacists the ability to prescribe birth control.

Roberta Diaz Brinton, PhD, R. Pete Vanderveen Chair in Therapeutic Discovery and Development, was quoted by Yahoo! News, ABC News and The New York Times in June about why more women than men are diagnosed with Alzheimer’s disease; was quoted by The Washington Post, NBC News and CBS News in July about her research on Alzheimer’s disease; was quoted by KERA News: Breakthroughs in August about how starting hormone therapy as soon as estrogen levels drop due to menopause can help avoid risks of dementia; gave a presentation at the Global Technology Community CNS Disease World Summit in Philadelphia in September; and spoke at the annual luncheon celebrating Los Angeles Magazine’s “The L.A. Woman” issue in September.

Julio Camarero, PhD, presented his work on peptide discovery at IBC Life Sciences’ annual TIDES conference in San Diego in May; and was awarded a $325,875 National Institutes of Health grant for his project on using microprotein scaffolds to screen protein–protein antagonists.

Steven Chen, PharmD, chair of the Titus Family Department and William A. and Josephine A. Heeres Chair in Community Pharmacy, participated in a University of California, San Francisco Center for Excellence in Primary Care webinar in May on integrating pharmacy care into primary care; gave a presentation on improving Medicare Advantage Part D ratings at the Topics in Healthcare Symposium in Los Angeles in June; and, as a featured speaker, gave a presentation on team-based care at the Regional Patient Advocacy Leaders Summit in Sacramento in September.

Roger Clemens, DrPH, was quoted by The Washington Post and Fox News in April about McDonald’s eliminating sodium phosphates from its chicken recipes; was quoted by USA Today and Headlines & Global News about the cost of removing trans fats from packaged foods in June; was interviewed by KCBS-AM San Francisco in June about the decision by General Mills to remove artificial dyes from its foods; and was quoted by The Washington Post in August about the lack of clinical evidence supporting juice cleanses.

Daryl Davies, PhD, participated in the National Science Foundation (NSF)-funded Summer Research Programs at the USC Biomimetic MicroElectronic Systems Engineering Research Center.

Jason Doctor, PhD, was quoted by KPCC-FM and interviewed by Al Jazeera America in June about the political debate over physician-assisted suicide; was quoted by Pasadena Star-News in June about a California bill that allows physicians to prescribe drugs that end life; was quoted by the Los Angeles Times in August about prescription drug prices; and presented at the Outpatient Antibiotic Stewardship Meeting at the Pew Charitable Trust in Washington, D.C., in October. The states of Illinois, New York, North Carolina and Washington are implementing statewide “Precious Drugs & Scary Bugs” campaigns that use a behavioral science and policy approach developed by Doctor and his team.

Julie Dopheide, PharmD, director of continuing professional development and director of the PGY2 Psychiatric Pharmacy Residency, was named “Faculty of the Year” by fourth-year PharmD students; and was appointed to the Psychiatric Pharmacy Specialty Council by the Board of Pharmacy Specialties Board of Directors.

Melissa Durham, PharmD, gave a presentation on teaming with clinical pharmacists for chronic pain management at the American Pain Society’s Annual Scientific Meeting in Palm Springs, Calif., in May; participated in a roundtable on revisions to the admissions process at the AACP annual meeting in National Harbor, Md., in July; and gave a presentation on managing chronic pain in patients with addiction at PAINWeek in Las Vegas in September.

Etienne Gaudette, PhD, co-authored a joint Brookings Institution and USC Schaeffer Center for Health Policy & Economics report on strengthening Medicare for beneficiaries through 2030.
FACULTY UPDATES

Dana Goldman, PhD, Leonard D. Schaeffer Director’s Chair, was featured in The New York Times in May for his research that found that hospitals’ productivity has grown more rapidly in recent years than in prior ones; co-authored a joint Brookings Institution and USC Schaeffer Center for Health Policy & Economics report on strengthening Medicare for beneficiaries through 2030; co-authored an article on the Health Affairs blog in September regarding ways for the pharmaceutical industry to move beyond a price-per-dose model; gave a presentation in Washington, D.C., in October at a policy forum focusing on the future of specialty drugs that was jointly organized by political website The Hill and the USC Schaeffer Center; co-authored a report published by the National Academies of Science on the increasing gap in life expectancy between the highest and lowest income earners, and its ramifications for public programs.

Ian Haworth, PhD, was named “Faculty of the Year” by first-year PharmD students; and co-presented a workshop on “Roles for TAs in the Sciences” in October for the USC Center for Excellence in Teaching and the USC School of Pharmacy Excellence in Teaching Committee.

Joel Hay, PhD, was quoted by American Public Media’s Marketplace in May about the potential health benefits to seniors following the acquisition by CVS of long-term-care company Omnicare; was quoted by the Los Angeles Times in September about the role that generics play in keeping prescription drug costs down; and was interviewed on BYU Radio in September about drug prices.

Geoffrey Joyce, PhD, appeared on Al Jazeera America’s Inside Story in October to discuss pharmaceutical pricing.

Darius Lakdawalla, PhD, Quintiles Chair in Pharmaceutical Development and Regulatory Innovation, authored an op-ed for The New York Times in September about how drug price controls end up costing patients their health; co-authored an article on the Health Affairs blog in September regarding ways for the pharmaceutical industry to move beyond a price-per-dose model; spoke to AJMC TV in September about the cost and value of breakthrough therapies; and gave a presentation in Washington, D.C., in October at a policy forum focusing on the future of specialty drugs that was jointly organized by political website The Hill and the USC Schaeffer Center.

Cynthia Lieu, PharmD, presented “Nutritional Support Pharmacy” and “What Type of Pharmacist Are You?” and participated in a pharmacy admissions panel at the 13th annual UC Davis Pre-Health Student Alliance Pre-Medical and Pre-Health Professions National Conference in Davis, Calif., in October.

Stan Louie, PharmD, director of the Clinical Experimental Therapeutics Program, was awarded a $120,000 Ming Hsieh grant in cancer nanotechnology for her work on nanoparticle formulations of Mas agonists for chemotherapy; gave a presentation on developing an interdisciplinary, translational workforce in biomedical research at the 2015 AACP annual meeting, in National Harbor, Md., in July; and completed the AACP Academic Research Fellows Program.

Jeannie Shih, PhD, University Professor and Boyd & Elsie Welin Professor, presented at and co-chaired the Annual International Meeting of the Society for Chinese Bioscientists of America in Taiwan in June.

Neeraj Sood, PharmD, was featured by The New York Times in May regarding his research finding that hospitals’ productivity has grown more rapidly in recent years than in prior ones.

Glen Stimmel, PharmD, John Stauffer Dean’s Chair, testified before the California Board of Pharmacy in Sacramento in July about patient counseling by pharmacists as the board considers revisions to regulations; and published an article in the National Community Pharmacists Association Journal in October about counseling adult patients taking medications for psychiatric disorders.
**FACULTY UPDATES**

**Fred G. Weissman**, PharmD, JD, gave a presentation about laws affecting physician/pharmacist relationships at a California Academy of Attorneys for Health Care Professionals conference in Redondo Beach, Calif., in October.

**Bradley Williams**, PharmD, was quoted by *Le Matin Dimanche* (Switzerland) in July about the use of antipsychotics in nursing homes.

**Michael Wincor**, PharmD, associate dean for technology and global initiatives, was named “Faculty of the Year” by second-year PharmD students.

**Annie Wong-Beringer**, PharmD, was awarded a $153,531 grant from Forest Pharmaceuticals for her study of the effects of the antibiotic ceftaroline on immunity against *Staphylococcus aureus*; She and Paul Beringer and collaborators published an article in the *Journal of Antimicrobial Chemotherapy* in October.

**Jianming Xie**, PhD, was awarded a one-year, $20,000 institutional research grant from the American Cancer Society for a project to monitor antigen cross-presentation by genetically encoded unnatural amino acids.

**Yong (Tiger) Zhang**, PhD, was awarded a $120,000 Ming Hsieh grant in cancer nanotechnology for his project on engineering exosome nanoparticles for targeted cancer therapies; and presented his research on the design of humanized agonist antibodies at the Discovery on Target annual meeting in Boston in September.

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**PHI DELTA CHI POSTHUMOUSLY HONORS RON ALKANA**

National pharmacy fraternity Phi Delta Chi awarded its 2014-15 Outstanding Chapter Advisor Award to the late Ron Alkana at the organization’s 70th Grand Council in Albuquerque, N.M. The award honored his “preeminent contributions” as faculty advisor to the fraternity’s Omicron chapter at USC. Alkana served as associate dean for graduate affairs and interdisciplinary programs at the USC School of Pharmacy until his death in 2014 at the age of 68. The announcement of his name as the national honoree brought a standing ovation from the audience.

“Dr. Alkana, the professor, was a brilliant man who had a knack for explaining difficult and complex concepts to students,” Ali Zanial, PharmD ’14, former Omicron chapter president, wrote in the letter nominating Alkana. “He was the embodiment of what it meant to be a brother of Phi Delta Chi. He had a special ability to play multiple roles, and play them well. The fraternity and student body at USC will never forget Dr. Alkana for his contributions as a professor, advisor, mentor and, most importantly, our friend, and we will miss him dearly.”

Also at the conference, the USC Omicron chapter, which was founded in 1909, received the 100% Achievement Award. Phi Delta Chi strives to advance the science of pharmacy and foster a fraternal spirit among its members.

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**FACULTY PUBLICATIONS**

The popular fotonovelas by Associate Professor *Mel Baron* are the subject of the cover feature of a recent edition of *Academic Pharmacy Now*. The journal’s third issue of 2015 chronicles Baron’s continuing efforts to increase health literacy in the Latino community by combining soap-opera storytelling techniques with photography in a comic-book format. “More than 15 years [after the first fotonovela’s publication], these stories, and the important messages about preventive healthcare they illustrate, continue to resonate with the Latino community,” the article noted. The publication is the news magazine of the American Association of Colleges of Pharmacy.

Associate Professor *James Adams* co-edited the new book *Cardiovascular and Metabolic Disease: Scientific Discoveries and New Therapies*, published by the Royal Society of Chemistry. He was also profiled in the July/August 2015 issue of *Awareness* magazine. The article mentions the third edition of his book, *Healing with Medicinal Plants of the West*. “Dr. Adams is a walking encyclopedia, bringing alive both his western training in pharmacology and his training in the traditional healing ways of the Chumash,” wrote reporter Christopher Nyerges.
WILLIAMS ADDS GERIATRIC PRACTICE

Professor of Clinical Pharmacy Bradley Williams has added another geriatric practice to his busy roster, which includes directing the Education and Information Core of the USC Alzheimer Disease Research Center. Williams devotes one day each week to providing services in the Family Medicine Clinic at the USC Healthcare Consultation Center II. He is part of a team recently awarded a $2.5 million grant by the Health Resources and Services Administration to create a primary care workforce with interdisciplinary expertise in treating elderly patients.

NEW FACULTY HIRES

Naomi Florea, PharmD '01, has been appointed vice chair of innovation and associate professor in the Titus Family Department of Clinical Pharmacy. Florea comes to USC from the Loma Linda University School of Pharmacy, where she chaired the experiential and continuing education program and served as an associate professor in the infectious disease department. While on faculty at Loma Linda, Florea was named Professor of the Year eight times and Preceptor of the Year once. The university also honored her with the Spiritual Life and Wholeness Award in 2011 and the Loma Linda University Global Service Award in 2015. She conducted her research fellowship in infectious diseases pharmacotherapy at Hartford Hospital’s Center for Anti-Infective Research and Development in Hartford, Conn.

Houda Alachkar, PhD, PharmD, has joined the USC School of Pharmacy as an assistant professor. Her research applies genomic information to the identification and functional characterization of cancer targets, as well as to the preclinical and clinical developments of potential targeted therapeutic approaches. She is especially focused on treatments for acute myeloid leukemia. Alachkar received her PharmD degree from Ohio Northern University in 2011 and her PhD in biomedical sciences from Ohio State University in 2012. She performed her fellowship in clinical pharmacology and pharmacogenomics at the University of Chicago.

Newly appointed Assistant Professor Nada Abou-Karam, PharmD, previously served as a continuum of care resident pharmacist at Sharp Healthcare in San Diego. In addition to hospital readmission and acute care utilization prediction modeling, her research explores methods to optimize medication reconciliation, patient engagement, and student and practitioner engagement in professional legislative advocacy. Abou-Karam earned her PharmD from the University of Minnesota College of Pharmacy, where she graduated with an emphasis in leadership. She completed her PGY-1 pharmacy practice residency at United Hospital in St. Paul, Minn. As a Sharp HealthCare–Touro University PGY-2 resident, she collaborated with interdisciplinary teams to develop and implement novel transitions of care services in areas including trauma and psychiatry.

IRVING STEINBERG: THEN AND NOW

On September 1, Associate Professor Irving Steinberg marked his 30th anniversary at the USC School of Pharmacy and the LAC+USC Medical Center. Throughout these decades he has been dedicated to students and patients, serving as associate professor of Clinical Pharmacy and Pediatrics and directing the Division of Pediatric Pharmacotherapy at LAC+USC Medical Center. As he enters his fourth decade at the university, Steinberg remains as committed and energetic as ever, and still makes a daily impact on the health of the children in his clinic. He is beloved by students and medical residents as a classroom and bedside teacher and an Advanced Pharmacy Practice Experience pediatrics preceptor. In addition to his academic and clinical consultation work, he is a longstanding member of numerous committees, including the Pharmacy and Therapeutics Committee and the Antimicrobial and Medication Safety Subcommittees, and is current president of the School’s Pharmacy Faculty Council.

“Achieving professional perfection is impossible,” says Steinberg, “and the pursuit of it is endless.”
Meet the PharmD Class of 2019

Eliza Asherian, PharmD candidate, received a Provost Fellowship, which provides her with a stipend while she is a research assistant in the lab of Professor Daryl Davies.

Jordan Despanie, PhD candidate, was awarded a two-year training grant from the USC Clinical and Translational Science Institute for his project on enhancing drug synergy in breast cancer.

Zhen Meng, PhD candidate, received a poster award and was a selected speaker at the Salivary Glands and Exocrine Biology Gordon Research Conference in Galveston, Texas.

BY THE NUMBERS

189 MEMBERS OF THE ENTERING CLASS

829 APPLICANTS

3.5 AVERAGE UNDERGRADUATE GPA

MARKET COMPETITION

The elective course “Pharmaceutical Development and Commercialization” mirrors the challenges of commerce by requiring student teams to compete in developing and presenting a comprehensive plan for a new pharmaceutical product. Ed Lieskov, PharmD ’85, MBA, teaches and coordinates the course, which is offered each spring. The most recent class took on the task of late-stage development and commercialization of a new agent to treat non-small cell lung cancer.

Each team’s members assumed the roles of chief financial officer, chief medical officer, chief science officer, senior vice president of clinical development, senior vice president of regulatory affairs, vice president of international relations, and vice president of marketing and sales. The teams then presented their completed plans to a panel of judges from industry and academia.

The winning team was led by Karen Kowalski as the senior vice president of clinical development. Others on the team include Timothy Liu, Anet Melkomian, Christy Harutunian, Derrick Kwok, Dorothy Jin and Heidi Chung.

Winning team members Timothy Liu, Derrick Kwok, Anet Melkomian, Adjunct Professor Ed Lieskov, Dorothy Jin, Karen Kowalski, Christy Harutunian and Heidi Chung
With the theme of Breakthrough Therapies in Immunology, the 14th annual Moving Targets Symposium addressed how to overcome regulatory hurdles in harnessing the immune system to treat neurological disorders, infectious diseases and cancer, and a range of other topics from stem cells and drug delivery in the central nervous system to global health and infectious diseases.

The USC chapter of the American Association of Pharmaceutical Scientists (AAPS) presents this daylong research symposium each year, enabling students to engage with some of the world’s foremost healthcare authorities in a collegial setting. The 2015 event attracted nearly 240 students, scientists, and representatives from industry and the academy — the largest attendance in the history of Moving Targets.

The AAPS-USC student organizing committee for this year’s symposium was led by Chair Alick Tan with Vice Chair Aarti Mishra, Treasurer Julianna Chen, Secretary Menglu Han, Social Chair Yvette Wang and Communications Chair Joshua Chen. Assistant Professor J. Andrew MacKay again served as faculty advisor.

Attendees came from USC as well as throughout the University of California and California State University systems, the California Institute of Technology, the Sanford Burnham Prebys Medical Discovery Institute and Children’s Hospital Los Angeles. USC participants came from the Norris Comprehensive Cancer Center and the Keck School of Medicine, as well as the School of Pharmacy. In addition, 11 students in the USC Science, Technology and Research (STAR) program attended.

Roberta Diaz Brinton, the R. Pete Vanderveen Chair in Therapeutic Discovery and Development at the School of Pharmacy and director of the Norris Foundation Laboratory for Neuroscience Research, delivered the keynote address, “Immune System Transitions: Targets of Therapeutic Opportunity.”

The symposium attracted speakers from MD Anderson Cancer Center, University of California, Irvine, University of Washington, Amgen, Denali Therapeutics, MRIGlobal and Kite Pharma.

The event sparked overwhelming praise from participants. “In agreeing to speak, I had hoped to impart some of my experience and knowledge to the attendees,” says Gene Olinger, principal science advisor at MRIGlobal, who spoke about crossing the blood-brain barrier for neurotherapeutics. “Reflecting, I realize now that the topics and engagement of the other speakers and students clearly provided me with greater knowledge and understanding than I contributed.”

Partow Kebriaei, associate professor in the Department of Stem Cell Transplant and Cellular Therapy at MD Anderson Cancer Center, adds: “It was a wonderful and thought-provoking conference because it was cleverly designed to be cross-disciplinary and it allowed for maximum student-faculty interaction.”

Graduate and postgraduate students participated in poster competitions that awarded cash prizes to top presenters. School of Pharmacy PhD candidate Li Zhou received a graduate student award for “Developing Recombinant Single-Chain Fc Dimer Fusion Proteins for Protein Drug Delivery.” The other winners were Melanie Pribisko from Caltech in the postdoctoral category, and Julia Rose Taylor and Priyamvada Jayaprakash, who represented the Keck School of Medicine in the graduate student category.
SCHWEITZER FELLOWS CREATE CURRICULUM FOR UPWARD BOUND

USC School of Pharmacy PhD students Irene Chen and Chioma Nwozuzu earned Albert Schweitzer Fellowships for a project that opens up healthcare opportunities to disadvantaged teens. Chen and Nwozuzu were among just 15 students in Los Angeles chosen as this year’s fellows. Fellows support a summer outreach program for students from underprivileged neighborhoods with the aim of igniting interest in future healthcare careers.

When applying for the Schweitzer fellowship, Nwozuzu wanted to propose a project for high school students but felt hampered by a lack of teaching experience. Chen filled that gap, having taught science and health in the South Bronx through Teach for America before coming to USC.

“Many of my students would miss class because of health issues like asthma and diabetes,” says Chen. “Looking around their neighborhoods, there were only bodegas selling unhealthy foods.”

For their project, Chen and Nwozuzu designed and implemented a curriculum for the summer Upward Bound Math/Science Program at USC. The five-week residential program is designed for students from low-income families in which neither parent holds a college degree, helping prepare them for college success.

Chen and Nwozuzu led two-hour sessions, five days a week. Their curriculum included presentations by various health professionals on topics such as medicine as a career and the evolving role of the pharmacist on the healthcare team.

Their course attracted numerous speakers from the School of Pharmacy, across USC and throughout the community who gave students a sense of the possibilities within health professions. Steven Chen, William A. and Josephine A. Heeres Chair in Community Pharmacy, discussed how

PharmD students Joo Hye Lee and Mia Mackowski presented posters at meetings of the American Society of Health-System Pharmacists (ASHP) and California Society of Health-System Pharmacists (CSHP). Their projects, “Impact of Student Pharmacist Interventions in an Interprofessional Student-Run Clinic” and “Patients’ Satisfaction with and Preference for Interdisciplinary Team Care at USC Student-Run Clinics” drew from student experiences and extensive patient surveys. The results showed that, through interprofessional collaboration, pharmacy students can achieve meaningful medication interventions, help improve outcomes and enhance patient satisfaction at a time when physicians are overburdened. Lee and Mackowski are members of the class of 2017.

Nhat Huynh, a student in the laboratory of Professor Daryl Davies, was the presenting author of the poster “Moxidectin Reduces Ethanol Intake in Female C57BL/6J Mice Across Different Drinking Paradigms” at the Society of Neuroscience conference in October, attended by more than 28,000 individuals. Other authors of the poster were Davies; undergraduates Natalie Arabian and Jamie Thuy; Liana Asatryan, research assistant professor, Titus Family Department of Clinical Pharmacy; Stan Louie, associate professor, Titus Family Department; and Michael Jakowec, associate professor of Neurology, Keck School of Medicine.

Sheraz Khoja, another student in Davies’ lab, also presented at the Society of Neuroscience conference with the poster “Role of Purinergic P2X4 Receptors in Regulating Signaling Cascades and Behaviors Dependent upon Dopamine Receptor Activity.” Davies, Asatryan and Jakowec served as co-authors on the poster.


Davies’ group presented another poster on the moxidectin research at the American Association of Pharmaceutical Scientists (AAPS) annual meeting in October. Their work was selected to be part of the first-ever AAPS blog, which highlighted the team’s research during the conference.
STUDENT UPDATES

STUDENT WINS KROWN FELLOWSHIP

Doctoral student Anna Papinska has been awarded the 2015–16 Krown Fellowship, a $10,000 award honoring research, publications, mentoring and academic achievement. Papinska won for her research project “Activation of Mas Receptor as a New Approach to Treat Diabetic Heart Disease.” Papinska is a dual-degree candidate at the School of Pharmacy, pursuing a PhD in Pharmaceutical Sciences and a MS in Management of Drug Development under the mentorship of Associate Professor Kathleen Rodgers. She aspires to work in industry, preferably in pre-clinical drug safety assessment.

Of her work on new treatments for Type 2 diabetes-related complications, she says: “Heart disease is the No. 1 killer in the U.S., and diabetes is one of the major risk factors for developing cardiovascular dysfunction. Diabetes is also the main cause of kidney failure and dialysis in the U.S. [Current] treatments are focused primarily at lowering the blood glucose levels. However, patients whose hyperglycemia is under control still suffer from severe complications. Our goal is to develop a new medication that targets other pathological mechanisms leading to diabetes-related pathologies that will improve the overall welfare of diabetic patients.”

The Krown Fellowship, an annual competition for graduate students at the USC School of Pharmacy, honors Charles Krown, a leader in both retail and manufacturing pharmacy. Applicants must be full-time PhD students in the School, have been first author on at least one published peer-reviewed paper, have advanced to candidacy and maintain a 3.5 GPA.

THE POETRY OF PUBLISHING

PharmD candidate Ruth Madievsky’s book of poetry, Emergency Brake, has been selected for publication by Tavern Books through its second annual Wrolstad Contemporary Poetry Series. The publisher calls Madievsky’s debut full-length collection “a book of fervent wondering that explores the body in ecstasy, in dailiness and in trauma.” The collection will be published in paperback and hardcover in January 2016.

Born in Moldova, Madievsky is expected to receive her PharmD in 2017. She also works as a research assistant at a Downtown Los Angeles HIV clinic specializing in maternal care. Her writing has appeared in Los Angeles Magazine and numerous literary publications.

The Wrolstad Contemporary Poetry Series is open to submissions from women up to age 40 who are U.S. citizens.

LEGISLATIVE DAY 2015

State Senator Jeff Stone, PharmD ‘81 — the California legislature’s only pharmacist — and Assemblymember Anthony Rendon spoke at the School’s annual Legislative Day, which focused on implementation of Senate Bill 493. Kethen So, PharmD, of the California Society of Health-System Pharmacists, and Brian Warren of the California Pharmacists Association (CPHA), shared their organization’s perspectives. Former dean R. Pete Vanderveen discussed the bill’s impetus and physician Michael Hochman explained why he supports an expanded role for pharmacists. Adjunct Professor Ed Lieskovskn addressed the law’s impact on industry.

A panel discussion featured the aforementioned speakers and Michael Lyon, PharmD/MBA, Ralphs, and Victor Law, RPh. Supporters included the California Korean American Pharmacists Association, CPhA, Ralphs, South Bay/Long Beach Society of Health-System Pharmacists and San Gabriel Valley Pharmacists Association.
DO YOU REMEMBER?

After serving the USC School of Pharmacy as a faculty member and administrator, John “Jack” Schlegel, PharmD, headed the American Association of Colleges of Pharmacy and became president and CEO of the American Pharmacists Association. He’s shown here (middle) in the original pharmacy location on the University Park Campus, in the basement of the Student Union Building, circa late 1960s/early 1970s. Can you help identify his colleagues?

Correction: In the Spring 2015 issue’s Photo Shop entry, Steven Howard of the Class of 1979 was incorrectly identified as Paul Hepp.
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Many of you helped send students and faculty to such places as India, Belize and Mexico on service-learning trips that allowed the USC School of Pharmacy to provide screenings, treatments and health education to some of the world’s neediest populations. These opportunities also provide invaluable training for our students as primary care providers.

Now, the School needs your support to launch a Global Health Initiative that builds on these past experiences and formalizes global outreach and training for optimal impact. The inaugural trip in summer 2016 will take students and faculty to a high-need area in Romania, where they will collaborate with local physicians and pharmacists to deliver care to 1,000 people over two weeks.

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