PEDAL TO THE METAL
How the School’s faculty, alumni and students are driving the future of pharmacy
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On the cover: (from left) Arthur Rupchian, Shannon Sullivan, Ena-Ahasi Inyang, Kimberly Moore and Suk Yun Oh—all class of 2016—with Dean Pete Vanderveen

To the right: Ying Wang, one of the USC School of Pharmacy’s three full-time clinical pharmacists at QueenCare Family Clinics, a model for the School’s innovative work in safety-net clinics.

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 partnership with other health professionals as well as new breakthroughs in care. It also is the only school of pharmacy that owns and operates three pharmacies.

The School is home to the International Center for Regulatory Science at USC, and is a partner in the Leonard D. Schaeffer Center for Health Policy and 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.

Rx 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.
For more than a century, the USC School of Pharmacy has actively been an accelerant of change for the profession with the ultimate objective of improving health outcomes for people everywhere. Our cover story highlights just a few ways our faculty, students and alumni are increasing the velocity of the profession’s impact.
It may seem unusual for the dean of the nation’s top private pharmacy school to be shown racing across the cover of that school’s magazine. Yet it seems an apt way to signal a new path forward—not just for the USC School of Pharmacy but, more importantly, for advancing the field of pharmacy itself.

We are entering a challenging but exciting new era in health care, one in which the pharmacist must play an increasingly vital and recognized role. The USC School of Pharmacy has long been not just a proponent of that shift in gear, but also an active force steering the profession toward greater influence and impact as a key driver of optimal health for patients everywhere. Thus, for the new name of our redesigned magazine, we chose to play on the word “results”—combining it with the familiar Rx. It has been proven time and again that engaging a pharmacist as an integral part of the health care team is a prescription for improved patient outcomes.

Our cover story demonstrates how the School continues to set the pace with groundbreaking research, innovations in clinical care and forward-looking educational advances that are accelerating the profession’s impact on society. You’ll learn more about how our faculty, students and alumni are blazing new trails in pharmacy—from the discovery of a new class of ovarian cancer drugs that may revolutionize treatment of that deadly disease to an interdisciplinary education model that is fueling a new approach for training tomorrow’s health professionals.

In these pages, you will also read about the extraordinary career of Leonard Schaeffer, who recently committed $25 million to endow and support the Leonard D. Schaeffer Center for Health Policy and Economics, a collaboration between our School and the USC Price School of Public Policy. This leadership gift—the largest in our School’s history—will strengthen the Schaeffer Center’s continuing efforts to find answers to today’s, and tomorrow’s, most pressing health care challenges.

This net forward momentum is paving the road for what ultimately gives me the most hope of all—the quality and dedication of our students. Their passion will drive the future of our profession. There is no turning back.

R. Pete Vanderveen, PhD, RPh
John Stauffer Decanal Chair in Pharmaceutical Sciences
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Pharmacy Today Covers MTM Initiative

The September 2012 issue of Pharmacy Today devoted its cover story to the USC Medication Therapy and Safety Initiative, which provides medication therapy management (MTM) and clinical services to the vulnerable in some of Los Angeles’ most impoverished neighborhoods. The article profiles Steven Chen, PharmD, associate professor and Hygeia Centennial Chair in Clinical Pharmacy, who manages USC’s clinical pharmacists as they provide vital care in safety-net clinics.

The School began working with safety-net clinics in 2002 under the direction of the late Kathleen Johnson, PharmD ’78, MPH, PhD, vice dean of Clinical Affairs and Outcomes Sciences and chair of the Titus Family Department. Since launching the collaborations, the School has tracked and published the impact of clinical pharmacy services on health care quality, which shows substantial improvements in disease control, as well as cost containment, when a pharmacist is integrated into the health care team.

Over the past eight years, with more than $15 million in grants to the School for the program, participating pharmacists have logged 45,000 individual MTM visits for patients with hypertension, diabetes, dyslipidemia, chronic heart failure, anticoagulation and other conditions. The program also provides ideal training for students and residents in caring for a diverse population and addressing a wide range of diseases and conditions, the article noted.

In addition to freeing up physicians to deliver more care and helping improve patient outcomes, the program demonstrates the cost savings that are achieved when pharmacists take a more direct part in care. The article highlighted data from two clinic partners, QueensCare Family Clinics and the Center for Community Health, showing that the pharmacist’s role was associated with a 75 percent reduction in annual medication costs.

The benefits are incalculable—both to the people helped and to the advancement of the pharmacy profession itself through the data collected.

For more about the program, see the related story on page 26.
Bay Area Offering

Busy San Francisco-area professionals can now benefit from USC Regulatory Science courses in person without traveling to Southern California. The USC School of Pharmacy has begun offering core courses in Mountain View, Calif., enabling Bay Area residents to take master’s degree and graduate certificate classes in this increasingly vital field.

“We are excited about expanding and partnering with Bay Area pharmaceutical, biotech and medical device firms to bring new opportunities to students and professionals in Northern California,” says Frances Richmond, PhD, director of the Regulatory Science Program and the International Center for Regulatory Science at the USC School of Pharmacy. Richmond notes that USC Regulatory Science graduates are in great demand among top employers, as the biomedical industry’s rapid growth has fueled a large demand for regulatory professionals, both nationally and internationally—a demand that, except through USC, remains largely unmet.

Courses at the Mountain View location will be offered throughout the year. They include: Introduction to Medical Product Regulation—an overview of the profession that examines how agencies and companies interrelate—Regulation of Drugs and Medical Devices, Quality Assurance, and Structure and Management of Clinical Trials, which focuses on real-life clinical situations and challenges. The latter includes a distance-learning module. Courses are offered on weekends to accommodate students’ schedules.

The Regulatory Science program’s extensive online offerings also are available to Bay Area students, who will have the opportunity to create a hybrid education plan suited to their individual needs. In fact, the program now enables all students to “move back and forth seamlessly between distance courses and live courses at our locations in San Francisco or Los Angeles,” says Richmond. Classes are open to those who have not yet been admitted to a formal program, and credit for all coursework will apply to the master’s or certificate programs if students decide to pursue either option.

“In financial markets, we ask if banks are too big to fail. When it comes to health care, perhaps we should ask if insurers are too small to succeed.”

—Dana Goldman, director of the Leonard D. Schaeffer Center for Health Policy and Economics, in an op-ed he co-authored in The New York Times on a potential pitfall of the Affordable Care Act’s implementation
Lakdawalla Named Quintiles Chair

After an exhaustive national search, Darius Lakdawalla, PhD, has been chosen as inaugural holder of the Quintiles Chair in Pharmaceutical Development and Regulatory Innovation. The Quintiles Chair was established in 2011 to support breakthrough scholarship and research at the intersection of health economics and regulatory policy. It enables USC to proactively address shifts in the regulatory environment for biopharmaceutical products in today’s global marketplace, identifying efficiencies that facilitate the arrival of products to market in the most expeditious, cost-effective way while also maintaining vital safety standards.

Dean R. Pete Vanderveen says of Lakdawalla, “He is uniquely experienced in both health economics and regulatory policy, which will allow him to lead our work that will ultimately promote innovation in health.”

Lakdawalla joined USC in 2009, when the university established the Leonard D. Schaeffer Center for Health Policy and Economics, a collaborative enterprise of the USC School of Pharmacy and the USC Price School of Public Policy. Having originally joined the university as a professor at the Price School, Lakdawalla now adds a primary appointment at the School of Pharmacy to his USC experience.

The School of Pharmacy also houses the USC International Center for Regulatory Science, which will interface with Lakdawalla in his new role.

Lakdawalla’s research focuses on understanding the long-term consequences of health policy and regulation for medical innovation and for future generations of patients. His work has investigated intellectual property and marketing in the pharmaceutical industry, regulatory exclusivity for drug makers, the design of incentives for medical innovation, the long-term impact of pharmaceutical price regulation, and the appropriate role of physician and drug-maker liability in the health care system.

He also serves as a research associate with the National Bureau of Economic Research in Cambridge, Mass., and as an associate editor at the Review of Economics and Statistics. His work has been referenced by the Congressional Budget Office and published in such leading journals as Health Affairs, Medical Care, Journal of Public Economics, New England Journal of Medicine and Archives of Internal Medicine.

In addition to the Quintiles Chair in Pharmaceutical Development and Regulatory Innovation, Quintiles also supports the Quintiles International Lecture Series at the Schaeffer Center.

The USC School of Pharmacy has opened a third pharmacy, which is adjacent to the new USC Engemann Student Health Center on the northwest corner of the University Park campus.

“Through our pharmacies on both campuses, we are committed to providing convenient services for the university and broader community,” says Dean R. Pete Vanderveen. “Our new pharmacy by the Engemann Student Health Center will help ensure we are able to do just that.”

**STATINS IMPROVE HEALTH, REDUCE COST**

Cholesterol-lowering statins represent a breakthrough in treating cardiovascular disease, according to a study published in Health Affairs and co-authored by Dana Goldman and Darius Lakdawalla of the USC Leonard D. Schaeffer Center for Health Policy and Economics.

The study concluded that increased use of statins would lead to greater longevity and health benefits, as well as economic advantages. The researchers estimated the aggregate social value of statins would have been $1.252 trillion between 1987 and 2008. As a comparison, the U.S. spent $2.3 trillion in health care in 2008 alone.
California Pharmacists Elect Hill-Besinque President

“We are in a time of unprecedented change in our health care system.”

California Pharmacists Association (CPhA) members have elected Kathleen Hill-Besinque as president of the organization’s Executive Committee for the 2013 term. She takes office at the CPhA annual meeting in March.

“We are in a time of unprecedented change in our health care system,” says Hill-Besinque, assistant dean for Curriculum and Assessment and director of Experiential Programs at the USC School of Pharmacy. “CPhA is in a leadership and advocacy position to ensure that pharmacists and pharmacy services are enhanced as a result of these changes.”

An expert on women’s health, Hill-Besinque is a frequent media voice concerning emergency contraception and is also a specialist in menopause therapies. Other professional organizations for which she has served as a board member include the California Society of Health-System Pharmacists, the Southern California Society of Health-System Pharmacists and the Association of Reproductive Health Professionals.

Other faculty members holding leadership positions within CPhA are Melissa Durham, who chairs CPhA’s Academy of Pharmacy Educators, and Jeffery Goad, a board trustee for the Academy of Pharmacy Educators.

School Adds Managed Care Residency

The USC School of Pharmacy’s new post-graduate residency program in managed care educates at the nexus of health care and the economy. The program trains students to ensure that patients achieve optimal health outcomes in a cost-effective manner by working in a range of areas, including formulary development, pharmacy benefit design, disease state management, patient and provider education, outcomes research and medication therapy management.

Vickie Pon, the program’s first resident, saw the USC managed care residency as a perfect fit for her post-graduate interests. “I decided to pursue a career in managed care because I wanted to be able to contribute positively to the most population groups,” says Pon, who received her PharmD at University of California, San Francisco, after earning her undergraduate degree at the California Institute of Technology.

“USC’s academic program, combined with the unique range of experiences afforded at CareMore, offered the best learning opportunity,” she says. “USC also provides great mentors, which I realized as soon as I interviewed here.”

At CareMore, Pon works with patients, performing medication therapy management, as well as interfacing with nurses and physicians. “I see myself staying with CareMore and working in managed care after completing my residency,” she says. “I hope to go on to a leadership track that integrates clinical pharmacy programs into various managed care models.”

Vickie Pon, the School of Pharmacy’s first managed care resident, is based at CareMore Health Plan in Cerritos, Calif., a patient-centered medical home based on the HMO model.
Schaeffer Donates $25 Million

Leonard D. Schaeffer has made a leadership gift of $25 million to endow and further support the USC Leonard D. Schaeffer Center for Health Policy and Economics. The gift bolsters the university’s commitment to developing policy solutions that help control spiraling health care costs while improving patient outcomes.

“Leonard Schaeffer has demonstrated a lifelong commitment to relevant, evidence-based health policy research,” says Dana Goldman, director of the Schaeffer Center and holder of the Norman Topping Chair in Medicine and Public Policy. “With this additional gift, he ensures that our mission of providing independent, innovative solutions to today’s health policy challenges will endure beyond the current era of health care reform.”

Established in 2009 with a gift from Schaeffer and his wife, Pamela, the Schaeffer Center is jointly housed at the USC School of Pharmacy and the USC Price School of Public Policy. It has rapidly developed into one of the nation’s premier policy institutions, with more than $45 million in external research funding, including research grants from the National Institutes of Health and the Centers for Medicare and Medicaid Services (CMS).

“the center is an integral part of the work at the USC School of Pharmacy, with research to identify best practices for medication therapy that efficiently produces optimal health outcomes,” says Dean R. Pete Vanderveen.

Research from the Schaeffer Center provides critical policy guidance and inventive solutions with the potential to transform health care systems. Research results—including novel analyses of preventive care, insurance competition, the fiscal future of Social Security and Medicare, co-payments and prescription drug adherence, and which medical specialties are most likely to face malpractice claims—are routinely published in top peer-reviewed journals and featured in leading media outlets, such as The Wall Street Journal, The New York Times, Politico and NPR. Schaeffer Center faculty members also deliver their research directly to policymakers through congressional and legislative testimony.

USC President C. L. Max Nikias adds, “As health care assumes an increasingly prominent place in public policy discussions, the USC Schaeffer Center will play an even more central role, while offering a uniquely interdisciplinary perspective.”

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— USC President C. L. Max Nikias

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Schaeffer is the founding chairman and past CEO of WellPoint, one of the nation’s largest health insurance companies. In addition to his philanthropy, he also serves USC as the Judge Robert Maclay Widney Chair and Professor. In May 2012, he received the Honorary Alumnus Award from the School of Pharmacy.

He says of his recent gift: “Our nation faces grave health and fiscal challenges. I support this center because its rigorous, independent and interdisciplinary research provides the foundation for designing effective policies to address these issues in both the public and private sectors.”

For more on Schaeffer, see the profile beginning on page 12.
The National Association of Chain Drug Stores Foundation presented Associate Professor Jeffery Goad with its Community Pharmacy Faculty Award at the 2012 Pharmacy and Technology Conference in Denver. The award, supported by Abbott’s Pharmaceutical Products Division, includes a $5,000 stipend for research in community pharmacy innovations.

Goad is a strong advocate for the role of pharmacists as immunization providers and has developed training programs to promote this function. He was instrumental in establishing USC’s community pharmacy residency program, which works to identify gaps in health care and use pharmacists to fill those needs. He also directs the USC International Travel Health Clinic, which provides health services to those in the USC community planning trips abroad. To expand this function nationally, Goad has partnered with Good Neighbor Pharmacy to train community pharmacists across the country to implement travel health services at their locations.

“Dr. Goad is the kind of leader who not only encourages his pharmacist colleagues and students to grow the role of community pharmacy by practicing at the highest level that our license allows, but he also furthers the profession through his work beyond the ‘walls of pharmacy,’ promoting the profession and our rightful place as the medication expert on the health care team,” says Dean R. Pete Vanderveen.

The USC School of Pharmacy reaffirmed its international leadership with the new Doctor of Pharmacy/MS in Global Medicine (PharmD/MSGM) dual degree in partnership with the Keck School of Medicine.

“Complementing our pharmacy curriculum with the Global Medicine program allows us to produce 21st century pharmacists with a unique global perspective,” says Ronald Alkana, associate dean of Graduate Affairs and Interdisciplinary Graduate Programs. The program examines the effects of disease, as well as the development of innovative solutions to address accompanying health and social issues to prevent global health crises.

Nassim Lashkari, a third-year PharmD student in the program, worked with a physician treating HIV-positive women and children in slum areas of India before coming to USC. She plans to return to this work with the added value of the PharmD/MSGM.

“My clinical work through the PharmD program in the safety-net clinics of Los Angeles has allowed me to work with vulnerable population groups, furthering my interest in and belief in the importance of cultural competency in garnering optimal health outcomes,” says Lashkari.
Global Reach

From active research partnerships and major conferences, to student exchanges and service learning opportunities, the USC School of Pharmacy provides international leadership and maintains ties with other universities and institutions around the world. This map provides a quick snapshot of the School’s global reach.
**CHINA:** In November 2012, Dean R. Pete Vanderveen and Frances Richmond—director of the School’s International Center for Regulatory Science—hosted Dean Shao Rong and other leaders from Chinese Pharmaceutical University.

**HONG KONG:** Glen Stimmel delivered the keynote address at the 12th annual Conference on Clinical Pharmacy in July 2012 in Hong Kong.

**AUSTRALIA:** Julio Camarero was invited to speak at the second International Conference on Circular Proteins in October 2012 in Gladstone, Queensland.

**INDIA:** Student Parth Parikh leads an annual project training Indian pharmacy students to offer clinical screening events to the public.

**CHINA:** Chinese National Academy of Sciences Peking University
In fall 2012, Leonard D. Schaeffer made a $25 million gift to endow the Leonard D. Schaeffer Center for Health Policy and Economics, a collaboration between the USC School of Pharmacy and the Price School of Public Policy. His gift is the largest in the School of Pharmacy’s history.
After apprenticing with his pharmacist father and contemplating a career in politics, Leonard D. Schaeffer distinguished himself in the public and private sectors. He oversaw creation of the Health Care Financing Administration, bringing Medicare and Medicaid under one roof. He grew one of the nation’s largest health insurers from $11 million to $49 billion. Today, the USC center that bears his name also shares his passion for challenging assumptions, advancing policy and reshaping the future of health care.

When Leonard D. Schaeffer was still in high school, he received a Registered Apprentice Pharmacist’s license from the state of Illinois, allowing him to work behind the counter of his father’s medical pharmacy on Chicago’s Gold Coast, near the medical center at Northwestern University.

“He ran an old-fashioned prescription pharmacy, making salves and filling capsules,” recalls Schaeffer. “The doctors at Northwestern really liked it, because he could make up whatever they needed.”

The elder Schaeffer—whose father was a doctor—maintained an easy rapport with the physicians, who frequently consulted with him and depended on his expertise to customize medications for their patients. He also counseled customers, serving as an authority on both the pharmaceuticals prescribed to them and on questions relating to their health status. Many called him “Doc,” remembers his son, who was often enlisted to make home deliveries.

“Both my parents were involved in helping people—my dad as a pharmacist and my mom as a social worker,” says Schaeffer. “They did it on a one-to-one basis. I got it into my head that if you were in a position to influence public policy, you could have a positive impact on lots of people. I wanted to have a broader impact.”

He enrolled at Princeton University, initially as a politics major—interning on Capitol Hill with Paul Douglas, the senior senator from Illinois and an influential mentor to Schaeffer—before switching to economics. “I realized that economics was probably a better basis for understanding public policy,” he explains. “It was a circuitous route.” After graduating in 1969, he returned to Chicago for a job with Arthur Andersen and worked on several political campaigns. “I learned a lot about politics, but decided I didn’t want to be a politician. Getting elected is not the only way to influence public policy.”

By age 27, he found himself doing just that, as deputy director of the Illinois Department of Mental Health. He soon was promoted to director of the Illinois Bureau of the Budget, where he earned a reputation for cost management.
After a brief stint as a vice president at Citibank, Schaeffer was approached to work on health reform at the federal level in the late 1970s. This led to his appointment as administrator of the Health Care Financing Administration, later renamed the Centers for Medicare and Medicaid Services. At the top of his to-do list was integrating the two giant health care organizations, which together employed 4,600 people across three scattered locations. He realized that a physical consolidation into a new space would help disrupt old patterns, create a new culture and build in efficiency from the start. To avoid objections, Schaeffer waited until Congress was out of session to move the offices into a new site in Baltimore.

“It never occurred to me that combining the administration of these two federal programs without explicit approval might be flouting legislative intent,” he recalls. He just knew what had to be done, so he did it. When Harvard’s Kennedy School of Government did a case study on his success in both government and in business, it was Schaeffer’s chutzpah in merging Medicare and Medicaid that the students and faculty found most fascinating.

In the mid-1980s, he was recruited as president and CEO of Blue Cross of California—predecessor of WellPoint Health Networks—and was again charged with a massive restructuring when the company was on the brink of bankruptcy. He turned it around and grew the company’s value from $11 million to $49 billion, changing its orientation from indemnity-based health insurance to managed care services. Also during this period came Schaeffer’s proudest achievement—creating a process for converting nonprofits into for-profit stockholder-owned entities and then giving stock to newly created foundations. “We ended up giving about $6.2 billion to charity,” he says. “I don’t think any other corporation has done that.”

Although his work has evolved dramatically since those early days in his father’s pharmacy, he says the apprentice pharmacist’s license has proven helpful throughout his career. “As I got more and more significant jobs in health care, having that pharmacy license and experience allowed me to say to health care professionals, ‘I’ve had some experience with patients,’” recalls Schaeffer. It demonstrated some understanding of the challenges faced by providers, and opened the door to discussing potential changes from the vantage point of mutual respect.

With both public and private experience and success to his credit, Schaeffer naturally has strong views on today’s health care environment. “Health care systems are not about health care,” he says. “They are about social values.” Schaeffer compares our American perspective with that of the UK, where it is “vitally important that everyone be treated ‘equally’ and that health care is free at the point of service. In the U.S., we’ve decided that health care belongs in the marketplace.” He adds that,
while Medicare was controversial when it was first established, it is now ingrained in our system, and that the American value structure also supports caring for the poor and disabled. “Everybody else in between … it’s up to them. It goes to the heart of American democracy because we’re all about individual rights.”

He adds that “the problem with the cost of health care is every cost is somebody’s income and somebody else’s treatment.”

So how would he improve the system? He suggests that we:

>> Shift the focus of prevention and wellness away from the health care delivery system. “Forty percent of ill health is a function of lifestyle. We need to start earlier, in schools, pharmacies and homes.”

>> Pay for results, not for units of service. “We need to provide patients with evidence-based care and reimburse for good outcomes.”

>> Change how we pay for care—paying for population health, not for individual services.

>> Empower patients to control how they die. “The last year of life is the most expensive in health care spending, typically resulting in poorer outcomes and poor quality of life.”

By endowing the Leonard D. Schaeffer Center for Health Policy and Economics at USC—a collaboration between the School of Pharmacy and the Price School of Public Policy—he sees an opportunity to influence health and economic policy through meaningful, independent research. “You’d be stunned at how little evidence there is in health care policy decisions,” he notes.

Schaeffer adds that, “If you look at the health care system, it’s the only part of our economy where the most highly trained and most expensive technical person [the physician] is at the base of the pyramid.”

He sees this as an opportunity for pharmacists, nurses and physician assistants to both triage and treat, with physicians focusing on those who need a physician’s expertise. In many ways, this approach to health care comes full circle, harkening back to the days when Schaeffer’s pharmacist father was trusted by both patients and physicians for his medication expertise and his counsel on health issues.

“Every other part of our economy is organized in this way,” he says. “It’s today’s health care that’s backwards.”

Regarding the Affordable Care Act, Schaeffer cautions that the decade-long implementation period for the complicated legislation will likely be mired in small section repeals and waivers, as well as difficulty with the large components that are left to the states. “The federal government, I believe mistakenly, delegated to the states the definition of what is an essential health benefit,” he explains. “So you’re going to have 50 different versions of that.”

While he acknowledges that the bill is associated with many pilot projects to identify ways to improve the quality of and access to care while reducing spending, he says these results may not come fast enough.

“It’s a great time for impacting public policy, a great time for the Schaeffer Center and a great time for the pharmacy world. It’s going to be a chaotic decade, but quite a ride.”

Read about Schaeffer’s $25 million gift to the USC Schaeffer Center on page 8.
ISAAC NEWTON’S SECOND LAW OF MOTION HOLDS THAT THE ACCELERATION OF AN OBJECT IS DIRECTLY PROPORTIONAL TO THE NET FORCE ACTING ON IT AND INVERSELY PROPORTIONAL TO ITS MASS.

For more than a century, the USC School of Pharmacy has actively been an accelerant of change and a powerful advocate for improving the health outcomes of people around the world—through groundbreaking research, clinical innovation and forward-looking educational advances.

HERE WE HIGHLIGHT JUST A FEW OF THE WAYS IN WHICH THE USC SCHOOL OF PHARMACY’S FACULTY, STUDENTS AND ALUMNI ARE INCREASING THE VELOCITY OF THEIR POSITIVE IMPACT ON SOCIETY.
a force of nature

BY KUKLA VERA AND SUSAN L. WAMPLER

THE NEED FOR SPEED » IRREVERSIBLE APPROACH » GO TROJAN TEAM

Eyeing the Finish Line » Putting the Brakes on Prostate Cancer » Driving Transplant Success

Igniting Initiative » Fueling America’s Innovation » Furthering Innovations in Care » Breaking Through Barriers
The Need for Speed

As a tennis player, Megan Yardley understands the importance of speed—but only when coordinated with strategy and precision in hitting the ball to its target. Yardley brings these same skills to her work on drug development. She has never shifted focus from her goal, although she did augment her course of study to achieve it.

Yardley originally entered the USC School of Pharmacy as a PhD candidate in Molecular Pharmacology and Toxicology. Once she was at USC, Associate Professor Daryl L. Davies encouraged her to enroll in the new Master's of Science in Management of Drug Development (MDD) offered through the School's Regulatory Science program. The 32-unit program trains scientists to find faster ways of getting new drugs from the research bench to the patients who need them, all while maintaining vital safety standards.

"There's an urgent medical/business need for professionals adept at innovating this process," says Davies, who directs the MDD program.

"The MDD gives me the opportunity to learn about the drug development process from discovery to clinical practice," says Yardley, who admits she "didn't fully understand what Regulatory Science was" before coming to USC.

She now pursues both degrees with equal diligence and the knowledge that each informs the other. "Because it takes so long—up to 20 years—from initial discovery to availability to patients, bench scientists often don't focus on steps beyond the discovery phase, and this can create major issues down the line," Yardley observes.

They look at such questions as: Does it cause depression? Aggression? How does it reduce alcohol intake? Does it cross the blood-brain barrier?

Research on alcoholism, led by both Davies and Professor Ronald Alkana, was what helped attract Yardley to USC in the first place. "Alcoholism has affected me personally," she says, recalling her father's struggles for sobriety.

A native of Bangor, Maine, Yardley did her undergraduate work at Stonehill College in Massachusetts and internships at Boston College and the Boston Veterans Hospital before moving to the sunny climes of Los Angeles to attend USC.

In addition to enjoying Southern California weather, Yardley appreciates the networking opportunities being a Trojan brings. "It's amazing all the ties people in Los Angeles have to USC," she says.

Her current apartment is even next to a tennis court. "Others in the program also play. It's a good way to let off steam."

—SLW

Left: PhD candidate Megan Yardley decided to simultaneously pursue the new Master's of Science in Management of Drug Development to give her the edge she needs to help expedite clinical delivery of laboratory breakthroughs.
Ovarian cancer frequently eludes diagnosis because its symptoms are vague and no standard screening test is available. In many patients, by the time of diagnosis the tumor has already metastasized. Mortality rates for the disease have not improved in four decades. Complicating matters is the resistance that ovarian cancer routinely builds up against the drugs currently used to treat it.

New hope may be on the horizon, thanks to pioneering work by PhD candidate Shili Xu in the laboratory of Nouri Neamati, PhD, professor of Pharmacology and Pharmaceutical Sciences. Early in vitro research on ovarian cancer cells, followed by studies in animal models, shows promise for a novel, more powerful and less toxic class of chemotherapy, called PACMA31.

The name refers to a class of compounds, propynoic acid carbamoyl methyl amides—abbreviated as PACMA—that was discovered by testing nearly 10,000 chemical compounds on cancer cells in Neamati’s lab. The research team—which includes Nicos Petasis, PhD, a professor of Chemistry in the USC Dornsife College of Letters, Arts and Sciences—synthesized more than 80 newly designed compounds and found one of them, PACMA31, to be extremely toxic to ovarian cancer cells. They patented the new drug and reported the findings in September in the Proceedings of the National Academy of Sciences (PNAS) with Xu as lead author.

The PNAS study shows that PACMA31 inhibits Protein Disulfide Isomerase (PDI), a protein highly expressed in ovarian cancer.

“Cancer cells proliferate fast,” Xu explains. “They have to synthesize a lot of proteins, and PDI is a key enzyme for maintaining structural integrity of newly synthesized proteins. Therefore, PDI is overexpressed in cancer cells. Inhibiting PDI results in cancer cell death.”

PACMA31 holds numerous advantages as a treatment. It can be taken orally and significantly accumulates in cancer cells, while having limited harmful side effects in normal tissues. It is also what is known as an “irreversible” drug—meaning that it permanently latches on to its target, PDI, and refuses to wear off until the protein is degraded. That irreversibility could translate into patients needing lower doses of drugs, says Xu.

Currently, two major types of drugs are used against ovarian cancer: paclitaxel, which hinders cancer cell division by inhibiting the disassembly of microtubules; and carboplatin, which binds to and causes crosslinking of DNA that results in cancer cell death.

Unfortunately, these treatments come with a serious drawback, in addition to their toxicity. “A majority of patients will eventually become drug-resistant to what’s available today,” says Xu. “That’s why we need new drugs for ovarian cancers.”

As PACMA31 employs a different strategy, it can bypass the resistance that patients’ bodies build up against paclitaxel or cisplatin.

“We are exploring combination studies in order to find synergy between our drug and first-line therapy for ovarian cancer,” says Neamati.

The team is also looking at ways to modify the structure of the compound to make it more potent and more active, which could eventually help lower the cost of cancer therapy as well, says Xu.

The drug even holds potential beyond treating ovarian cancer. “We have tried the compound on other cancer cells—breast, colon and lung—and it worked on all of them,” he says.

Even though PACMA31 requires more study and clinical trials—and may be years away from the marketplace—it holds great potential and so far shows no significant side effects.

“It seems to preferentially target tumors,” adds Xu.—SLW
The complexities of 21st century health care demand interdisciplinary teamwork to accelerate optimal patient outcomes. In typical Trojan fashion, schools across the university are working together to provide USC students with the education and experiences needed to become experts in their own field and in collaborating with other specialists. One such program, the Interprofessional Geriatrics Curriculum, achieves that while also helping chronically ill senior citizens.

Ask 91-year-old Filomena Flores and she will be happy to tell you what the program means to her. Flores welcomes her team of USC students to her home at Tres Lomas Garden, an affordable housing complex for the elderly located just north of downtown Los Angeles. Her visitors have come from seven different professional programs at USC: dentistry, medicine, occupational therapy, pharmacy, physician assistant, physical therapy and social work. A faculty mentor accompanies them. The meeting is the first in a series aimed at teaching students to work as a team as they examine the health issues facing Flores and identify ways to improve the quality of her care.

“Comprehensive geriatric care is best given by an interprofessional team,” observes Jo Marie Reilly, MD, co-director of the Keck School of Medicine Primary Care and Community Medicine Program.

Brad Williams, PharmD, CGP, professor at the School of Pharmacy, adds, “It’s also a great way to teach students how to function on an interprofessional team, and to understand the expertise from each discipline and how they inform each other.”

Williams and Reilly are among the program’s faculty mentors who guide students as they prepare to interact with patients and obtain the information necessary for creating a management plan that meets the multi-layered, complex health needs of the elderly.

“This is really a great way to understand what other professions provide, giving me insights as I offer the pharmacy perspective,” says pharmacy student Brian Chou.

Chou also serves as co-president of another interdisciplinary project at USC, the Student Run Clinic, along with Keck School of Medicine student Michael Toboni. Last December, Chou and Toboni were asked to present their work in a national webinar offered by the U.S. Health Resources and Services Administration—a testament to the growing interest in interdisciplinary teamwork as the best method of patient care.

“The pharmacy aspect pertaining to the patient is just one part of the big picture,” says Chou. “Each team member is able to elicit certain information that pertains to their respective profession, which collectively reveals pertinent medical and occupational issues.”

The Interprofessional Geriatrics Curriculum is one of many programs at USC supplying students with firsthand understanding of the importance of cross-disciplinary teamwork and the value each specialty brings to patient care. “Further, most accrediting organizations for the various schools are now requiring interdisciplinary learning as part of the curriculum,” says Kathleen Hill-Besinque, PharmD, MSEd, assistant dean for Curriculum and Assessment and director of Experiential Programs at the School of Pharmacy.

As students complete their first session with Flores, she holds the hands of two team members. “I look forward to our next meeting,” she says.—KV
Eyeing the Finish Line

Military personnel who sustain traumatic eye injuries during combat face myriad challenges to saving their vision—from lack of immediate access to advanced medical facilities to the arid Middle East climate reducing the effectiveness of eye drops and other treatments.

For the past three years, Assistant Professor Andrew MacKay has been developing elastin-like polymers designed to change the therapeutic delivery mechanism, retaining treatment on the eye’s surface for a longer period of time to stimulate lubrication and healing.

He and his colleagues, including co-investigator Sarah Hamm-Alvarez—executive vice dean and the Gavin S. Herbert Professor in Pharmaceutical Sciences—recently filed a full patent application and garnered a two-year, $250,000 grant from the Department of Defense’s Vision Research Program to move this work from in vitro to in vivo exploration. The award “supports the exploration of highly innovative, untested, high-risk/high-gain concepts, theories, paradigms, and/or methods” that address vision injuries among service members.

“The primary goal is to develop a novel targeted protein-based drug and delivery system that can be administered once by injection following acute ocular trauma,” explains MacKay.

“This will provide sustained release of therapeutics to initiate wound healing, sustain tissue lubrication in an arid environment and prevent further damage to delicate ocular surface tissue during transport to state-of-the-art medical facilities.”

Another key component of the team’s research includes investigation of nanoparticle-based drug delivery methods that would not require the therapeutic to be injected into the eye, but instead would allow it to be targeted for delivery through the bloodstream directly to the eye’s surface, where it would then be activated for release.

“This platform technology and specific approach are applicable to other chronic and acute diseases of the eye that do not respond effectively to topical eye drop administration, due to the need for frequent administration and poor patient compliance,” says MacKay.

These conditions include glaucoma, Sjögren’s syndrome, severe scleritis, peripheral ulcerative keratitis and mycotic keratitis, which collectively affect more than 3 million Americans each year.—SLW

Putting the Brakes on Prostate Cancer

Having already shown that inhibiting the monoamine oxidase-A enzyme (MAO-A) slows the acceleration of prostate cancer, University Professor Jean C. Shih now wants to put the brakes on the disease once and for all.

Shih’s research has a head start, as her lab was the first to successfully clone human MAO-A and MAO-B genes. That pioneering research is an important building block in the future development of new treatments for depression, aggression, anxiety and even autism.

“Since MAO-A inhibitors are already used to treat depression, we can expedite the testing of our hypothesis that these agents can also target prostate cancer cells,” says Shih, who holds the Boyd P. and Elsie D. Welin Professorship in Pharmaceutical Sciences. The study includes using optical imaging to follow an infrared drug dye as it moves within tumors to monitor their growth.

The U.S. Department of Defense saw the potential in this research and awarded her and co-investigator Bogdan Olenyuk, an assistant professor at the School, and colleagues from Cedars-Sinai Medical Center a three-year, $579,499 grant to support the investigation of exactly how MAO-A affects the progression of prostate cancer. The Defense Department made the award through its Prostate Cancer Research Program, which funds high-risk, high-impact research to speed up treatments for the disease.

If Shih and Olenyuk are right, the impact will indeed be enormous in targeting treatment to prostate cancer cells.

“Our goal is to translate research findings into the clinic,” Shih says. “Ultimately, our aim is to reduce or eliminate the suffering and death attributed to prostate cancer.”—SLW
Driving Transplant Success

While transplantation offers new hope to patients suffering organ failure, careful medication compliance is essential to their long-term health following these life-saving procedures. Immunosuppressive therapy helps prevent rejection of replacement organs and tissues, as well as infection.

“The average number of medications a transplant patient receives is between 10 and 15, sometimes up to 20,” says Raffi Svadjian, director of Transplant Pharmacy Services at the USC School of Pharmacy. “While a few of those may eventually come off their profile, they must remain on about 10 of those medications for the rest of their lives.”

To help patients manage the challenges of sticking with such a regimen, and to help monitor any adverse reactions or lack of efficacy in a particular individual, the USC School of Pharmacy has partnered with Keck Hospital of USC to maintain a continuum of care from pre-transplantation through long-term medication management.

“Our pharmacy calls each patient once a month to check if they need refills, answer any questions and determine if they are having any difficulties,” says Svadjian. “It helps us provide better customer service, increase compliance, alert transplantation coordinators and physicians of any potential medication issues, and improve patient outcomes.”

The number of transplants performed in the U.S. each year continues to grow—from 24,239 in 2001 to 28,537 in 2011—according to the Organ Procurement and Transplantation Network of the U.S. Health Resources and Services Administration. USC’s transplantation program is growing even more rapidly, increasing the need for long-term, coordinated medication management. In fiscal year 2012, USC surgeons performed 409 transplants, the largest number being 115 kidney transplants, followed by 79 liver transplants. In FY 2011, the total number of transplants was 320. USC also performs heart, lung and bone marrow transplantation.—SLW

Igniting Initiative

Eileen Goodis, PharmD ’77, combined her passion and expertise in the pharmacy profession with an innate entrepreneurial acumen—she ran her first enterprise, a neighborhood day camp, at age 10—to launch a number of businesses. They have included an institutional pharmacy company, a home infusion service started in the 1980s and a medication therapy management company she established the following decade.

“Pharmacists have such unique abilities,” she says. “No other health professional is trained to do what we do.” After earning her Doctor of Pharmacy degree, she completed a residency in consultant pharmacy, also at the USC School of Pharmacy.

Goodis credits that residency program as a life-changing experience that influenced her career direction and fostered her interest in expanding the role of the pharmacist in order to optimize patient outcomes.

“Anyone on three or more medications should have their own pharmacist,” says Goodis. She saw that need firsthand through her work with geriatric patients, who were often on more than a dozen drugs—which led in many instances to life-threatening medication interaction problems. In 1974, Medicare instituted mandatory monthly drug regimen reviews by a pharmacist for nursing-home patients to address this persistent problem, which started the field of “consultant pharmacy.”

“I soon realized that all patients on multiple medications, regardless of age, need to have regular drug regimen reviews,” says Goodis. New medication therapy management regulations may finally make this a reality.

With an eye toward advancing the profession’s future, Goodis has consistently shared her knowledge with students, providing rotations and paid internships at her companies. Her mentorship has inspired scores of new pharmacists over the years. In addition to providing hands-on opportunities, Goodis also teaches an entrepreneurial course at the School.

She and her husband, Eric Strom, MD, remain ardent supporters of the School, most recently endowing a scholarship. (See article on Widney Society, page 28.) Goodis has also funded translational research in addition to connecting the School with foundations for research support.

“My education at the USC School of Pharmacy was my steppingstone to wonderful entrepreneurial opportunities,” says Goodis. “I always tell students to not be afraid to step out. If you have an idea, think it through, write it up, present it to a mentor and test it out. You can accelerate your career and the profession, but you have to step out to do it.”—KV

Eric Strom, MD, and Eileen Goodis, PharmD ’77
Fueling America’s Innovation

An initiative by The Science Coalition (TSC) highlights USC School of Pharmacy faculty members Roberta Diaz Brinton and Andrew MacKay as two of the leading scientists fueling the nation’s innovation. The TSC campaign stresses how the crucial advances resulting from federally funded research pay dividends to society far beyond the initial investment.

In the video featuring Brinton—the R. Pete Vanderveen Chair in Therapeutic Discovery and Development—she discusses her efforts to better understand how Alzheimer’s disease affects women, who account for 68 percent of those with the condition. Instead of following the assumption that more women develop Alzheimer’s because they tend to live longer than men, Brinton explains, “Our research shows that it’s really the way the female brain ages that puts them at risk.”

Her discoveries have led to strategies for preventing the disease’s development, including an alternative to estrogen therapy that stops the brain from “switching over to the Alzheimer’s pathway” as it ages. This alternative carries the benefits of the therapy it replaces, without the risk factors to the breast or uterus.

McKay’s video addresses his use of nanomedicine to find complements and alternatives to radiation and chemotherapy in cancer treatment. “Our lab uses cells to generate very precise polymers that are made up of peptides like other proteins in your body,” he says, adding that the aim is to “build small devices that can operate inside the biological environment of the body.”

The result will be better-customized drugs that contain “an imaging component that allows us to directly detect how these drugs are distributed within patients,” says MacKay, an assistant professor at the School.

Brinton and MacKay are both conducting true bench-to-bedside research that, ultimately, will save lives. Alzheimer’s disease is the sixth leading cause of death in the nation, and cancer is the second.

The videos are available at innovators.sciencecoalition.org and on YouTube.—SLW

Furthering Innovations in Care

With more than a decade of service in safety-net clinics—and a commitment to expanding into a total of 24 such sites by the end of 2013—the USC School of Pharmacy has long been a leader in providing comprehensive clinical pharmacy care to those most in need. The School remains a vocal advocate for the impact such intervention plays in patient health as well as the resulting cost containment.

As testament to its leadership in this arena, the Center for Medicare and Medicaid Innovation awarded the School a $12 million grant to expand this work and to demonstrate and evaluate a model that uses pharmacists in primary care settings to cost effectively improve health outcomes and medication safety. Associate Professor Geoffrey Joyce is the co-principal investigator on the project, along with Martin Serota, MD, chief medical officer for AltaMed Health Services.

The Centers for Disease Control and Prevention (CDC) issued a report in August 2012 that underscored the growing recognition of the importance of having a pharmacist on the health care team. “Models of innovative care involving pharmacists can ultimately help alleviate demands on the health care system (e.g., access, safety, quality, cost, provider shortages, etc.) and improve patient outcomes.” The CDC found a return on investment as high as 12:1, with an average rate of return between 3:1 and 5:1. “This value is based on the ability of medication management services to reduce hospital admissions, use of unnecessary or inappropriate medications, emergency room admissions and overall physician visits,” the report noted.

USC’s project targets high-risk patients with difficult-to-achieve chronic disease control who receive individualized services from pharmacists. Patient outcomes are being measured against those of similar patients in other clinics not receiving pharmacist care, providing the data to demonstrate the program’s impact. “Our estimate of more than $40 million in return on investment is on the conservative side,” says Steve Chen, the Hygeia Centennial Chair in Clinical Pharmacy at the School, who is a co-investigator overseeing the clinical aspects of the project. Although the effort focuses on the underserved, Chen adds, “the results of this project will be applicable to any health care setting across the board. This work will advance the care provided to all Americans.”—SLW

Clinical pharmacist Michelle Lee and ambulatory care resident Tina Patel counsel a patient at a safety-net clinic.
Sometimes innovations come not through speed but through helping others tear down barriers in their own lives. PharmD candidate Amanda Wong is doing that and more in partnership with the Braille Institute in Los Angeles, where she provides counseling and workshops to help clients manage their medications and improve their health.

“Before my project, the Braille Institute participants were not aware of the many skills of pharmacists, such as providing screenings and vaccinations, or about the safety issues and risks that can occur with poor medication adherence,” says Wong.

Last spring, Wong earned a U.S. Albert Schweitzer Fellowship—one of only 250 nationwide. The fellowship provides a stipend that allowed her to expand the project she had already piloted, providing support to train other students and develop educational seminars and a health fair for Braille Institute clients.

She and her fellow students also offer individualized counseling, with clients bringing in their medications, vitamins and supplements. “If you just use your sense of touch, it’s easy to make a mistake,” she notes. “Drug manufacturers change the shape and color of medications frequently. Touch should not be the only way patients have of distinguishing among their prescriptions.”

With the support of preceptors Maria Kootsikas, Cecilia Wu, Tatyana Gurvich and Jacqueline Jacobson— all alumnae of the School—and faculty advisers Bradley Williams and Steven Chen, the budding pharmacists check for potential interactions and other hazards. They also help clients organize their medications, develop strategies for identifying which pill is which and distribute Braille pillboxes to clients who need them.

“When patients do not take their medicine as directed, it can greatly affect their health,” Wong adds. “But many patients don’t want to take medications just because their caregiver says they are supposed to. They want increased independence.” She is helping the blind and visually impaired achieve just that. This work has long been important to Wong. She spent many hours volunteering at the Braille Institute in Orange County while in high school.

“Now that I’m in pharmacy school, I wanted to help this patient population even more, with the goal of improving medication adherence and health outcomes,” she says. “It’s important even for those who are not visually impaired, because eyesight tends to worsen as people age.”—SLW

Pharmacy student Amanda Wong reviews medications with Trina Champe at the Braille Institute in Los Angeles.
When USC held the inaugural event in November for the Widney Society, honoring those who have donated a million dollars or more to the university, the School of Pharmacy was well represented. The program featured a special performance by Gladys Knight and a theme celebrating the five attributes of the ideal Trojan as inscribed on the Trojan Shrine: “faithful, scholarly, skillful, courageous and ambitious.”

Those qualities remain as essential now as when a pharmacist—former California Governor John G. Downey—joined fellow philanthropists and community leaders Orzo W. Childs and Isaias W. Hellman in helping Judge Robert Maclay Widney found USC 132 years ago.

Fittingly, the gala took place outside Widney Alumni House, the university’s first-ever building. A highlight of the evening was the unveiling of a commemorative book that will contain the signatures of all Widney Society members. The book will be kept in the archives of Doheny Memorial Library, and new members will have the opportunity to add their signatures at special events in the years ahead.

“When USC was founded in 1880, the university had great ambitions but only modest financial resources,” says USC President C. L. Max Nikias. “Many of our competitors had tremendous advantages of land or money. It was USC’s chief founder, Robert Maclay Widney, who inspired the very first donations to this university’s endowment—he raised $100,000 in 1880. Named after USC’s visionary founder, this society will honor the visionaries of our day and time.”

At the School of Pharmacy, the extraordinary support of Widney Society members has created professorships that help attract and retain leaders in the field to our faculty, provided scholarships and community projects that benefit students and the public, enhanced infrastructure, and established funding for breakthrough research and to inform policy.

The inaugural members of the Widney Society from the School of Pharmacy are listed opposite with just a sample of the projects they have so generously supported. These highlights of each member’s giving are by no means a complete list of their visionary leadership, which has allowed the School to remain an accelerating force in health care.
A charitable remainder trust (CRT) offers donors a way to make a meaningful gift to the USC School of Pharmacy in the future, while simultaneously providing a source of income for life and an immediate tax deduction.

A CRT is a separate legal entity administered by a trustee. The donor, USC, a financial adviser or an institution can serve as trustee. If USC is named as the trustee and remainder beneficiary, the university can provide tax benefit analyses and prepare the trust documents to establish a CRT at no cost to the donor. In addition, USC can administer the trust and manage trust assets without charging a fee. USC is currently the trustee for more than 200 CRTs and manages more than $145 million in CRT assets.

A CRT pays individual beneficiaries an annual amount for the rest of their lives or a fixed term of up to 20 years. Life-income beneficiaries can be the donor, family members or others. Gift taxes may be applicable if the donor does not designate him/herself and/or a spouse as the beneficiary.

Donors who create a CRT can claim an immediate income tax deduction that represents the present value of the future gift to USC. The trust principal is normally invested for total return, and its growth is tax-free. It can be invested in a variety of diversified portfolios, including USC’s endowment. However, the distributions paid to the beneficiary are taxable.

When the CRT ends, its remaining assets are distributed to USC for the purpose designated by the donor.

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When the CRT ends, its remaining assets are distributed to USC for the purpose designated by the donor.

A CRT can be funded with cash or appreciated property. While the mechanics of the CRT and payout received will not change as a result of the assets used to fund the CRT, gifts of appreciated securities or property may provide substantial tax benefits to the donor in the form of avoidance of capital gains taxes. Because a CRT is exempt from federal income taxes, donors are able to completely bypass the capital gains tax upon the sale of the appreciated property if such property is transferred to the CRT.

To learn more, contact Jennifer Watson at 323.442.1382 or freeh@usc.edu.
Remembering Kathy Johnson

Kathleen Johnson, PharmD ’78, MPH, PhD, died on July 24, 2012, in Bordeaux, France, from injuries sustained in a fall. She was the School’s vice dean for Clinical Affairs and Outcomes Sciences, chair of the Titus Family Department of Clinical Pharmacy and Pharmaceutical Economics and Policy, and the William A. and Josephine A. Heeres Endowed Chair in Community Pharmacy.

“Dr. Johnson was truly one of a kind—a wonderful person, a superb faculty member and administrator, and such an important and integral part of our School that we will never stop missing her,” says Dean R. Pete Vanderveen. “We can only be grateful that we were privileged with the opportunity to know her and to work with her.”

A distinguished leader in the pharmacy profession, Dr. Johnson’s career was marked by innovative thinking and projects critical to today’s national movement to expand the role of the pharmacist as the medication expert on the health care team. Her work to improve medication use and safety, especially among vulnerable populations, distinguished her with several national awards and grants including:

- Co-investigator, CMS Innovation grant, $12 million
- Medication Therapy Review Advisory Board, American Pharmacists Association
- Transformative Community Service Award (group), American Association of Colleges of Pharmacy, 2009
- Best Practices Award (group), American Society of Health-System Pharmacists, 2008
- Pinnacle Award (group), American Pharmacists Association, 2007

After joining the faculty in 1984, Dr. Johnson assumed the Titus Family Department chair in 2006 and the Heeres Endowed Chair in 2007. A dedicated educator, she taught PharmD students as well as master’s and doctoral students in Public Health and in Epidemiology and in Pharmaceutical Economics and Policy. Her leadership extended far beyond USC. She authored more than 50 papers and book chapters published by leading pharmacy and managed care journals.

“Kathleen Johnson is an example of a patient-centered, community-focused pharmacist whose work benefited both patients and the health systems in which she worked,” says Todd Sorensen of the University of Minnesota College of Pharmacy. “While it is true that our profession is better because of Kathy’s work, more importantly, thousands of underserved patients in Los Angeles are healthier because of her leadership.”

Adds Karen Farris of the University of Michigan College of Pharmacy, “The pharmacy community has lost a huge positive voice.”

Endowed Chair in 2007. A dedicated educator, she taught PharmD students as well as master’s and doctoral students in Public Health and in Epidemiology and in Pharmaceutical Economics and Policy. Her leadership extended far beyond USC. She authored more than 50 papers and book chapters published by leading pharmacy and managed care journals.

“A key to Kathy’s success was that she realized that pharmacy practice needed to adapt to the needs of the patients and the organizations served, not the other way around,” says Todd Sorensen of the University of Minnesota College of Pharmacy. “While it is true that our profession is better because of Kathy’s work, more importantly, thousands of underserved patients in Los Angeles are healthier because of her leadership.”

Adds Karen Farris of the University of Michigan College of Pharmacy, “The pharmacy community has lost a huge positive voice.”
When USC School of Pharmacy alumnus and French native Patrick Bonnet MS ’04 heard from Dean R. Pete Vanderveen about the horrible accident that Vice Dean Kathy Johnson suffered while in France last summer, he immediately made himself available to her family.

Dr. Johnson’s daughter, Kimberly, started emailing Patrick with questions about her mother’s care.

“I was translating what the French doctors were telling them, across the ocean,” recalls Bonnet, who earned his MS in Pharmaceutical Economics and was a student of Dr. Johnson’s. “I quickly realized how severe Kathy’s injury was and decided I had to go to France to help.”

His partner was supportive of his decision, and Patrick soon boarded a plane to France, leaving his two small children at home in Milwaukee, where he works in the health economics group for GE Healthcare.

“Kathy was my mentor at USC and had always been there for me,” says Bonnet. “I owe her a lot. It was my turn to be there for her.”

Bonnet was with Dr. Johnson, her husband, Wynnsan Moore, and their two children, Kimberly and Alex, during the many procedures performed to try to save her life. Unfortunately, her injuries proved to be too severe. In the aftermath of that devastating news, Bonnet was indispensable in making arrangements to bring Dr. Johnson home, helping with the paperwork at the consulate.

Flying home, he reflected on the Trojan Family, its strength and wonderful bond, and the legacy left by his mentor, who inspired so many future professionals.

“Kathy always had time to talk and to listen,” he adds. “She had 100 ideas a minute and always a little laugh to share. I will miss her.”

> On the green during the School’s annual Alumni and Friends Golf Outing and ready to putt are Jim Noble, Gabriel Medina, David Ajifu, PharmD ’93, and Brian Norton.

> Class of 1977 celebrant Mario Jimenez attends his reunion gathering—held during the 2012 Homecoming picnic—with his wife, Mary France Jimenez. Jimenez is among the leaders from his class who are spearheading a fundraising effort to establish an endowed scholarship at the School of Pharmacy.
Harris Receives President’s Award

Dolly Harris, PharmD ’77, received a President’s Award from the USC Alumni Association (USCAA) at its annual Volunteer Recognition Dinner. She was honored for her service as president of the USC School of Pharmacy’s Alumni Association and as a member of the USCAA Board of Governors.

Since Harris became president of the School’s Alumni Association in 2008, she has been instrumental in founding programs to benefit both alumni and current students, including mixers attended by more than 100 alumni representing a broad range of the pharmacy industry. She has also fostered a strong camaraderie and connection among alumni and established mentorship programs that aid current students.

She helped establish the School’s Centennial Fountain Campaign, which exceeded its $150,000 goal, and the USC School of Pharmacy Alumni Association Endowed Scholarship. Harris also directed her Class of 1977 scholarship fundraising drive, resulting in an endowed fund of $25,000. In addition, she established the Dolly Harris Endowed Scholarship. An ex-officio member of the School’s Board of Councilors, Harris is also a member of the Dean’s Initiative for Diversity Advisory Board and the Curriculum Committee.

A Half-Century of Service

More than 50 years after earning his Doctor of Pharmacy degree from the USC School of Pharmacy, Mel Baron is still active with his alma mater and the profession. In recognition of his many achievements, the USC Half Century Trojans inducted him into its Hall of Fame in October 2012.

An associate professor of clinical pharmacy, Baron spearheaded the School’s involvement in safety-net clinics, located in underserved areas where many people are uninsured or underinsured.

Through this work, Baron saw a need for health-literacy tools aimed at Spanish-speaking communities. He developed a series of seven comic-book-style fotonovelas, written in both Spanish and English and based on research conducted within Latino communities to determine the common myths and misconceptions that create barriers to treatment adherence. The fotonovelas address such prominent health issues in these populations as medication compliance, diabetes, dementia, folic-acid deficiency, depression, pediatric asthma and childhood obesity.

His ingenuity and dedication had already earned him the American Pharmacists Association’s Pinnacle Award for Individual Achievement (2011), the American Association of Colleges of Pharmacies’ Transformative Community Service Award (2009) and the California Pharmacists Association’s Pharmacist of the Year Award (2008).

CLASSNOTES

Nin Yan Gu, PhD ‘09, is an assistant professor at the College of Pharmacy at the University of New Mexico.

Janet Shin, PharmD, PhD ’11, was the lead author in “Primary Nonadherence to Medications in an Integrated Healthcare Setting,” published in the August 2012 issue of the American Journal of Managed Care.

IN MEMORIAM

Forrest M. McKinney, PharmD ’62, died June 11. Dr. McKinney was a community pharmacist, most recently working at Von’s Pharmacy in Desert Hot Springs, Calif. He is survived by his wife, Lucrecia McKinney.
Celebrating the Corner Drugstore

The corner drugstore of the 1920s comes vividly to life in a new permanent exhibit at the Heritage Square Museum in Pasadena. The project also showcases the legacy of George A. Simmons, who established the Colonial Drug Company in 1918.

Simmons founded Colonial Drug in Highland Park after serving as a medic and first sergeant in World War I. He served the community at that location for nearly 60 years, until his death in 1974. His sons Sydney—who graduated from the USC School of Pharmacy in 1952—and Frederick helped orchestrate the recreation of Colonial Drug at Heritage Square. Sydney’s son, Phil, helped oversee the project.

The exhibit is housed in a new building on the living history museum's grounds that replicates the exterior of the original Highland Park location. Its interior recreates a typical 1920s-era pharmacy, complete with dark wood cabinetry and bar, marble soda fountain, black-and-white tiled floor, and one of Southern California’s most unique and extensive collections of old remedies, sundries, botanicals and cosmetics, including the original labeling. At the back of the store sits a glass-enclosed compounding pharmacy with the ingredients used to create the medicines that eased pain and saved lives. The vast collection that George Simmons amassed through the years had previously been stored in the basement of the family’s Highland Park home.

“What I really like about this project is that old-time pharmacists who visit will be very nostalgic as they walk around our Colonial Drug at Heritage Square,” says Sydney. “They’ll actually recognize things—none of which are on pharmacy shelves anymore. It will take them back to what pharmacy used to be. And younger pharmacists won’t recognize any of it—but they’ll enjoy seeing the artifacts of our profession.”

On the grounds surrounding the Colonial Drug at Heritage Square is a medicinal plant garden based on the book *Healing with Medicinal Plants of the West* by Cecilia Garcia and USC School of Pharmacy Associate Professor James D. Adams. Heritage Square Museum explores the settlement and development of Southern California during its first 100 years of statehood (1850 to 1950). A video on George Simmons’ life and the creation of Colonial Drug can be seen at vimeo.com/37128977. For information on seeing Colonial Drug at Heritage Square, visit heritagesquare.org.
James Adams, PhD, taught “Native Healing and Modern Health Care” to 18 high school students at the USC School of Pharmacy in July.

Ronald Alkana, PharmD, PhD, associate dean of Graduate Affairs and Interdisciplinary Graduate Programs, presented “Insights into the Mechanisms of Ethanol Action in GlyRs and GABAARs Revealed by Manipulation of Extracellular Domain Loop 2” at the 2012 World Congress of the International Society for Biomedical Research on Alcoholism, in Sapporo, Japan, in September.

Paul Beringer, PharmD, received an $89,869 grant from Tarix for the project “Anti-Inflammatory Activity of Ang (1-7) in a Murine Model of Chronic Pseudomonas Aeruginosa Airway Infection.” He is principal investigator (PI) on the project, with Kathleen Rodgers, PhD, as co-PI.

Julio Camarero, PhD, received two new grants. He is PI on a $185,000 award from Bristol-Myers Squibb for the design and development of cyclotides with new biological activities and co-PI on a $100,000 grant from USC’s Alzheimer Disease Research Center on cyclotide-based inhibitors of amyloid protein misfolding in Alzheimer’s and Parkinson’s diseases. He also gave several invited talks in the fall, including a lecture on cyclotides at the Department of Pharmacy, National Taiwan University in Taipei, a presentation on organic medicinal chemistry, also in Taipei, and a talk at AgraQuest-Bayer in Davis, Calif., on cyclotides as a novel source of agrochemicals.

Steven Chen, PharmD, CDM, FCSHP, Hygeia Centennial Chair in Clinical Pharmacy, developed the “Medication Therapy Intervention and Safety Documentation Program” form, which is now being used by the AIDS Healthcare Foundation Pharmacy’s Good Results Program. He also presented on a panel on “Integrating Students into Interprofessional Practice” at the Institute of Medicine’s Global Forum on Innovation in Health Professional Education in Washington, D.C., in November.

Daryl Davies, PhD, received $199,007 from AgeneBio for the project “Evaluation of Alpha Five Selective GABAA Receptor Modulators.” He chaired and presented a symposium at the annual Research Society on Alcoholism Scientific Meeting in San Francisco in June and co-organized a symposium on “Novel Therapeutic Agents for Alcohol Use Disorders Based on Ligand Gated Ion Channels.” He also presented the paper “Repurposing Ivermectin as a Novel Treatment for Alcohol Use Disorders” at the 2012 World Congress of the International Society for Biomedical Research on Alcoholism, in Sapporo, Japan, in September.

Jason Doctor, PhD, presented “Nudging Doctors: Use of Behavioral Economics to Improve Adherence to Comparative Effectiveness Research Findings” at the 2012 Institute for Patient-Centered Comparative Effectiveness Annual Research Intensive in Portland, Ore., in October.

Julie Dopheide, PharmD, presented “Collaborative Practice Agreements for Psychiatric Pharmacists,” “Troubled Teen 101: Topics in Adolescent Psychiatry” and “Antipsychotics for the Non-psychiatric Pharmacist: Across the Ages,” at the 2012 American Society of Health System Pharmacists’ Midyear Clinical Meeting in Las Vegas in December.

Jeffery Goad, PharmD, MPH, vice chair for Continuing Professional Development, Credentialing and Distance Education, presented “Community Pharmacy Accreditation” and “Immunization Update and Medication Profile Triggers” at the 55th annual USC Refresher Course in Maui in May. He also presented “Moving Beyond the Needle: Travel Medicine Services,” at the National Association of Chain Drug Stores Pharmacy and Technology Conference in Denver in August.

Dana Goldman, PhD, was interviewed by KPCC-FM and the Pittsburgh Tribune-Review about the Supreme Court decision on the Affordable Care Act in June and by MSNBC about a Congressional Budget Office report on health care in July. He also co-authored an op-ed in The New York Times in October on “Why Private Medicare Plans Don’t Cost Less,” asking whether a level playing field, with carefully designed and managed competition in private insurance, can deliver enough cost savings and gains in consumer choice to be decisively superior to traditional Medicare. He also was featured in December in the Washington Post, Mother Jones and the National Journal for his research finding that the Affordable Care Act could raise premiums despite insurers competing with one another. Also in December, the Los Angeles Times reported on his research finding that, while new immigrants to the U.S. from Mexico have much lower rates of diabetes than those already living here, many of the diabetics among them are undiagnosed.

Sarah Hamm-Alvarez, PhD, Gavin S. Herbert Professor, chair, vice dean for Research and Graduate Affairs, was promoted to executive vice dean.

Joel Hay, PhD, was quoted in August in the Los Angeles Times about ethical and medical concerns regarding circumcision. In December/January, the Orange County Register ran three of his op-eds. In the first, about reining in health care costs, he...
noted that eliminating tax deductions for employer health care might help. In the second, he wrote, “Even though a third of American health care is useless or actually harmful, Medicare and other health care payers just can’t seem to say no to anything.”

Kathleen Hill-Besinque, PharmD, MSEd, assistant dean for Curriculum and Assessment, and director of Experiential Programs, was quoted in August by HealthNews Daily about a study finding that researchers could predict at what age a woman would experience menopause. She also presented a poster on interprofessional education at the International Pharmaceutical Federation (FIP) World Centennial Congress of Pharmacy and Pharmaceutical Sciences in Amsterdam in October.

Geoffrey Joyce, PhD, was quoted in The Herald about the Affordable Care Act in June.

Kum Ja Lee, PharmD, received the Southern California Cancer Pain Initiative’s Excellence in Pain Management award.

J. Andrew MacKay, PhD, was quoted by ScienceNews about the potential of magnets to be used to trigger the death of cancer cells in October.

Jeffrey McCombs, PhD, director of Graduate Studies, presented “The Impact of Atypical Antipsychotic Medications on the Use of Health Care by California Medicaid [Medi-Cal] Patients with Schizophrenia or Bipolar Disorder” at the Institute on Psychiatric Services in New York and at the World Psychiatric Association International Congress in Prague in October.

Edith Mirzaian, PharmD, presented in a panel discussion on “Challenges and Opportunities to Providing Health Care Services in Los Angeles,” organized by the Southern California Leadership Network in Los Angeles in August.

Nouri Neamati, PhD, was featured in October in the International Business Times and Red Orbit for the development of a new drug for ovarian cancer (see story, page 20).

Tien Ng, PharmD, FCCP, BCPS, presented “Pharmacodynamics: Drug-Induced QT-Prolongation: Is It A Concern?” at the Heart Failure Society of America Annual Scientific Meeting 2012 in Seattle in September.

Michael Nichol, PhD, was cited by MarketWatch in June about his research on the cost-effectiveness of the Prostate Health Index for prostate cancer detection.

Curtis Okamoto, PhD, vice chair of the Department of Pharmacology and Pharmaceutical Sciences, has been appointed interim chair of the department.

Susie Park, PharmD, BCPP, FCSHP, presented “Management of Bipolar Disorders” at the 2012 American College of Clinical Pharmacology annual meeting in San Diego in September.

Frances Richmond, PhD, director, Regulatory Science Program, delivered the keynote address at the Orange County Regulatory Affairs Discussion-San Diego Regulatory Affairs Network joint meeting in San Diego in October.

Kathleen Rodgers, PhD, associate professor, is co-PI with Paul Beringer on “Anti-Inflammatory Activity of Ang

QUOTABLE

“The [Center for Medicare and Medicaid Innovation] grant, one of only about 100 awarded by the federal government among a competitive pool of over 3,000 applicants, is very encouraging. It says that pharmacists are finally on the radar as the medication expert on the health care team who can improve outcomes and save money.” —Dean R. Pete Vanderveen in Pharmacy Today

“The growth and breadth of our research enterprise has been exponential. A cornerstone of our trajectory lies in translational work that ensures an accelerated path from bench to bedside for new therapies taking on neurodegenerative diseases, cancer and diabetes.” —Executive Vice Dean Sarah Hamm-Alvarez at the USC reception, American Association of Pharmaceutical Scientists 2012 annual meeting

“Despite Obama’s pledges to protect the middle class, the typical American family is now paying more for health insurance every year than they saved by avoiding the fiscal cliff tax increases. [In January 2013], The New York Times reported that health insurers are currently seeking and winning annual double-digit premium increases as high as 26 percent. Little wonder that Obamacare has never polled favorably with a majority of Americans.”—Professor Joel Hay in the Orange County Register
Jean Shih, PhD, University Professor, Boyd P. and Elsie D. Welin Professor, was featured in the Daily Mail (UK), Popular Science, io9 and Los Angeles Weekly, among others, in June for her research as principal investigator on a study finding that pathological rage can be blocked in mice. The discovery suggests potential new treatments for severe aggression.

Neeraj Sood, PhD, was featured in ScienceDaily in September for his research on how Medicare payment reforms mandated in the Affordable Care Act could lower costs without harming patients.

Glen Stimmel, PharmD, BCPP, moderated a psychiatry-focused symposium at the Asian Conference on Clinical Pharmacy in Hong Kong in July. He also presented “Understanding Drugs for Psychiatric Disorders” at the Hartford Dental Society meeting in Hartford, Conn., in September.

Dean R. Pete Vanderveen, PhD, RPh, participated in the Deans’ Forum at the FIP World Centennial Congress of Pharmacy and Pharmaceutical Sciences in Amsterdam in October. He delivered the keynote address at the opening ceremonies of the annual meeting of the Philippine Pharmacists Association in Manila in December.

Clay Wang, PhD, is co-PI on a $2.4 million, two-year grant from the Department of Energy on biofuels in collaboration with project lead Pacific Northwest National Lab, University of Kansas and SUNY–Buffalo.

Fred Weissman, PharmD, JD, associate dean for Student/Faculty Affairs and Admissions, presented “Newer and Pending Pharmacy Laws in California, and Issues with Older Pharmacy Laws” at the 37th annual meeting of the California Society of Health-System Pharmacists in Las Vegas in October.

Bradley Williams, PharmD, was named chair of the American Society of Consultant Pharmacists’ Educational Standards Taskforce to address geriatrics content for the upcoming Center for the Advancement of Pharmaceutical Education standards and post-graduate year-one residency standards. He presented “Standing Together to Prevent Falls” at the Braille Institute in September, and “Pharmaceutics in the Elderly,” “Clinical Pearls 2012,” “Pharmacist Geriatrics Board Review” and “Pain Management in Older Adults” at the UCLA Geriatrics Intensive Course and Board Review for Physicians and Pharmacists in September.

Michael Wincor, PharmD—associate dean of Global Initiatives and Technology, and interim chair of the Titus Family Department—was appointed to the clinical scientist faculty of the Graduate Institute of Clinical Pharmacy, College of Medicine of National Taiwan University. He was named Clinical Sciences Section chair-elect of the American Pharmacists Association—Academy of Pharmaceutical Research and Science for the 2013-2014 term. He presented a case-based, interactive session at the Asian Conference on Clinical Pharmacy in Hong Kong in July and participated in the Dean’s Forum at the FIP World Centennial Congress of Pharmacy and Pharmaceutical Sciences in Amsterdam in October. He also is a member of the executive council of FIP’s Academic Section.

Annie Wong-Beringer, PharmD, FCCP, FIDSA, vice chair of the Titus Family Department, was promoted to professor of Clinical Pharmacy. She spoke at a scientific symposium session on “Vancomycin: What Do We Know Now about Pharmacokinetics—Pharmacodynamics” at the 52nd annual International Conference on Antimicrobial Agents and Infectious Diseases in San Francisco in September.

IN MEMORIAM

Roscoe Atkinson, MD—a part-time faculty member of the USC School of Pharmacy for the past 15 years and longtime professor at the Keck School of Medicine of USC—died in August at the age of 53. Recognized by his peers and beloved by his students for his passion for and excellence in teaching, Dr. Atkinson garnered teaching awards for 10 consecutive years. He was especially known for using humor and innovative video technology, rock music and electronic media for making his lectures dynamic and memorable.

Darren Charles Abbott, 51, a pharmacy technician at the School’s Plaza Pharmacy, died on December 29. A dedicated member of the pharmacy team since 2006, he was known for his kind and collegial attitude.
Connecting with Community Pharmacists

Glen Stimmel serves as project lead for a College of Psychiatric and Neurologic Pharmacists Foundation (CPNPf) effort to connect psychiatric pharmacists with community pharmacists to enhance the care for those living with mental illness.

To launch the project, a survey was conducted by CPNPf and the National Alliance on Mental Illness. It found that approximately 75 percent of individuals living with mental illness and their caregivers seldom or never receive safety or effectiveness monitoring assistance from community pharmacists. Lack of private space to discuss medication issues was cited as the greatest obstacle.

Although 91 percent are very comfortable going to community pharmacists and 83 percent feel respected by their pharmacist, according to the survey, 43 percent nonetheless feel that they do not have a strong professional relationship with their pharmacist. And most receive their prescription at the cash register with minimal or no interaction with their pharmacist.

With only a couple of thousand pharmacists in the country specializing in psychiatric medications, partnership with community pharmacists will be essential to effectively caring for the millions who are taking prescriptions for psychiatric disorders.

Phase two of the project will involve analysis of the survey results along with development of strategies to link psychiatric pharmacists and community pharmacists to improve the level of support provided to patients.

Shopping for Better Health

Associate Professor Neeraj Sood has been awarded a $927,059 grant from the National Institutes of Health (NIH) to investigate the long-term effects of consumer-directed health plans. Sood, who also serves as director of international programs at the USC Leonard D. Schaeffer Center for Health Policy and Economics, will examine how these plans influence patients as they shop for preventive services.

In exchange for lower premiums, consumer-directed health plans feature higher deductibles for certain services. They shift incentives, motivating patients to approach health care services as cost-conscious shoppers. For example, while these plans may offer complete coverage for such primary preventive services as cancer screenings and cholesterol testing, they also require patients to fully cover secondary preventive measures, including medications for diabetes, until the deductible is met.

“As far as we know, this project would be the first to comprehensively estimate the long-term effects of consumer-directed health plans on the use of preventive services,” says Sood.

Findings from this project will provide vital data to policymakers and insurers as they design new plans to keep costs down while optimizing health outcomes.

THE SCHOOL’S RISING TRAJECTORY OF RESEARCH FUNDING

**Total external funding**

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<thead>
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<th>Year</th>
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<tr>
<td>2012</td>
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**Total federal awards**

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<thead>
<tr>
<th>Year</th>
<th>Amount</th>
<th>Increase</th>
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<td>$5.5M</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>$11.4M</td>
<td>108%</td>
</tr>
</tbody>
</table>

*Includes federal, nongovernmental organizations, foundations, pharmaceutical companies and other external funders*
USC Named SNPhA Chapter of the Year

Only four years since its inception in 2008, the USC chapter of the Student National Pharmaceutical Association (SNPhA) won the Rite Aid/Chauncey I. Cooper Chapter Excellence Award, a chapter-of-the-year designation that is the organization’s highest honor, at SNPhA’s annual meeting in July.

“I think what distinguishes our chapter is our teamwork, organization, coordination, creativity, professionalism and enthusiasm,” says Folayemi Fashola, the USC chapter’s vice president.

Not only did USC SNPhA win Chapter of the Year at the conference, but several of its members also won scholarships and awards. Fashola received the Rite Aid Community Leader of the Year as well as the Dr. Barry Bleidt Endowed Scholarship. Chapter President Saleema Kapadia won the Walmart Future Leader in Pharmacy Scholarship for Region V and the National Pharmaceutical Association’s Kroger Company Endowed Scholarship. Henry Delu garnered the Walgreens Student Pharmacist Excellence Scholarship, Amy Lee won the SNPhA Target National Leadership Scholarship and Jasmine Knight received the Dr. Cleon Fowler Endowed Scholarship.

The National Pharmaceutical Association is dedicated to representing the views and ideas of minority pharmacists on critical issues affecting health care and pharmacy, as well as advancing the standards of the profession. Its student arm focuses on these same issues and on addressing the needs of underserved communities.

USC’s SNPhA chapter currently has 162 members and participates in all six of the organization’s national initiatives, boasting impressive numbers in each. As of July 2012, that outreach included: Fight Diabetes (1,526 individuals screened and counseled), Power to End Stroke (2,740 screened and counseled), Remember the Ribbon: HIV (1,515 counseled), Keep Sake: Chronic Kidney Disease (1,315 counseled), Operation Immunization (355 counseled) and the Legislative Initiative (234 educated and registered to vote). Outreach efforts include health fairs in underserved communities throughout Southern California as well as international service trips to Jamaica, Belize and Mexico.

USC SNPhA has also developed several unique projects, including I Hablo U, a five-week Spanish-language project and community partnership; the Healthy Youth Initiative; and the Beyond the Bars project at Los Angeles Juvenile Hall, which educates young men and women about HIV.

“Our students work hard to serve those who are in the greatest need in our community,” says the group’s adviser Walter Cathey, who earned recognition for his work at the annual conference. Cathey is also the special assistant to the dean and head of the diversity initiative at the USC School of Pharmacy.

The chapter also organizes professional-development programs and mentoring opportunities, encouraging students from different ethnic backgrounds to consider careers in pharmacy.

“Every project led by our chapter has been a unique and rewarding experience,” says Kapadia.
MEET THE CLASS OF 2016

» 185 enrolled (out of 1,065 applicants)

» Average age at start of term: 24

» Average undergrad GPA: 3.59

» Forty students matriculated from the Trojan Admission Pre-Pharmacy (TAP) program, which offers talented USC undergraduates priority admission.
TAking Aim at Metabolic Syndrome

The 11th annual Moving Targets Symposium, organized by the USC student chapter of the American Association of Pharmaceutical Scientists, focused on “Metabolic Syndrome: Past, Present and Future.”

Metabolic syndrome refers to a combination of risk factors that, when occurring together, increase the likelihood of Type 2 diabetes and cardiovascular diseases. The condition is increasingly common, affecting nearly a quarter of the world’s population.

The event attracted some of the world’s leading scientists in the field and updated USC School of Pharmacy faculty, students and guests about recent therapeutic progress. With presentations, a poster competition and networking opportunities, the symposium provided a congenial scientific platform for analysis and discussion, while sparking ideas on future directions.

STUDENT UPDATEs

Henry Delu, PharmD candidate, received a scholarship from the National Association of Medical Minority Educators.

Folayemi Fashola, PharmD candidate, received a scholarship from the National Association of Medical Minority Educators.

Yang Li, PhD candidate, was among the winners for best poster at the 2012 Moving Targets conference.

Kayva Ramkumar, PhD candidate, has been awarded a $10,000 Krown Fellowship for her project “Discovery of first-in-class dual inhibitors of GSTO1 and IL-1b.”

GETTING A ‘LEG’ UP

The USC School of Pharmacy’s annual Legislative Day gives students the opportunity to meet with politicians and health care professionals to discuss major issues relating to the pharmacy profession. The 2012 event centered on the Affordable Care Act and featured presentations from California Insurance Commissioner Dave Jones, Brian Warren of the California Pharmacists Association, Jonathan Nelson of the California Society of Health-System Pharmacists, Victor Law and Robert Small from the United Pharmacists Network, California Senators Ed Hernandez and Ted Lieu, Associate Dean for Student/Faculty Affairs and Admissions Fred Weissman and Health Economics Professor Geoffrey Joyce. Student legislative directors leading the event were Daniel Kudryashov and Derek Kuwahara.
“I gave my wife a most unique Christmas present—an endowed scholarship in her name, to be awarded to USC School of Pharmacy students interested in community pharmacy. We believe in education and its extraordinary power to change lives. This is our way to make a difference.”

JAMES A. WILSON, PharmD, on establishing the Judith K. Wilson Endowed Scholarship

To learn how you can change a life, contact Mary Wackerman at 323.442.1360 or mwacker@usc.edu.
www.usc.edu/pharmacy
save the date...

**FEBRUARY 21, 2013**
Alumni and Student Mixer
Almansor Court, Alhambra
Information: 323.442.1738 or stanovic@usc.edu

**MARCH 12, 2013**
8th Annual Scholarship Luncheon
Pappas Quad—USC Health Sciences Campus
Information: 323.442.1738 or stanovic@usc.edu

**MARCH 17, 2013**
USC Alumni Breakfast
California Pharmacists Association Exchange 2013
Monterey, California
Information: www.cpha.com

**APRIL 7, 2013**
Dean’s Roundtable
San Marino, California
Information: 323.442.1360 or mwacker@usc.edu

**MAY 5, 2013**
Alumni/Senior Awards Banquet
Town & Gown—University Park Campus
Information: 323.442.1738 or stanovic@usc.edu

**MAY 17, 2013**
School of Pharmacy Satellite Commencement
Pappas Quad—USC Health Sciences Campus
Information: 323.442.1383 or borgan@usc.edu

**JUNE 9, 2013**
All-Alumni Picnic
School of Pharmacy
Information: 323.442.1738 or stanovic@usc.edu