

USC receives \$3.2 million for drug-delivery research

A better and easier way to deliver biotechnology's best and safest drugs may soon be just a deep breath away, thanks to a \$3.2 million grant awarded to Edward Crandall and an interdisciplinary team of researchers from the Keck School of Medicine and the USC School of Pharmacy by the National Heart, Lung, and Blood Institute of the National Institutes of Health.

Led by Crandall, Hastings Professor and Chair of the Department of Medicine, the team will explore the means by which large molecules make their way across the alveolar epithelium, the single layer of cells that separates the lung's air spaces from the bloodstream and the rest of the body.

Lined with enough cells to more than cover a tennis court, the human lung offers an untapped potential for enhancing and improving the delivery of biotechnology drugs from insulin to human growth hormone—larger pharmaceuticals that currently have to be delivered through the sharp end of a needle, directly into the body.

"The pharmaceutical industry is in-

terested in unique routes of drug delivery for newly developed products," noted Crandall. "Many of them are peptides or protein molecules, which tend to be digested in the gastrointestinal tract if given in pill form." It is for this reason that drugs like insulin have long had to be injected into the body in order to avoid being chewed up by the digestive juices.

"The idea of being able to inhale a drug such as insulin has recently become hotly pursued by industry, but industry is primarily interested in safety and reproducibility—not mechanisms. That's where this grant comes in. We're studying at the molecular and cellular levels the mechanisms by which peptide and protein drugs can get across the lung," said Crandall.

If they can successfully understand these mechanisms, Crandall added, it will "clearly be of tremendous help" in designing ways to deliver drugs via the lungs and possibly even to tailor-drugs for that particular delivery route.



Lori Oliwenstein

Joining the interdisciplinary research effort are, from left: Edward Crandall, chair of medicine; Kwang-Jin Kim, associate professor of medicine; Wei-Chiang Shen, professor of pharmaceutical sciences; and Vincent Lee, chair of the Department of Pharmaceutical Sciences.

Together with Kwang-Jin Kim, associate professor of medicine, Vincent Lee, Gavin S. Herbert Professor and chair of the Department of Pharm-

macy, and Wei-Chiang Shen, professor of pharmaceutical sciences, that is precisely what Crandall is attempting to do. "Each of us comes at the problem from a different perspective,"

said Crandall. "It makes for a perfect collaboration."

This quartet of top-notch researchers already knows that most proteins and peptides are too large to just diffuse over a cell's membrane—instead, they must somehow physically traverse it, oftentimes being engulfed and carried through the cell in little membrane-bound bubbles known as vesicles. "We think the vesicles are functioning as a shuttle to take the molecules across the membrane," explained Crandall. This process, called transcytosis, is at the heart of the team's investigations.

What happens next to those packages and the molecules in them is less clear. They may be degraded by cellular enzymes, or they may enter what Crandall calls the transcytotic pathway, which results in their ultimately being delivered, unscathed, to the bloodstream.

But getting the lung to take up a protein or peptide molecule in the first place may take some convincing.

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Nobel Laureate lectures at HSC

Günter Blobel, Howard Hughes Medical Institute Investigator and Professor at The Rockefeller University in New York, presented the 1999 Massry Prize Seminar last week.

Blobel was chosen for the award because of his research into how proteins are transported and find their proper location within the cell. His work opened the door to the understanding of how proteins are directed to the nucleus of a cell and to the mitochondria, said Shaul Massry, the Barnard J. Hanley Professor of Medicine and chief of nephrology at the Keck School of Medicine.

The Massry Prize is an international award that honors individual scientists who have made outstanding contributions to biomedical sciences and to the advancement of health. It is given each year by the Meira and Shaul Massry Foundation. Blobel was also the recipient of the 1999 Nobel Prize in Physiology or Medicine, "for the discovery that proteins have intrinsic signals that govern their transport and localization in the cell."

Before a standing-room only audience of more than 500 faculty, postdocs and students at the Mayer Auditorium, Blobel gave a brief account of his travels on the oftentimes bumpy road to scientific success. His initial idea that



Günter Blobel

the proteins might be making their way across intracellular membranes through some sort of protein channel, he said, "acted as a lightning rod for people criticizing me for proposing such an outlandish idea." It took 20 years for him to get the proof he needed to quiet the critics, he added, but he did it.

Mixed in with the technical details of his discoveries were invaluable nuggets of advice to those just beginning the journey. Recounting how colleagues of his had called him "tempestuous" and "opinionated" in the press after the Nobel announcement, he laughed proudly. "Don't be afraid to go against the grain," he said. And, later, he advised, "When you work, you must not be afraid of anything."

The lecture was sponsored by the Institute of Genetic Medicine—whose director, Laurence Kedes, was also chair of the Massry Prize jury—and the Department of Medicine, Division of Nephrology.

—Lori Oliwenstein

Keck School bucks recent statewide trend

Minority enrollment jumps 71% at School of Medicine this fall

While California medical schools grapple with declining admission and enrollment of underrepresented minority students, enrollment figures show numbers of new minority students at the Keck School grew significantly this fall.

Young men and women considered underrepresented minorities in the medical student population—African Americans, mainland Puerto Ricans, Mexican Americans and Native Americans—were admitted and matriculated at USC in greater numbers in 1999 than 1998, after a decreasing trend in matriculation in recent years.

"We actively recruited students, kept in touch and encouraged them to choose USC," said Erin Quinn, associate dean of admissions.

Quinn and other school leaders are excited about the increasing numbers of minority students, as well as the diversity of life experience and backgrounds that the 1999 class as a whole has brought to campus.

"The school leadership has been totally supportive," Quinn said. "The admissions committee is very committed to a diverse class, and we worked together to admit an excellent class."

The number of underrepresented minorities admitted to USC jumped from 46 in 1998 to 59 in 1999, a 28 percent increase. The number of underrepresented minority students who enrolled at USC grew from 14 to 24, a 71 percent increase, in the same time span.

At the same time, the science grade point average of the entering class rose from 3.48 to 3.60.

Earlier this year, newspapers and other media publicized reports that California's nine medical schools have seen declining applications and admissions of underrepresented minority students.

Researchers at the Center for California Health Workforce Studies at UC San Francisco, who compiled the numbers, concluded that Proposition 209 and changes in admissions policies at the University of California have contributed to a less hospitable environment for underrepresented minorities in the state's medical schools.

Many such students choose to leave the state, they concluded.

At USC, admissions officials have kept entrance requirements consistent while increasing recruit-
See **ENROLL**, Page 4

Depressed patients less likely to finish treatment when drug choices restricted by HMOs

When health insurance companies limit coverage on antidepressant drug therapy to a single medication, it may have unintended results on how patients follow their course of treatment, according to a study by USC pharmacy researcher Jeffrey S. McCombs.

Patients in an HMO that limited coverage to one antidepressant (paroxetine) in a class of drugs called selective serotonin reuptake inhibitors (SSRIs) were 80 percent less likely to complete therapy for depression than patients in an HMO that listed two such antidepressants (fluoxetine and paroxetine) among its covered drugs, or formulary. McCombs, associate professor of pharmaceutical economics and policy, and colleagues from a California medical group reported their findings in the October issue of the *American Journal of Managed Care*.

The brand name for paroxetine is Paxil. Fluoxetine goes by the brand name Prozac.

The type of drug chosen for therapy also was found to affect the proportion of patients who completed their treatment (taking the minimum required dosage for 180 straight days). The study indicates that patients treated with paroxetine were 64 percent less likely to complete treatment than patients treated with fluoxetine. Similarly, patients treated with the common antidepressant sertraline, known by the brand name Zoloft, were 68 percent less likely to complete therapy than those on fluoxetine. Several other studies also have found that fluoxetine patients achieve longer duration of therapy compared to both paroxetine and sertraline. The exact cause for the higher completion rates with fluoxetine is unclear.

Researchers are unsure why patients with access to two antidepressants have higher completion rates than patients subjected to a more restrictive formulary. Further research using a larger sample drawn from additional HMOs is needed to confirm the findings, McCombs said.

Previous research also has found a significant association between antidepressant completion rates and both post-treatment costs for ambulatory services and recurrence of depressive episodes.

"These findings are important because limiting antidepressant options to a single agent appears to hinder completion rates," McCombs said. "However, important clinical factors are often overlooked in the formulary decision process. Some HMOs capitate physician groups for the cost of ambulatory care, so patients' increased use

of office visits due to their premature termination of antidepressant therapy does not directly increase HMOs' costs. This leads to formulary decisions being made solely on the basis of the cost of a drug or the size of the rebate that drug manufacturers pay directly to the HMO."

"Historically, the treatment of depression in the primary care setting has been shown to be less than optimal, due either to missed diagnosis or patients' failure to achieve an adequate course of drug therapy," McCombs said. "While unrecognized depression may still be a problem, the newer SSRI antidepressants have significantly improved the ability of the primary care physician to treat depressed patients effectively, assuming that a range of treatment alternatives is available."

Nearly three of every four Americans who seek help for depression or symp-

toms of depression go to a primary care physician rather than a mental health professional, such as a psychiatrist.

The new study examines prescription drug and medical record data for 187 patients taking SSRIs in a single group practice of primary care physicians. The group practice contracted with two HMOs that had different SSRI formulary restrictions.

The study was funded through an unrestricted grant to the medical group and USC from Eli Lilly and Company, the maker of fluoxetine.

According to the National Institute of Mental Health, more than 80 percent of people with depression can be treated successfully.

About 18 million adults in the United States suffer from depression, according to national patient advocacy groups.

—Alicia Di Rado

Student scholar chosen to join prestigious NIH research program

Just a few months ago, Wade Chien was plugging away in labs and classrooms with a fervor familiar to any Keck School second-year medical student. Today, he's doing research with the director of the National Institute of Neurological Disorders and Stroke (NINDS).

Chien, 23, is participating in the Howard Hughes Medical Institute-National Institutes of Health Research Scholars Program in Bethesda, Md., and is one of only 42 students from 24 medical and dental schools across the nation chosen for the prestigious award.

Students in the program specialize in a research topic and work with top scientists at an NIH institute for nine months to a year. Chien works with Gerald Fischbach, NINDS director, in his electrophysiology lab. He studies the interactions where nerve cells meet muscle.

"Working there is great," Chien said enthusiastically. "Dr. Fischbach even comes in nights and weekends to work in the lab with us."

Although he misses being with friends in medical school at USC, Chien says he is learning a great deal at the NIH campus. Each Monday, a well-known scientist speaks to all the program scholars and meets them at an informal dinner. And each Thursday, selected students in the program present their research findings to fellow students, gaining experience in public speaking and working with peers.

Study areas include cell biology, epidemiology and biostatistics, genetics, immunology, neuroscience and structural biology.



Alicia Di Rado

Dean Stephen J. Ryan, right, congratulates Wade Chien for his academic success. Chien, is one of only 42 students from across the nation chosen to join the Howard Hughes Medical Institute-National Institutes of Health Research Scholars Program.

Chien has seen advantages to slowing down and focusing on one area of study for a while.

"I've found that doing research there is slower paced than being in medical school," said Chien, a Taiwan native. "It's a different kind of experience."

As a program participant, he lives in The Cloister, a residential facility with amenities provided

for program scholars. "They give us pretty much everything we need," he said.

Chien recently came back to USC for a quick visit to encourage other Keck School students to apply for the research program, which offers a \$17,800 salary and benefits such as medical insurance, as well as a rich opportunity to learn from other scientists.

"It's great to see a student thriving like this," Keck School Dean Stephen J. Ryan said.

"This is a big opportunity," Ryan told Chien. "We'd like to see a lot of students go into the program after you."

Chien almost didn't end up in medicine.

He began practicing the violin at age five, went through music school and entered a conservatory. Music seemed destined to be his career. By the second half of his freshman year at the New

England Conservatory of Music, he decided to explore other subjects—and grew interested in the sciences. Medicine combines his interest in people with his strengths in science.

"I think I'd like to be involved in research, as well as treating patients," Chien said, looking forward to his future work. "The whole discovery process in research is amazing. As an undergraduate researcher, even the little things I found were such a great feeling."

For more information about the program, see <http://www.hhmi.org/science/cloister.htm>

—Alicia Di Rado

HSC Weekly

USC: *Time Magazine's* College of the Year 2000

HSC Weekly is published on Fridays, except for academic holiday periods. Copies are distributed throughout the Health Sciences Campus, University of Southern California. It is written and produced by the staff of Health Sciences Public Relations. Permission to reprint articles with attribution is freely given.

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Reminder:

Open Enrollment for benefits eligible faculty and staff runs from November 1 through December 3
Changes effective Jan. 1, 2000

LUNG: Number of drugs that can be inhaled safely instead of injected is 'limitless'

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"We've worked on the lung barrier in my lab for a long time," said Crandall, "and one thing we've learned is that the alveolar epithelium is very tight, very resistant to the flow of molecules into and out of the lungs."

This makes sense, he added, because this thin layer is responsible for keeping the air outside the body and the liquid inside it separate. It also means that the alveolar epithelium has had to develop some pretty sophisticated mechanisms to get the molecules it does need from the outside in, and to rid itself of those it doesn't need.

The good news is that it seems to be easier to transport molecules from the air into the blood than from the blood into the air. This helps make drug delivery via the lungs more feasible—it is easier to get the drugs into the bloodstream from the lungs than it is to lose them back into the air from the bloodstream.

Understanding this process in order to figure out ways in which to increase its efficiency is what Crandall's role in the grant is all about.

He'll be aided and abetted by his colleagues, each of whom will be exploiting their own particular expertise in the transport of molecules across membranes.

Kim, for instance, will look into the various physical and chemical factors that play a role in protein transport across the lung air-blood barrier, and how they might be tweaked to enhance that transport. "We'll be looking for ways to loosen up the junctions in the epithelium to allow more drug to be absorbed," he explained.

Lee will be examining the biology of peptide transport. (Peptides are small chains of amino acids, the building blocks of proteins.) "We're looking, in a comprehensive way, at how biotechnology products are absorbed," explained Lee. "We know that peptide transporter mechanisms exist in the gut, but are they also found in the lung? If so, how similar or different are they from their cousin? And how can we make use of it to shuttle drugs from the lungs into the bloodstream?"

Shen will look at the role one specific protein—transferrin, which normally carries iron—might play in ferrying other protein molecules over epithelial cell membranes, and whether this molecule might be co-opted for use in getting protein drugs into the bloodstream via the lung. Shen refers to it as a sort of "Trojan horse delivery system," in that it might allow the drugs to cross the cell without being destroyed in the process.

"In lung epithelium, there is a mechanism for transferrin receptor-mediated transcytosis," noted Shen. "And preliminary results show that there is a pathway we can use. But it's usually a very slow process. We have to figure out how to increase the speed so that we can deliver drugs effectively."

The number of drugs which could potentially be inhaled rather than injected is limitless, provided the delivery can be done safely and effectively.

"We don't really want to tamper with the lungs," said Kim, noting how easily their delicate tissues can be damaged. "We just want to utilize whatever is there, very gingerly."

—Lori Ollivenstein

Reception for new women faculty slated for Nov. 10

The Medical Faculty Women's Association (MFWA) will host a reception for new women faculty members on Nov. 10 at the Edmondson Faculty Center.

The event, which will run from 4 p.m. to 6 p.m., will offer newcomers the opportunity to meet colleagues from other departments in an informal setting and learn about the MFWA. At 5 p.m., Nancy Warner, chair emerita of pathology, will give a presentation on "Negotiation Skills."

The event is open to everyone although reservations are encouraged. Those interested in attending should contact Maria Ramirez at the Office for Women at 442-2554.

Home-buying seminar at UPC to be held Nov. 13

The USC Federal Credit Union will host a home buying seminar at its University Park Campus offices on Nov. 13.

The seminar will include presentations by real estate brokers, home inspectors, escrow officers, appraisers and lending officers. It will also cover ways to select an agent, save money on closing costs and fees and a discussion of loan programs that require no money down.

The event will be held from 9 a.m. to noon at 1025 W. 34th St., King Hall, second floor. Registration, which is required due to space limitations, starts at 8:30 a.m. For more information, call (213) 821-7115.

School of Pharmacy to host herbal medicine expert

As a nation, America seems to be embracing alternative or "complementary" medicine at a growing rate. American adults now spend more than \$3.5 billion a year on herbal supplements.

Faced with thousands of choices in the herbal medicine stores, it is easy for the consumer to be confused. That is why best-selling author and herbal medicine expert Varro Tyler has become successful by helping consumers sort through which herbs are used for which conditions. And to this end, he will discuss "The Future of Herbal and Nutritional Products: Public Health and Scientific Issues" at 3 p.m. on Thursday, Nov. 11 in the Mayer Auditorium.

The public may just be coming to grips with herbs and plants used for their purported restorative powers, such as echinacea and St. John's Wort, but Tyler has been analyzing their medicinal qualities for decades. He has long been outspoken about the appropriate use of herbs and their safety and effectiveness. Now retired, Tyler was the dean of pharmacy at Purdue University for 20 years. He has written numerous books and scientific and educational articles on medicinal plants. His book *The Honest Herbal* is considered a definitive volume on so-called botanical medicine.

Young patients share their 'Dream'

Young patients at Childrens Hospital (CHLA) are the stars and co-creators of a new 30 minute documentary that had its first screening Oct. 23 at the American Film Institute.

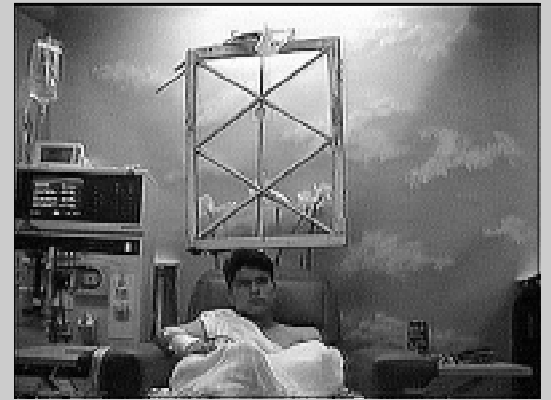
Directed by Sarah Elgart, "The Dream Project" takes as its raw material dreams recounted by six critically ill young people being treated at the USC-affiliated hospital.

The project fuses interviews with the patients and documentation of their lives, in the hospital and in their homes, with realizations — using animation and special effects where indicated — of the dreams, which are told in the patients own words.

The patients ranged in age during the filming from 13 to 20, suffering from a variety of life-threatening illnesses. All are Latino, either children of recent immigrants or themselves born in Mexico or El Salvador.

Director Elgart worked closely with staff at CHLA, including social worker Tracy Mitchell and Jennifer Armstrong, arts facilitator of the Mark Taper-John Mercer Artists Program.

Armstrong helped Elgart find patients to participate in the project — those undergoing



Cosme Huertero, a patient-participant in 'The Dream Project' spends three days a week at CHLA on dialysis while waiting for a kidney transplant.

dialysis, who had to return to the hospital on a regular basis over a long period of time fit in best.

The film presents the young people's words and their simple, often eloquently phrased wishes supported by music, with the hospital setting where their dreams begin to merge with the scenes of their fantasies.

Filmmaker Elgart has worked as a choreographer and stage director as well as in film, and has received grants from the National Endowment for the Arts and the City of Los Angeles Cultural Affairs department. She has worked at CHLA for more than a year on this project.

—Erik Mankin

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HSC Research Awards for August 1999, Part II

In a recent issue, we brought you the first half of these listings for the month of August, mistakenly identified as awards for June. This week, we complete the list, including a grant that was inadvertently left off of the July listing. As always, if we've missed your grant, please let us know by calling 442-2830, faxing 442-2832 or emailing oliwenst@hsc.usc.edu.

Principal Investigator	Department	Sponsor	Title	Amount
Juergen Reichardt	Institute for Genetic Medicine	National Cancer Institute	5 Alpha Reductase Genotype, Race and Prostate Cancer	\$2,133,007
Leslie P. Weiner	Neurology	National Institute of Neurological Disorders and Stroke	T-Cell Vaccine—A Clinical Trial for Progressive MS	\$2,648,899
Bradley Williams	Pharmacy	Southeast Area Social Services Foundation	Prescription Intervention and Lifelong Learning	\$102,000
Ruth Wood	Cell and Neurobiology	National Institute of Child Health and Human Development	Neural Androgen Receptors Facilitating Copulation	\$56,224
Mimi Yu	Preventive Medicine	National Cancer Institute	The Singapore Cohort Study of Diet and Cancer	\$4,000,000
Xiaoli Yu	Radiology	U.S. Army Medical Research & Development Command	Improving Detection of Axillary Lymph Nodes by Computerized Kinetic Feature Identification in Positron Emission Tomography	\$330,543
Adina Zeidler	Medicine	Children's Hospital of New Orleans	Diabetes Prevention Trial—Type 1	\$8,970
July award				
Henry Sucov	Cell & Neurobiology/IGM	National Heart, Lung, and Blood Institute/National Institutes of Health	A Pathway of Ventricular Morphogenesis Mediated by	\$804,499

ENROLL: 'It's about creating a pipeline of interesting students'

Continued from Page 1

ment to interest more students in the advantages of the campus.

Quinn, who teaches the Baccalaureate MD program on the University Park Campus, takes a personal interest in increasing representation for minority students at the Keck School. (Her own doctoral dissertation addressed Latinos in medicine.) She is involved in Francisco Bravo Medical Magnet High School and the Multicultural Area Health Education Center in East Los Angeles, which has programs for students from Roosevelt and Garfield high schools who are interested in medicine. A network of educators call her to let her know about bright minority students who may be interested in health careers.

Programs run through the office of Althea Alexander, assistant dean of minority student affairs, help by bringing motivated students from a variety of backgrounds to USC for summer programs and other educational opportunities and identifying potential applicants.

"It's about creating a pipeline of interesting students when they're in junior high and high school," Quinn said.

That means attracting students who not only bring their own unique background in terms of ethnicity, for example, but also those who are in their late 20s and have children, who have served in the Peace Corps, who come from other nations or bring other life experiences to their medical school class.

Clive Taylor, senior associate dean for

academic affairs and professor and chair of pathology, said that once applicants meet a standard academic level of eligibility, members of the Keck School admission committee can look for other characteristics in an applicant. "Once they've gone over the hurdle, you look to bring richness to the class," Taylor said.

Admissions staff members organized tours for students, introduced them to current USC students, invited them back for a special "Accepted Students Day" and called them to encourage them to come to campus regardless of their race or ethnicity. Quinn also researched opportunities for student loans, so students who felt they could not afford the school costs could still pay for their education.

"We wanted to make sure they felt wanted here," Quinn said.

It seemed to have worked: all students who enrolled had listed USC as their top choice. For minority students, as for the class as a whole, the opportunity to learn medicine in a hands-on atmosphere at LAC+USC Medical Center may have played a part, as well as the campus's location in a multicultural urban environment.

When recruiting the next year's class, admissions staff members will continue to reach out to prospective applicants to attract a qualified class of interesting first-year students.

"Part of the secret is our admissions committee," Taylor said. "They're diverse, and help us focus on getting a diverse class."

—Alicia Di Rado

Calendar

Friday, Nov. 5

3:30 p.m. School of Pharmacy. "Regulation of Fluid Transport in the Pigmented Rabbit Conjunctiva," Michael Shiue, USC. Norris Tower 7th Floor Conf. Ctr. Info: 442-1451

Monday, Nov. 8

Noon. Center for Craniofacial Molecular Biology. "Orphan Nuclear Receptors Regulating Cholesterol Homeostasis and Liver Biology," Barry Marc Forman, City of Hope. Norris Tower 7th Floor Conf. Ctr. Info: 442-1145

Tuesday, Nov. 9

8:30 a.m. - 5 p.m. Hedco Neuroscience 10th Anniversary Celebration. "In Genes we Trust — or Do We," Floyd Blom, Scripps Inst. Alfred Newman Auditorium. Info: 740-9091

8:45 a.m. New Staff Orientation Part 1, KAM 308. Info: 442-2579

9 a.m. School of Pharmacy. "Neural Regulation of Goblet Cell Secretion," Darlene Dartt, Schepens Eye Research Inst. PSC 104. Info: 442-1451

Noon. Cancer Center Grand Rounds. "Etiology of Malignant Melanoma... What we Do and Do Not Know," Thomas Mack, Myles Cockburn. Norris Tower 7th Floor Conf. Ctr. Info: 865-0800

Wednesday, Nov. 10

7 a.m. Medical Grand Rounds. "Syncope," De Ping DeQuattro, USC. GNH 1645. Info: 226-7591

Noon. Department of Cell & Neurobiology. "New Insights Concerning Dopaminergic

Influences on Basal Ganglia Circuitry," John Marshall, UC Irvine. AHC Aud., Room 102. Info: 442-1881

4 p.m. The Medical Faculty Women's Assoc. Welcome Reception for New Women Faculty. "Negotiation Skills," Nancy Warner, USC. Edmondson Faculty Center. Info: 442-2554

Thursday, Nov. 11

9 a.m. New Staff Orientation Part 2, KAM 308. Info: 442-2579

Noon. Southern California Environmental Health Science Center. "Chance, Development and Aging: Resolving Factors in Non-Shared Environments," Caleb Finch, USC. Norris Tower 4th Floor Conf. Ctr.

Notice: Deadline for calendar submission is 4 p.m. Tuesday to be considered for that week's issue. Please note that timely submission does not guarantee an item will be printed. Send calendar items to hscwkly@hsc.usc.edu. Entries must include day, date, time, title of talk, first and last name of speaker, affiliation of speaker, location and a phone number for information.

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3 p.m. School of Pharmacy Seminar: "The Future of Herbal and Nutritional Products: Public Health and Scientific," Varro E. Tyler, Purdue Univ. Mayer Aud. Info: 442-1381

Tuesday, Nov. 16

8:45 a.m. New Staff Orientation Part 1, KAM 308. Info: 442-2579

12:15 p.m. Tuesday Speakers' Forum. "Schizophrenia, Dementia and Renal Cell Carcinoma: An Ethical Dilemma," David Goldstein, USC. Hoffman Hall, Hastings Aud. Info: 226-4945

Wednesday, Nov. 17

7 a.m. Medical Grand Rounds. "Aortic Stenosis," Shahbudin Rahimtoola, USC. GNH 1645. Info: 226-7591

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