Rodríguez joins USC to advance female pelvic medicine

By Leslie Ridgeway

Larissa V. Rodríguez, MD, a noted expert in female pelvic medicine with more than 15 years of clinical and research experience in urology, joined Keck Medicine of USC on May 1. Rodríguez joins an elite group of faculty urologists at the USC Institute of Urology as professor of urology at the Keck School of Medicine of USC. She serves as vice chair (academics) at the Catherine and Joseph Aresty Department of Urology at the Keck School, director of Female Pelvic Medicine and Reconstructive Surgery (FPMRS) at Keck Medicine of USC – Beverly Hills and director of the FPMRS Fellowship at the Keck School of Medicine.

Rodríguez came from the University of California, Los Angeles (UCLA), where she was co-director of female pelvic medicine and reconstructive surgery and professor of urology. Her goal is to help establish USC as a beacon of hope to women who feared they had nowhere to turn for pelvic floor problems, including incontinence, urinary frequency, bladder pain and vaginal prolapse. According to the American Urogynecological Society, one in three women suffer from pelvic floor dysfunction, a range of symptoms including bladder and bowel problems as well as pelvic pain.

“Women are affected by a number of pelvic conditions that devastate their quality of life but are seldom discussed by the public, community or even physicians,” said Dr. Rodríguez. “Many suffer in silence, thinking this is part of normal aging. It does not have to be that way. There are numerous therapies that can improve or cure these conditions, allowing women to lead normal and productive lives. I am excited to join Keck Medicine and the USC Institute of Urology, where the vision, resources and talent exact to bring urologic care to the forefront in the nation.”

Rodríguez will continue her research with a goal of improving treatment options for women. Current research projects include developing new minimally invasive surgical techniques to treat prolapse, incontinence and bladder disorders.

By Cristy Lytal

Albert Einstein once said, “A person who has not made his great contribution to science before the age of 30 will never do so.” To ensure that young scientists have the opportunity to make their marks, the Eli and Edythe Broad Foundation has given a $2 million gift to The Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC.

The gift will establish a series of Broad Fellows, exceptional scientists with doctoral researchers at the transition point to starting their own laboratories. It will also support core research facilities and innovative projects at USC, home to one of only two dedicated university stem cell research centers in Los Angeles.

“This generous gift ensures that USC’s stem cell research center will continue to attract the best and brightest emerging talent, and encourages their pioneering work as they transition into the next stage of their careers,” said Andy McMahon, PhD, FRS, director of The Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC. “The fresh views that come from younger scientists have always been the lifeblood of innovation.”

To nurture the next generation of star scientists, the gift provides ongoing support for the stem cell center’s state-of-the-art core facilities in imaging, therapeutic screening, flow cytometry, and stem cell isolation and culture — which also benefit researchers across the university.

The gift also enables strategic investments in the innovative research projects that will become tomorrow’s clinical advances in regenerative medicine.

The Broad Foundation’s generous investment comes at a critical time, when government research dollars for young researchers are in short supply. In this tough climate, the gift will ensure USC remains a destination for the next generation of pioneers in regenerative medicine and stem cell research. This will benefit not only the university and its young researchers, but also patients who will reap the rewards of future stem cell-based cures.

Philanthropic leaders in biomedical research as well as many other fields, Eli and Edythe Broad created USC’s stem cell research center with a gift of $30 million to the Keck School of Medicine of USC in February 2006.

A renowned business leader who built two Fortune 500 companies over a 50-year career, Eli Broad is the founder-chairman of both SunAmerica Inc. and KB Home (formerly Kaufman and Broad Home Corporation). He is also a member of the Board of Overseers of the Keck School of Medicine of USC.

“We believe that the promise of stem cells — and the research underway at USC — is limitless,” said Daniel Hollander, MD, director of scientific and medical research initiatives at The Broad Foundation. “For us, this is an opportunity to advance essential research in hopes of finding new treatments for the many diseases that are still untreatable.”
The Rancho Los Amigos Foundation honors Lucinda Baker, associate professor of biokinesiology and physical therapy at the USC School of Dentistry, with the Anistad Award during the 2013 annual Anistad Gala at the Westin Hotel in Long Beach on March 28.

The Rancho Los Amigos Foundation is a nonprofit organization that raises funds to support research, education, equipment, and patient care at the Rancho Los Amigos National Rehabilitation Center. The Anistad Award — the highest honor the foundation can bestow — recognizes an individual who has demonstrated an extraordinary commitment to serving Rancho Los Amigos and its patients. Since the late 1970s, Baker has conducted research at Rancho Los Amigos within the Rehabilitation Engineering Center. Her research focuses on electrical stimulation for neurologic conditions and rehabilitation for patients with spinal cord injury and diabetes, as well as rehabilitation of sensory and motor deficits for patients with stroke and traumatic brain injury. She is a primary voice on electrical stimulation, publishing many scientific articles and, along with co-authors from Rancho Los Amigos, writing a leading book on the subject, *Nerve-Muscular Electrical Stimulation: A Practical Guide*.

In addition to her prolific research career, Baker has earned a reputation as a trusted mentor to many clinicians at Rancho Los Amigos. She advises therapists in the Speech and Language Pathology, Occupational Therapy, and Biokinesiology and Physical Therapy, praised Baker for her long history of science and service at both USC and Rancho. “She is an extraordinary individual and we are all inspired by her,” Gordon said. “She is a very giving, service-oriented person. We’re thrilled that Rancho is recognizing her in this way.”

Baker said maintaining professional and personal relationships with both USC and Rancho has greatly enriched her career, providing her with valuable mentorship, research and clinical opportunities.

**By Beth Newcomb**

The Rancho Los Amigos Foundation awards USC physical therapy professor its top honor

To view the video series, please visit tinyurl.com/kc5a3ar3.
Keck School researcher imagines intestinal cells that can make insulin

By Cristy Lytal

For Senta Georgia, PhD, stem cell research offers a window into much more than the biology of pancreatic cells and diabetes.

“Molecular biology is elegant,” said Georgia, principal investigator at The Saban Research Institute of Children’s Hospital Los Angeles and assistant professor at the Keck School of Medicine of USC. “And what really moves me is that it’s something that can impact the very things that we see happening in our bodies: how life actually works. It’s almost a spiritual insight into how life is put together, how it works.”

Georgia always wanted to be a scientist — although her initial interests were much bigger than molecules. As the eldest of three children growing up in the artsy town of Pemberton, New Jersey, she dreamed of becoming a paleontologist and building a papier-mâché dinosaur with her mother.

Her aspirations shifted to archaeology after she learned about ancient Egypt. By sixth grade, whales and marine biology captured her imagination, but she “couldn’t put that into a broader social context for curing disease or helping people,” she said. “I also figured out that I’m deeply afraid of the idea of jumping into the ocean!”

She discovered genetics when her ninth-grade class took a field trip to a company that was developing sequencing technology to advance the human genome project, and this inspired her interest in molecular biology. She majored in biological sciences and minor in ethics in society at Stanford University.

After graduation, she worked as a research technician in the lab of Anil Bhardwaj, PhD, who was studying pancreatic development at Children’s Hospital Los Angeles. She also worked with Bhardwaj as a PhD student and eventually followed him to UCLA. She completed her dissertation about the differentiation, self-renewal and regeneration of beta cells — pancreatic cells that produce, store and release insulin, which lowers blood sugar concentrations.

She accepted a postdoctoral fellowship and assistant adjunct professorship at UCLA’s Larry L. Hillblom Islet Research Center. Over time, she became increasingly interested in questions of how undifferentiated cells become and remain beta cells.

Beta cells don’t replicate easily; current estimates are that they last between five and 20 years. This drove Georgia’s curiosity about intestinal stem cells, which continuously replace themselves.

She received a Mentored Research Scientist Development Award (K01) from the National Institutes of Health (NIH) and studied endocrine cell differentiation in the intestines with UCLA’s Martin Martin, MD.

This inspired the project that currently occupies her lab at Children’s Hospital Los Angeles: trying to induce intestinal stem cells to make insulin. The ultimate objective is to use these cells to treat both Type 1 and Type 2 diabetes.

“We are interested in helping people,” said Georgia, “and so that means a lot.”

Keck Medicine of USC among first to offer bronchial thermoplasty for asthma

By Allison Trinidad

A new procedure at Keck Medicine of USC may give people with severe, uncontrolled asthma a much-needed breath of life. The medical center is among the first in the United States to offer bronchial thermoplasty, an outpatient treatment that provides long-lasting control of this chronic disease.

USC was one of 39 participating sites in a landmark clinical trial of the Alair Bronchial Thermoplasty System that showed a 32 percent reduction in asthma attacks after treatment. Approved by the U.S. Food and Drug Administration (FDA) in 2010, the system is the first medical device that uses radiofrequency energy to treat severe and persistent asthma in select patients ages 18 and older.

“Patients who suffer from persistent, uncontrolled asthma have few treatment options to adequately manage their disease,” said pulmonologist Richard Barbers, MD, professor of clinical medicine at the Keck School, and principal investigator of the clinical trial at USC. “There is no cure for the disease, but bronchial thermoplasty has been shown to improve a patient’s quality of life by reducing asthma attacks and asthma-related hospitalizations and emergency room visits.”

The airways of people who have asthma can become swollen and narrowed, making breathing difficult. The Alair system, manufactured by Boston Scientific, uses mild heat to reduce the thickness of smooth muscle in the airways, improving a patient’s ability to breathe. It is a minimally invasive procedure that involves insertion of a small tube into the patient’s lungs via the nose or mouth. To benefit, patients will need to undergo three, hour-long sessions over the course of two months to target different areas in the lungs.

Each session is done under moderate sedation, and the patient generally returns home the same day.
Calendar of Events

Monday, May 19


Tuesday, May 20

10 a.m. — 2 p.m. Keck Hospital of USC Guild Luncheon. "Cough, Gough! Hack, Hack! What's Wrong with Me?" Ramyar A. Amin, USC. Info: Valerie Weiss, (262) 449-2746, vwhelpe@yahoo.com. RSVP by May 13 to Carol Corral, (323) 254-0600, russk1@att.net. Tickets $50.


Wednesday, May 21


Thursday, May 22


Monday, May 19

8:30 a.m. USC Research Center for Liver Diseases Seminar. "Trauma of DNA Methylation in NASH/ASH Diseases." Douglas Feldman, USC. Hastings Auditorium. Info: Dolores Mendosa, (323) 442-1283, dmendosa@usc.edu.

Friday, May 23


Tuesday, May 27


Wednesday, May 28


Noon. USC Women in Management Luncheon. Speaker: David B. Agus, USC. Info and RSVP: Ginger Mendoza, (323) 226-7556, sambriz@dhs.lacounty.gov.

8:30 a.m. USC Center for Lung Biology Research Seminar. "Douglas Feldman, USC. Hastings Auditorium. Info: Dolores Mendosa, (323) 442-1283, dmendosa@usc.edu.

11 a.m. USC Women in Management Luncheon. Speaker: David B. Agus, USC. Info and RSVP: Ginger Mendoza, (323) 226-7556, sambriz@dhs.lacounty.gov.


Notice: Calendar submissions must be received at least 10 days before an issue’s publication date to be considered. Please note that timely submission does not guarantee an item will be printed. Entries must include day, date, time, title of talk, first and last name of speaker, affiliation of speaker, location and a phone number or email address for information.

Submit calendar items at tinyurl.com/calendar-hsc.

Oh, baby! USC Fertility hosts biannual Baby Reunion Picnic — USC Fertility held its biannual baby reunion picnic at Lacy Park in San Marino on May 3, celebrating the recent arrivals of new families made possible by USC expertise. More than 300 guests attended the event which featured food and games. Above, left, Jennifer Armstrong, MD, a Keck School of Medicine alumnus, and her 17-month-old son pose for a photo with Richard Paulson, director of USC Fertility and chief of the Division of Reproductive Endocrinology and Infertility at the Keck School. Over the past 27 years, more than 3,000 babies have been born as a result of the different treatment options offered at USC Fertility.

Study yields new insight into how skin heals

By Paul Karon

A researcher at the Keck School of Medicine of USC has shown that a previously unsuspected but common protein in the human body can help skin injuries heal, contradicting decades of conventional wisdom about the biology of tissue repair as well as potential treatments.

The pilot study showed that a natural protein isolated from secretions by injured skin cells, called Heat shock protein 90alpha (Hsp90a), significantly improves the healing of wounds on diabetic skin, said principal investigator Wei Li, PhD, a professor in the Department of Dermatology.

This preclinical research, funded by the Southern California Clinical and Translational Sciences Institute, helped Wei obtain a major new grant from the National Institutes of Health (NIH) to continue the research in larger animals and human subjects.

In diabetics, the elderly or others with compromised health, wounds can remain open for months or years, requiring constant and expensive care to prevent infection. Some $10 billion a year is spent annually to provide supportive wound treatment for diabetic patients alone.

Although familiar enough to everyone who has ever scraped a knee, the skin's ability to repair itself is actually one of the most complicated and mysterious processes in human biology, said Wei. Because the process is incompletely understood, efforts to develop medicines to encourage healing have been largely unsuccessful.

Wei didn't believe growth factors were the missing link in the early and crucial phase of wound healing. His research identified key limitations for growth factor therapy and demonstrated why GF-based medication failed to help most patients.

It took Wei three years to identify and focus on Hsp90a, which is abundant throughout the body. In fact, cells contain several hundred times more Hsp90a than any other protein.

"No one had a good explanation for why there is so much Hsp90a in every cell, from the top to the bottom of the body," said Wei. "If it's everywhere, we figured it had to have some important purpose — Mother Nature doesn't waste her energy."

Wei believes Hsp90a is instead the driving force to "root" damaged skin in the early stages of healing by shutting skin-rebuilding epidermal and dermal cells to the site of a wound.

In case of an emergency...

Call the Emergency Information Phone: (213) 740-3535. The emergency telephone system can handle 1,400 simultaneous calls. It also has a backup system on the East Coast.

Visit the USC Web: http://emergency.usc.edu. This page will be activated in case of an emergency. Backup Web servers on the East Coast will function if the USC servers are incapacitated.