



Photos by Steve Cohn

From left, Rohit Varma, Sean Stevens, Mark and Mary Stevens, C. L. Max Nikias, Niki C. Nikias, Ghada Irani and Arthur Toga pose before cutting the ribbon during the grand opening of the USC Stevens Hall for Neuroimaging, held Nov. 17 on the Health Sciences Campus.

## Ribbon-cutting marks debut of USC Stevens Hall

By Mary Dacuma

The USC Stevens Hall for Neuroimaging, a modern, sleek, glass-enclosed building on the southern edge of USC's Health Sciences Campus, opened its doors with a ceremonial ribbon-cutting Nov. 17. USC Stevens Hall will be home to the USC Mark and Mary Stevens Neuroimaging and Informatics Institute. Immediately prior to the ribbon-cutting ceremony, Arthur Toga, PhD, director of the USC Stevens Neuroimaging and Informatics Institute, was installed as the Ghada Irani Chair in Neuroscience.

The intimate event was bookended with performances from the Trojan Marching Band and included remarks from C. L. Max Nikias, PhD, president of USC, who stressed how the opening of USC Stevens Hall was yet another important step toward fighting the most debilitating neurologic disorders of our time.

"Here we can hope to understand autism and Alzheimer's and a host of other challenges," Nikias said. "Here, we now have an environment in which an electric sense of possibility is ever-present. We can expect to be surprised, as insight and solutions will burst forth in ways we cannot yet imagine."

Mark and Mary Stevens, USC trustees and named benefactors of USC Stevens Hall, were in attendance to see the results of their strong commitment to multidisciplinary efforts in scientific innovation. Rohit Varma, MD, MPH, newly appointed dean of the Keck School of Medicine of USC and director



A 2015 gift from Mark and Mary Stevens endowed and named the USC Mark and Mary Stevens Neuroimaging and Informatics Institute.

of the USC Gayle and Edward Roski Eye Institute, was also in attendance to celebrate the grand opening and the advancements that would arise thereof.

"The research from Dr. Toga and his colleagues at the USC Stevens Neuroimaging and Informatics Institute is exactly the type of forward-thinking, translational research that will drive the Keck School of Medicine's success," Varma said. "I am looking forward to the transformative science that will be conducted in this building in the coming years."

USC Stevens Hall is wholly optimized

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## Toga named first Ghada Irani Chair in Neuroscience

By Melissa Masatani

In recognition of his contributions to the field of neuroscience and understanding the workings of the human brain, Arthur Toga, PhD, has been established as the inaugural holder of the Ghada Irani Chair in Neuroscience.

Toga, Provost Professor of Ophthalmology and director of the USC Mark and Mary Stevens Neuroimaging and Informatics Institute, was installed as chair at a ceremony held Nov. 17 in conjunction with the opening of the USC Stevens Hall for Neuroimaging

on the Health Sciences Campus.

"The Ghada Irani Chair makes a straighter path for the pursuit of world-class, world-changing scholarship in neuroscience," said USC President C. L. Max Nikias, PhD. "It allows USC to work at the level beyond conventional notions of excellence. Indeed, the Ghada Irani Chair further strengthens the foundation of all scholarly excellence at USC, but its most visionary aspect involves its investment in an era of unsurpassed importance

See **CHAIR**, page 3



Courtesy Bryan Hickey

The November class of new hires is seen with Chief Nursing Officer Annette Sy, front center, during orientation, Nov. 14 in the Soto II building.

## Keck Medicine welcomes large class of new nurses

By L. Alexis Young

Keck Medicine of USC recently hired 41 registered nurses, one of the largest groups in a number of years.

"This will assist us in meeting our goals of safe staffing for our patients during the holidays and winter months," said Annette Sy, DNP, chief nursing officer for Keck Hospital of USC and USC Norris Cancer Hospital. "Nursing leadership will continue to work with

our nurse recruiters to fill the remaining open positions we have. Keck Medical Center offers a referral bonus, sign on bonus, along with relocation assistance in an effort to draw experienced nurses to our campus."

Of the new hires, 18 were recruited through the new Employee Referral Program, which offers bonuses to current employees for referring qualified nurses who are hired into full-time or part-time positions.

## Medical, dentistry professors among five named AAAS fellows

By Zen Vuong

Five USC scientists have been elected fellows of the American Association for the Advancement of Science, an honor bestowed upon AAAS members by their academic peers.

AAAS, the world's largest general scientific society and publisher of the journal *Science*, began the AAAS Fellows tradition in 1874. The nonprofit organization was

founded in 1848. This year 391 AAAS members will be made fellows because of their scientifically or socially distinguished efforts to advance science or its applications.

The USC fellows are: Wendy Cozen, DO, MPH, a professor of preventive medicine and pathology at the Keck School of Medicine of USC, for contributions to the understanding of the epidemiology, etiology and

immunology of Hodgkin's disease and non-Hodgkin's lymphoma. Cozen also is co-director of the Translational Pathology Core at the USC Norris Comprehensive Cancer Center.

Roger Ghanem, PhD, the Gordon S. Marshall Professor of Engineering Technology and a professor of civil and environmental engineering at the USC



Courtesy photos

See **FELLOWS**, page 2

From left, D. Brent Polk, Michael Paine and Wendy Cozen.

## Meet the Alumnus: Michael Pham

By Janet Schmidt and Larissa Puro

After graduating from USC, Michael Pham, MPH, traded the urban Los Angeles jungle for lush Southeast Asia, where he spent weeks training Cambodian officials in emergency response practices.

A paramedic, the 2015 graduate of the online master of public health program at the Keck School of Medicine of USC hoped to help standardize pre-hospital emergency care in the country, which lacks medical service infrastructure and emergency transport. As of 2012, Cambodia had 0.17 physicians and 0.7 hospital beds for every thousand people, according to the CIA World Factbook.

"With simple emergency response skills like resuscitation, rescue breathing and first-aid, anyone can save a life," Pham said. "And in places where you can't get medical help, trained first responders can prevent thousands of deaths and injuries."

Cambodia's Ministry of Health gave him the green light to implement a public health project he had adapted from his studies at USC.

After almost a year of preparation, Pham and his team arrived and began assessing needs, touring facilities and shadowing medical professionals. They trained government guards and police officials with a U.S. first responder course designed for the population and introduced U.S. guidelines and evidence-based medical protocol.

In addition they certified more than 80

first responders and provided free health services to approximately 300 villagers. Pham's work was formally recognized by the government and covered by local media.

Looking back, Pham said his favorite memories included meeting Cambodia's Deputy Prime Minister, experiencing the bustling night market and watching the sun set over Cambodia's ancient and iconic Angkor Wat temple.

"The feeling of bliss and enlightenment and joy that came from completing our work and making a positive impact is indescribable," he said.

He returns in December to follow up on the project and again this summer to begin a new program with the Ministry of Health. Pham credits his success in Cambodia in part to his education and faculty mentorship at USC.

As a full-time health educator and director of his company, CPR Hero Healthcare Training Center, Pham had chosen the online MPH program to supplement his career.

His professors in the Department of Preventive Medicine and USC Institute for Global Health provided him the connections and access he needed to bring the project to fruition in Cambodia, he said.

"I was able to use my skills to organize health personnel, create an action plan and lead my team in achieving our goals," he said.



**HOLY AUDIENCE:** Rene Sotelo, left, poses with Baltazar Enrique Porras Cardozo, a Roman Catholic cardinal, and Pope Francis recently during a trip to Rome.

Courtesy Rene Sotelo



Courtesy The CPR Hero LLC

In addition to training government officials and providing free health checks for villagers, Michael Pham, front center, and his team certified more than 80 first responders in Cambodia.

## FELLOWS: AAAS members nominated for ongoing efforts to advance science

Continued from page 1

Viterbi School of Engineering, for outstanding contributions to practical, mathematical and computational aspects of uncertainty quantification. His research spans a wide spectrum of applications across science and engineering.

Robert Guralnick, PhD, a professor of mathematics at USC Dornsife College of Letters, Arts and Sciences, for being one of the central figures at the moment in the very broad domain of group theory.

Michael Paine, BDS, PhD, a professor and director of the master's and doctorate program in craniofacial biology at the Herman Ostrow School of Dentistry of USC, for distinguished contributions to the field of biomineralization, for

identifying protein-to-protein self assembly and for linking systemic disease of solute transport to enamel formation.

Brent Polk, MD, a professor of pediatrics, biochemistry and molecular medicine at the Keck School, for distinguished contributions to the field of gastroenterology, particularly in understanding signal transduction mechanisms regulating intestinal growth and repair related to inflammatory bowel disease. Polk also is vice dean for clinical affairs (Children's Hospital Los Angeles).

A steering group, three fellows or the association's CEO nominates new fellows from among the organization's membership pool. Fellows must have been continuous members of AAAS for four years.

## Calendar of Events

### Friday, Dec. 2

**8:30 a.m.** Hastings Center for Pulmonary Research Seminar. "Using Genetics and Genomics to Understand Idiopathic Pulmonary Fibrosis," Ivana Yang, PhD, University of Colorado. IRD 734. Info: Elva Rubio, (323) 409-7184, elvarubi@usc.edu

**Noon-2 p.m.** Clinical Investigations Support Office Meeting. Aresty Auditorium. Info and RSVP: Johana Nava, (323) 865-0468, nava\_j@med.usc.edu

### Tuesday, Dec. 6

**Noon.** USC Women in Management Luncheon. "Local to Global Community Capacity Building," Lynn Crandall, USC. Harkness Auditorium. Info: Ginger Mayerson, (323) 384-6049, mayerson@usc.edu. RSVP: <http://bit.ly/2eHAGza>. WIM Members \$18; non-members \$20.

**Noon.** The Saban Research Institute Seminar. "Floyd H. Gilles Lecture in Neuroscience Research: Molecular and Cellular Mechanisms of Neuronal Migration," Pasko Rakic, MD, PhD, Yale School of Medicine. Saban Research Building Auditorium. Info: Ritu Gill, (323) 361-8715, tecpad@chla.usc.edu, <http://chla.org/tecpad>

**5:30 p.m.** Department of Ophthalmology

Grand Rounds. Christine Greer, MD, MS. HC4 Conference Room, 6th Floor. Info: Lina Poyzner, (323) 442-6383, Lina.Poyzner@med.usc.edu, <http://eye.keckmedicine.org>

### Wednesday, Dec. 7

**Noon.** Zilkha Neurogenetic Institute Seminar. "Perinatal Infection and Inflammation: Effects on Fetal Brain Development," Irina Burd, MD, PhD, Johns Hopkins Medicine. Herklotz Seminar Room, ZNI 112. Info: Emily Chu, (323) 442-3219, Emily.Chu@med.usc.edu, <http://www.usc.edu/zni>

### Thursday-Saturday, Dec. 8-10

**All day.** Alzheimer's Therapeutic Research Institute Meeting. "9th Clinical Trials on Alzheimer's Disease," Paul S. Aisen, MD. Marriott Marquis San Diego Marina, San Diego. Info and RSVP: <http://www.ctad-alzheimer.com>

### Thursday, Dec. 8

**1:30 p.m.** Keck Medicine of USC Stroke Support Group Meeting. "Mindfulness After Stroke." Keck Hospital, 3 North, Day Room (3261A). Info and RSVP: Melody Sharifi, (323) 442-0049, msharifi@med.usc.edu. Snacks provided and parking validated.

### Friday, Dec. 9

**7 a.m.-5:10 p.m.** Department of Medicine, Division of Nephrology and Hypertension Continuing Medical Education. "1st Annual Southern California Kidney Symposium: Slowing the Progression of Kidney Disease: From Bench to Bedside," Kenneth R. Hallows, MD, PhD. Aresty Auditorium. Info: Teresa Ball, (323) 442-2550, teresa.ball@med.usc.edu, <https://cmetracker.net/KECKUSC/Catalog>. RSVP: (323) 442-2555, usccme@usc.edu, <http://www.usc.edu/cmec>

### Saturday, Dec. 10

**8 a.m.-Noon.** Department of Ophthalmology. "Ophthalmology Specialty Conferences: Retina and Uveitis." Healthcare Center 4 Conference Room, Third Floor.

### Monday, Dec. 12

**4 p.m.** USC Caruso Department of Otolaryngology-Head & Neck Surgery Seminar. "Spatial Hearing at the Cocktail Party," John C. Middlebrooks, PhD, University of California, Irvine. Eli and Edythe Broad CIRM Center Auditorium. Info: Jacqueline Jimenez, (323) 442-5579, jimenez1@med.usc.edu

### Tuesday, Dec. 13

**Noon.** Department of Psychiatry Grand Rounds. Herklotz Seminar Room, ZNI 112. Info: Lunch will be provided.

### Friday, Dec. 16

**8:30 a.m.** Hastings Center for Pulmonary Research Seminar. "Targeting Mechanobiological Mediators of Fibrosis," Daniel Tschumperlin, PhD, Mayo Clinic College of Medicine. IRD 734. Info: Elva Rubio, (323) 409-7184, elvarubi@usc.edu

### Saturday, Dec. 17

**5 p.m.-10 p.m.** Department of Emergency Medicine. "DEM Holiday Party." Town and Gown.

### Saturday, Dec. 31

**All day.** USC Master of Medical Management (MMM). "Special Application Deadline for Keck Medicine of USC Physicians." Info: Maeleine Mira, (213) 740-9577, maeleine.mira@marshall.usc.edu, <http://www.marshall.usc.edu/mmm/>. Use your tuition benefit to earn a Master of Medical Management (MMM) — a one-year physician-only business degree. Special application deadline for Keck Medicine physicians is Dec. 31.

**Notice:** Calendar items are due at least 10 days before publication date. Timely submission does not guarantee publication in print. See more calendar entries at [hscnews.usc.edu/calendar-of-events](http://hscnews.usc.edu/calendar-of-events). Submit items at [tinyurl.com/calendar-hsc](http://tinyurl.com/calendar-hsc). Include day, date, time, title of talk, first and last name of speaker, affiliation of speaker, location and a phone number/email address.

# Grants to support prostate cancer diagnostics research

By Mary Dacuma

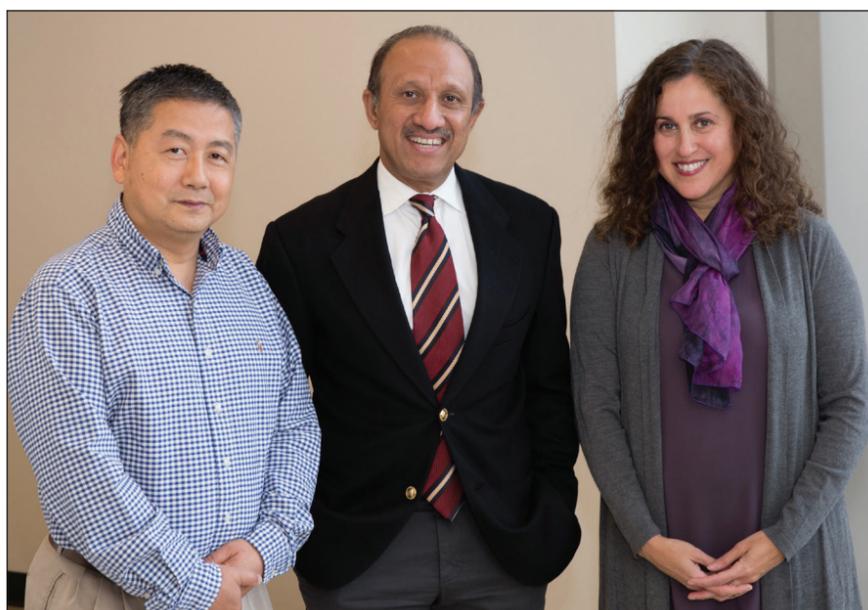
The USC Institute of Urology, recently ranked in the top 15 Best Hospitals nationwide for urology by *U.S. News and World Report*, has received two grants from the National Institutes of Health to advance the field of prostate cancer diagnostics.

A \$2 million research grant will examine the effectiveness of using magnetic resonance (MR)-ultrasound image fusion technology to diagnose clinically significant prostate cancer in African-American versus Caucasian men. This is the first prospective, randomized comparison of standard biopsies versus targeted biopsies in these two ethnic groups.

MR-ultrasound image fusion combines magnetic resonance and ultrasound imaging to identify potentially aggressive lesions prior to biopsy. Physicians could then select two or three targets for a needle biopsy, or perhaps rule out the need for a biopsy altogether.

The method is being incorporated slowly in prostate cancer diagnostics, primarily at centers of excellence like the USC Institute of Urology. However, the current widespread practice involves 12-14 random needle biopsies, which may cause patients negative side effects. Moreover, the randomness of this procedure may lead to inaccurate results — cancerous lesions are not localized uniformly within each prostate and more aggressive lesions might not be biopsied.

“Because of the side effects associated with diagnosing and



From left, Gangning Liang, Inderbir Gill and Mariana Stern.

treating prostate cancer, there is a fine line between vigilance and overtreatment,” said Inderbir Gill, MD, MCh, founding executive director of the USC Institute of Urology, chair and professor of urology at the Keck School of Medicine of USC and a principal investigator of the study. “If this method proves successful, physicians can walk that line more precisely, decreasing patient risk while improving accuracy.”

The research effort focuses specifically on African-American men because of their increased risk for the disease. According to the American Cancer Society, prostate cancer occurs

more often in African-American men than in other ethnicities. Prostate cancer is also more aggressive among African-Americans, who are twice as likely to die of the disease than Caucasian men.

“Too many men are getting biopsies, and few are choosing active surveillance, in particular African-American men because they are more at risk for prostate cancer and having clinically significant disease missed at the time of biopsy,” said Mariana Stern, PhD, associate professor of research preventive medicine and urology and a co-principal investigator of the study. “Developing a targeted

method for diagnosis would give men more confidence in making treatment decisions and potentially decrease the number of prostate biopsies.”

A second exploratory grant will assess whether or not DNA methylation in prostate cancer biopsy tissue can accurately determine if a prostate cancer lesion is aggressive. DNA methylation creates detectable marks that are altered when tumors develop. Aggressive cancer cells typically cause more alterations. If successful, this practice could provide clinicians and patients additional insight as to the best course of prostate cancer treatment.

“Although prostate cancer treatment can sometimes negatively impact patients’ quality of life, many patients have non-aggressive cancers that do not require initial treatment,” said Gangning Liang, MD, PhD, professor of research urology at the Keck School. Liang is a principal investigator of this study alongside Gill. “This initiative takes research from the bench to the bedside, using correlations in basic science to provide patients the best standard of care.”

The USC Institute of Urology will begin recruitment for the studies this fall. They aim to recruit 400 participants in collaboration with five other prestigious research centers: Memorial Sloan Kettering Institute of Cancer Research; University of Maryland, Baltimore; Johns Hopkins University; Henry Ford Health System; and University of Texas Southwestern Medical Center.

Ricardo Carrasco III



USC President C. L. Max Nikias, left, hands a miniature chair to Ghada Irani, during the installation celebration honoring Arthur Toga, seated, as the inaugural holder of the Ghada Irani Chair for Neuroscience, held Nov. 17 on the Health Sciences Campus.

## CHAIR

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to humanity in our century. This chair allows one of the world’s leading scholars, one of the world’s leading professors, to further advance along one of the greatest frontiers of our times.”

Irani is a member of the Keck School of Medicine of USC Board of Overseers and noted humanitarian who serves as chair of UNICEF’s Southern California Regional Board.

“I’m so pleased that Dr. Arthur Toga will be the first Ghada Irani Chair in Neuroscience,” Irani said. “I am delighted that you and your USC team are working to better understand the brain for the benefit of all humankind.”

The Ghada Irani Chair in Neuroscience was endowed as part of a pledge by Irani and her husband, USC Trustee Ray Irani, PhD. Toga will be leading his team in the newly opened USC Stevens Hall, which is named for USC Trustee Mark Stevens and his wife Mary. The building, formerly Raulston Memorial Research Building, was renovated from its original 1952 frame and designed to facilitate the USC Mark and Mary Stevens Neuroimaging and Informatics

Institute’s world-class research.

“These two gifts have been transformational because they come at an ideal time for our institution,” said Rohit Varma, MD, MPH, dean of the Keck School of Medicine of USC and director of the USC Gayle and Edward Roski Eye Institute. “As an institution over the past few years, we have tried to hone in on what kind of research will bring about the greatest good for our patients and neuroscience is certainly an area where we have an enormous need — not just in the U.S. but worldwide. And in that particular sphere, neuroimaging is the key to understanding not just how disease occurs and progresses but also what we can do to prevent it.”

In his remarks during the ceremony, Toga spoke about his plans for using his position as chair to promote up-and-coming neuroscientists, recruit quality students and further the cutting-edge research at the institute.

“Ghada, you’ve given USC and me a tremendous gift today,” Toga said. “Not only is it a surprisingly comfortable chair, it’s a most precious gift because it’s the gift of paying it forward. And I intend on doing the exact same thing, pay it forward.”

## HALL: Toga designed building renovations

Continued from page 1

for the advanced science for which Toga is known. This is because Toga himself designed the building alongside architecture firm SmithGroupJJR. The 35,227-square-foot building, renovated and rehabilitated from the original 1952 concrete frame, is naturally bright with plenty of California sunshine streaming through glass walls. The main entrance has biometric access control with the ability to read one’s identification badge, fingerprint or iris pattern.

The interior design features few straight lines, an intentional choice from Toga. “Straight lines rarely occur in nature,” he said.

The walls are lined with monitors displaying rotating images of exquisite, brightly colored brain maps. But the most fascinating features of USC Stevens Hall are the ones that will facilitate the USC Stevens Neuroimaging and Informatics Institute’s world-class research:

- The largest brain data repository in the world, currently holding about three terabytes of information from every continent except Antarctica.

- A Siemens 3T Prisma magnetic resonance imaging (MRI) machine, with the world’s first and only Siemens 7T MRI coming early next year. To accommodate the machines, the imaging rooms were built with a removable roof hatch so they are accessible by crane.

- The Data Immersive Visualization Environment (DIVE) presentation theater, where researchers can project massive data sets and highly magnified images on a 12-by-15-foot screen with 1.5 mm pixel display in Ultrahigh Definition 4K resolution.

- An on-site, high performance computing (HPC) cluster with 4,096 processor cores.

“I designed every facet of USC Stevens Hall bearing in mind the challenges we face in neuroimaging and the tools my team needs to overcome those challenges,” Toga said. “Through the generosity of Mark and Mary Stevens, we have the ideal environment to enable our research; and you can expect the Institute to chip away even faster at the perplexing neurological issues plaguing us today.”



Arthur Toga, left, talks to Mark Stevens about the features of the new USC Stevens Hall for Neuroimaging during a Nov. 17 tour of the building on the Health Sciences Campus.

Steve Cohn

## HSC Newsmakers

A roundup of news items related to Keck Medicine of USC, which may include philanthropic donations, research grants, publication in academic journals and mentions in the news media:



Nicholas Gingold Photography

Tom Jackiewicz, right, is seen in a conversation panel with Rohit Gupta, during USC Digital Health Lab's Fall Innovation Series.

### Leaders discuss future of health care technology

IN A SOLD-OUT EVENT, USC Digital Health Lab's (D-Health) Fall Innovation Series brought together thought leaders in health and technology to discuss the future of health care and how academia and entrepreneurs can work together to create that future. More than 70 people, including leaders from across Keck Medicine of USC, attended the Innovation Series, which was produced by D-Health and Health, Technology and Engineering program (THE@USC). The event featured a conversation between Tom Jackiewicz, MPH, senior vice president and CEO of Keck Medicine, and Rohit Gupta, managing director of Big Sur Ventures. They discussed the nuances of investing in health care technology compared to traditional tech investments and how academic medical centers can drive health care innovation in today's world.



Don Millici

Keck Medicine of USC nurse Maria Saballos administers a flu shot during the 26th annual Mariachi Festival, held Nov. 20 in Boyle Heights.

### Keck Medicine brings family fun, screenings to festival

USC CIVIC ENGAGEMENT AND Keck Medicine of USC hosted a health pavilion at the 26th annual Mariachi Festival, held Nov. 20 at Mariachi Plaza in Boyle Heights. Activities included free health screenings, flu shots, raffles and a family photo booth.



Courtesy photo

Xen Gel Stent

### FDA approves treatment tested at USC Roski Eye Institute

MILLIONS OF GLAUCOMA PATIENTS whose previous surgical treatment failed to reduce their eye pressure have new hope following several years of pivotal clinical trials conducted in refractory glaucoma patients, including work done at the USC Gayle and Edward Roski Eye Institute, as Allergan announces the XEN® Glaucoma Treatment System has been approved by the U.S. Food and Drug Administration (FDA). Rohit Varma, MD, MPH, director of the USC Roski Eye Institute and dean of the Keck School of Medicine of USC, who led the work at USC, has called the XEN implantable device "a game changer," especially for those patients where refractory surgery treatments have failed to reduce intraocular pressure (IOP). Allergan has said the XEN stent will be available in the U.S. in early 2017. — **Sherri Snelling**



Ricardo Carrasco III

**ROYAL VISIT:** The Tournament of Roses 2017 Royal Court visited the USC Norris Cancer Hospital for the 22nd year on Nov. 22. The Rose Queen and princesses spread cheer and hand out rose stickers to patients and employees, as well as learn about cancer research and cutting-edge treatments available at the hospital. USC Norris volunteers post with, from left in black, Princess Shannon Larsuel, Princess Natalie Petrosian, Princess Maya Khan, Queen Victoria Castellanos, Princess Audrey Cameron, Princess Autumn Lundy, Princess Lauren "Emi" Powers.

## Hearst Fellow studies how stem cells respond to infection

By **Cristy Lytal**

Few researchers have studied how hematopoietic stem cells respond to infection — even though these are the stem cells that give rise to the full battery of specialized immune cells, such as T cells and B cells. Postdoctoral scholar Adnan Chowdhury, PhD, is venturing into this uncharted territory as the winner of the Hearst Fellowship, which will launch his early scientific career with a generous startup package including salary and benefits for a full year.

"None of the immunologists think about the hematopoietic stem cells, and none of the hematopoietic stem cell people think about the immunology," Chowdhury said. "They're kind of separated, even though they're very related, because the hematopoietic stem cells give rise to the immune system."

It was Chowdhury's burgeoning interest in gene therapy that prompted him to learn more about viruses, which can be used as vehicles for delivering new genetic material to cells. As a PhD candidate at the Saint Louis University School of Medicine, he studied how the HIV virus cannot effectively replicate in patients who also are infected with GB Virus C (hepatitis G virus), a pathogen that causes no deleterious symptoms.

"There's no negative effect of having a co-infection," Chowdhury said. "You're better off in every measure. You have better white cell counts, lower HIV titers, lower transmission rates."

He dedicated his PhD to his grandfather, who was a biology professor and textbook author in Bangladesh.

As Chowdhury transitioned into his postdoctoral studies, he wanted to learn more about the cells that might receive gene therapy: the "hematopoietic" stem cells that form the blood and immune systems. These are the stem cells that he currently studies in the lab of Rong Lu, PhD, assistant professor of stem cell and regenerative medicine, at the Eli and Edythe Broad Center for Regenerative

Medicine and Stem Cell Research at USC.

For his Hearst Fellowship project, he will examine the response of individual hematopoietic stem cells (HSCs) during acute and chronic viral infections in mice. He will use the Lu lab's combination of sophisticated technologies to tag and track individual HSCs, and then evaluate the molecular mechanisms that enable certain HSCs to promote a quick and/or robust immune response. His research could offer clues about how to supplement or stimulate a patient's HSCs to produce more immune cells faster during a hard-to-beat infection, such as influenza in the elderly or HIV.

"I would like to thank the Hearst Foundations for the opportunity to continue my



Cristy Lytal

Adnan Chowdhury

research," said Chowdhury, who eventually hopes to run his own laboratory as a principal investigator. "I think this is an idea that no one is looking at, and I really want to blow this field open. It's very exciting to me."

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