HSC News

USC University of Southern California

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Amgen CEO discusses challenges, opportunities of biotechnology

By Hope Hamashige

As chairman and chief executive officer of Amgen, Robert A. Bradway is keenly aware of how tough and how expensive it is to bring new drugs to market.

He also knows pharmaceutical companies must strike a delicate balance between pleasing shareholders and creating next-generation pharmaceuticals. At a time when research and development are becoming more expensive and research funding is declining, it's a difficult task.

And yet, he is kind of an optimist when it comes to the future of the biotechnology. Why? He credits the success of the human genome project with ushering in a new era in biotechnology, one that has made it possible for scientists to home in on human genetic variants quickly and relatively inexpensively.

Steve Cohn

Amgen CEO Robert A. Bradway speaks at Aresty Auditorium on Aug. 13 about the company's focus developing treatments for several serious diseases.

"The challenges for all of us are profound," said Bradway, who was the first speaker of the 2014-2015 Dean's Distinguished Lecturer series. "But I believe there are going to be some major breakthroughs."

To facilitate such breakthroughs, Amgen acquired an Icelandic company that specializes in identifying genetic risk factors for human disease.

Before a packed house in Aresty Auditorium on Aug. 13, Bradway said that the company's focus on identifying rare variants is helping it develop potential treatments for several

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> 'The challenges for all of us are profound, but I believe there are going to be some major breakthroughs.'
>
> — Robert A. Bradway, CEO, Amgen

USC study shows African-Americans at higher risk for diabetic vision loss

By Leslie Ridgeway

African-Americans bear a heavier burden of diabetic macular edema (DME), one of the leading causes of blindness in diabetic patients in the United States, according to research by Keck Medicine of USC ophthalmology scientists.

The research, published online in the *Journal of the American Medical Association Ophthalmology*, indicates a higher burden of diabetes-related vision loss among certain ethnic populations because of problems with access to care, said corresponding author Rohit Varma, MD, director of the USC Eye Institute and professor and chair of ophthalmology at the Keck School of Medicine of USC.

"We were surprised that our research showed that African-Americans have the highest rates of DME, when Hispanics tend to have the highest prevalence of diabetes," said Varma, who is recognized as one of the leading researchers of eye disease in underserved populations.

"There is not enough vision screening for DME among diabetics, yet there are much better therapies available that are covered by insurance. We hope that our research will help those in the position to influence policy to get a better handle on costs and where the need for treatment is the greatest," he added.

Diabetic eye disease is one of the leading causes of vision loss in people ages 20-70 years. Approximately 347 million people throughout the world have diabetes mellitus, and the Centers for Disease Control estimates that 25.8 million Americans had diabetes in 2010.

DME results when fluid and protein accumulates on the macula of the eye, which is part of the retina, causing it to thicken and swell. The victim's central vision is affected and, left untreated, the condition can range from slight

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White coat ceremony inaugurates students as physicians

By Sara Reeve

For 187 fresh-faced new medical students from the Keck School of Medicine of USC's Class of 2018, the act of putting on a white coat signified the beginning of their lives as health-care professionals. At a ceremony held on Aug. 15, 2014 in the Harry & Celesta Pappas Quad, these students received their white coats from faculty leaders to symbolize the trust placed in them by the public.

"This white coat is a symbol of authority — a symbol of empowerment," Henri Ford, MD, MHA, vice dean for medical education at the Keck School of Medicine of USC, told the assembled students and guests. "But most importantly, it represents a beacon of hope for many suffering patients on hospital wards. The empowerment this white coat brings cannot be fully realized until you learn to exhibit the following qualities: character, compassion, sensitivity, patience, honesty and integrity. These qualities are the essential scaffold of professionalism."

Keynote speaker Kenji Inaba, MD, associate professor of surgery and emergency medicine at the Keck

See WHITE COAT, page 4

Jon Nalick

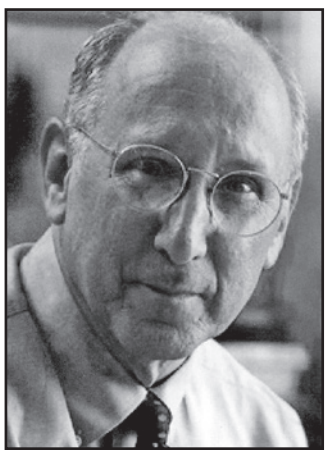
Jon Nalick

From top: Keck School of Medicine student Karen Burtt receives her white coat from Henri Ford, vice dean for medical education at the Keck School of Medicine; members of the Class of 2018 applaud their peers.

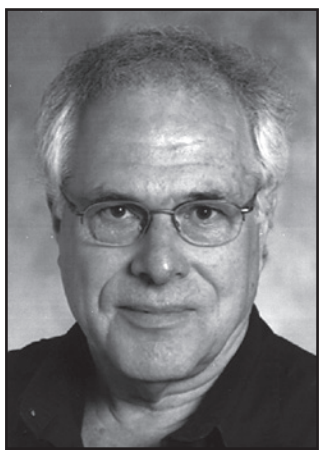
2014 Massry Prize recipients lauded for innovative work in immunotherapy

By Hope Hamashige

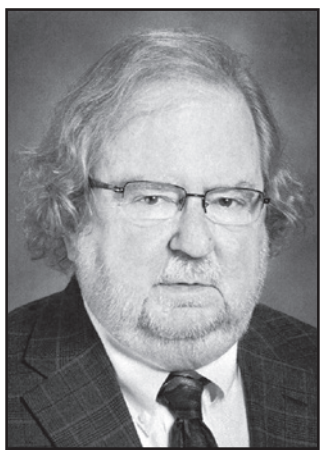
Three scientists whose research on T cells paved the way for innovative new immunotherapies for cancer patients, Steven Rosenberg, Zelig Eshhar, and James Allison, are the winners of this year's Meira and Shaul G. Massry Prize.



Steven Rosenberg



Zelig Eshhar



James Allison

The Meira and Shaul G. Massry Foundation established the international Massry Prize in 1996 to recognize outstanding contributions to the biomedical sciences and the advancement of health. Founded by Shaul Massry, MD, professor emeritus of medicine at the Keck School of Medicine of USC, the nonprofit foundation promotes education and research in nephrology, physiology, and related fields.

Immunotherapy attempts to stimulate the immune system to destroy tumors. T cells are a class of white blood cells that is capable of recognizing tumors, binding to them and attacking cancer cells. Understanding T cells and enhancing their ability to attack cancer led to the development of a new class of treatment.

Rosenberg, MD, PhD, chief of surgery at the National Cancer Institute, is credited with developing a procedure known as adoptive cell transfer (ACT). Rosenberg was the first to isolate T cells with the most effective tumor-killing properties, expand their numbers in the lab and transfer them back to the patient. Clinical trials using ACT for patients with metastatic melanoma are ongoing at several institutions.

Although T cells exhibit a wide range of receptors for cancers, they have limitations. Eshhar, PhD, professor of immunology at the Weizmann Institute of Science in Rehovot, Israel, developed a technique to expand the range of T cells to attack cancers. Eshhar created chimeric antigen receptors, or CARs, by fusing portions of the T cell receptor with antibodies that recognize tumor antigens, or with other molecules that promote binding to tumor cells, killing them.

Allison, PhD, chair of the department of immunology at the University of Texas MD Anderson Cancer Center, exposed how cancer cells evade immune system attacks and developed antibodies that block this ability. His research led to a new treatment for metastatic melanoma and opened the door to many new so-called immune checkpoint treatments.

"Drs. Rosenberg, Eshhar and Allison have carried out major basic research observations, translational studies and clinical applications that initiated this new era in cancer therapy," said Shaul Massry. "Their work fulfills the lofty goals of the Massry Foundation in supporting extraordinary contributions to biomedical sciences."

VISION: Physicians urged to closely assess diabetic patients

'We hope that our research will help those in the position to influence policy to get a better handle on costs and where the need for treatment is the greatest.'

— Rohit Varma, director, USC Eye Institute

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blurring to blindness.

Varma's team conducted the study by using the National Health and Nutrition Examination Study (NHANES) database, a national dataset measuring the health and nutritional status of American adults and children. The assessment has been surveying about 5,000 Americans every year since the early 1960s and is used by researchers nationwide to determine the prevalence of major diseases and risk factors for disease.

As part of NHANES, subjects undergo a physical exam that includes photos of their retinas, which Varma's team reviewed to determine the prevalence of DME.

"Clinicians should assess diabetes patients, especially those who are African-American or Hispanic, more closely for vision loss," Varma advised. He also stated that patients should do everything they can to control their glucose and monitor their own vision. Varma pointed out that August marks National Eye Exam Month, an ideal perfect time for ophthalmologists and patients to concentrate on eye health.

Varma's next target for research is examining barriers to access to eye care among African-Americans. He is a consultant for Genentech, a pharmaceutical company that funded the DME study.

The research team included scientists from the Wilmer Eye Institute at Johns Hopkins University School of Medicine, Outcomes Insights Inc., The Ohio State University Division of Public Health and Genentech Inc.

BRADWAY: Many challenges loom ahead in biotechnology

Continued from page 1

serious diseases.

Amgen is developing a new class of drug, a so-called PCSK9 inhibitor, to lower unhealthy LDL cholesterol. Scientists at Amgen are also studying a novel target, TREM2, that is linked to Alzheimer's disease.

It is in the area of cancer treatment, however, that Bradway said the company is "on the verge of exciting breakthroughs." The company earned a breakthrough therapy designation from the U.S. Food and Drug Administration for a type of immunotherapy for acute lymphoblastic leukemia. Amgen is also testing an oncolytic virus for the treatment of metastatic melanoma.

Bradway said he doesn't expect the challenges to become easier, and he hopes that both the biotechnology industry and scientists in academia will come together and face them head on.

Keck Hospital of USC Sleep Disorders Center receives program accreditation

Keck Hospital of USC Sleep Disorders Center in Los Angeles recently received program accreditation from the American Academy of Sleep Medicine (AASM).

To receive accreditation for a five-year period, a sleep center must meet or exceed all standards for professional health care as designated by the AASM.

These standards address core areas such as personnel, facility and equipment, policies and procedures, data acquisition, patient care, and quality assurance. Additionally, the sleep center's goals must be clearly stated and include plans for positively affecting the quality of medical care in the community it serves.

Timothy Morgenthaler, AASM president, said, "The American Academy of Sleep Medicine congratulates Keck Hospital of USC Sleep Disorders Center on meeting the high standards required for receiving accreditation as a sleep disorders center. Keck Hospital of USC Sleep Disorders Center is an important resource to the local medical community and will provide academic and scientific value in addition to the highest quality care for patients suffering from sleep disorders."

The American Academy of Sleep Medicine accredited a sleep disorders center for the first time in 1977. Today there are more than 2,500 AASM-accredited sleep centers across the country.

Keck Hospital of USC Sleep Disorders Center is directed by Terese C Hammond, MD, and is located at 1500 San Pablo St.

HSC News **Next Issue: Sept. 5**

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Editor: Jon Nalick

Contributors: Hope Hamashige, Cristy Lytal, Leslie Ridgeway and Alison Trinidad

Director of Internal Communications: Virginia Baca

Executive Director of Creative Services: Tom DeSanto

Associate Vice President, Health Sciences Public Relations and Marketing: Deborah S. Fullerton

Vice President, Public Relations and Marketing: Brenda Maceo

Phone: (323) 442-2830 Fax: (323) 442-2832
Email: hscnews@usc.edu Web: hscnews.usc.edu

NIH grant provides 'ear training' for the next generation of neuroscientists

By Cristy Lytal

If you want to know why hearing and communication neuroscience matters, meet Richard Reed. A musician who lost his hearing for nearly a decade, Reed received a cochlear implant and successfully continued his career as a professional pianist and organist. He will be speaking and performing at 4 p.m. on Aug. 22 on the University Park Campus to celebrate the start of the academic year and the renewal of the Hearing & Communication Neuroscience (HCN) training grant at USC.

Funded by nearly $1.5 million from the National Institutes of Health (NIH), the renewed training grant will continue to provide two years of support to two postdoctoral fellows and four PhD students until 2019. The USC Dornsife College of Letters, Arts and Sciences provides two years of support for a fifth PhD student.

This specialized training has launched the careers of a series of students and postdoctoral fellows in stem cell biology and regenerative medicine, neuroscience, linguistics, psychology and biomedical engineering.

"Postdoctoral trainees from the HCN program have gone on to premiere faculty positions," said Neil Segil, PhD, co-principal investigator (PI) on the grant and professor of research in the departments of Stem Cell Biology and Regenerative Medicine and Otolaryngology — Head and Neck Surgery. "And the graduate students, by and large, have gone off to do further training as postdocs at other leading institutions."

Professor of Biological Sciences Sarah Bottjer, PhD, serves as the other co-PI on the training grant. The program's 18 official faculty mentors — called preceptors — hail from the Keck School of Medicine of USC, the USC Viterbi School of Engineering, and USC Dornsife. The program also has strong ties to clinical practice through the Department of Otolaryngology and the USC Center for Childhood Communication, located at the John Tracy Clinic, an audiology center for children with hearing loss.

The grant also funds programs for all USC graduate students with an interest in the field. Students participate in a monthly dinner meeting featuring an outside speaker, an annual retreat at the USC Wrigley Institute for Environmental Studies on Catalina Island and a biannual course (BISC 521/ NEUR 542).

"There's still a huge unmet need from an educational standpoint," said Segil, "so support for the next generation of researchers is incredibly important."

For more information, visit dornsife.usc.edu/hcn.

Stellar science program celebrates its formula for success on 25th anniversary

By Kukla Vera

High school students play key roles as members of the USC program Science, Technology and Research, better known as STAR.

STAR is a partnership between USC and the Francisco Bravo Medical Magnet High School in the Los Angeles Unified School District.

The students take part in projects seeking solutions to some of the world's most challenging illnesses, including cancer, diabetes, Alzheimer's and HIV/ AIDS. On Aug. 1, the USC School of Pharmacy hosted a celebration marking the program's 25th anniversary.

"Over 600 students have completed the STAR program since we started it 25 years ago," said Roberta Diaz Brinton, R. Pete Vanderveen Professor in Therapeutic Discovery and Development at the School of Pharmacy and the program's director. "These students have contributed to over 100 scientific publications, listing them as co-authors while still in high school. And 100 percent of our STAR students have gone onto universities — many to the nation's elite schools like USC, Harvard, Yale, MIT, Princeton and Stanford."

The evening held in STAR's honor brought together current students, recent graduates now in college or graduate school and successful alumni who shared their experiences. Among them was Arthur Ohannessian, now a physician at UCLA.

"I couldn't wait to come to this reunion to say thank you," he said. "I would not have the career I have and be able to make the impact on my patients and my family if not for the STAR program."

Sarah Golonka

Maria Torres-Flores, Thomas Sayles, R. Pete Vanderveen and Roberta Diaz Brinton celebrate the 25th anniversary of the USC STAR program.

He was the first in his family to go to college, said Ohannessian, who credits STAR with influencing his decision to go into family medicine.

During his time with the program, Ohannessian was credited on three professional publications that he is proud to still have on his dossier, he said.

Ohannessian's sentiments were repeated throughout the evening as STAR alumni talked about their past experiences and current positions.

USC physician leads new study on genomics of young lung cancer

By Hope Hamashige

Barbara Gitlitz, MD, associate professor of medicine at the Keck School of Medicine of USC and members of the USC Norris Comprehensive Cancer Center, is leading a new clinical study to understand why lung cancer occurs in adults under 40 who are athletic, were never smokers and do not exhibit any of the known lung cancer genetic mutations.

The multi-institutional research project is aimed at determining whether healthy young adults who are diagnosed with lung cancer have a unique subtype, or genotype, and at developing new targeted therapies for these younger patients.

"This study lays the groundwork for discovery of novel targetable genotypes as well as heritable and environmental risk factors for lung cancer patients under 40," said Gitlitz. "We'll be evaluating 60 patients in this initial study and hope to apply our findings to a larger follow-up study in the future."

The Addario Lung Cancer Medical Institute is managing the study. The other participating institutions are the Dana-Farber Cancer Institute, The Ohio State University and the University of Torino in Italy.

For more information about the study, please contact Steven Young, president of ALCMI, at (203) 226-5765 or info@lungcancerfoundation.org or visit https://www.openmednet.org/site/alcmi-goyl.

Carrera named VP for USC Health Sciences Development

David M. Carrera, an accomplished advancement professional who helped plan and implement one of the largest fundraising efforts in the history of academic medicine, has been named vice president for USC Health Sciences Development, effective August 1.

In this role, Carrera will oversee the advancement activities for Keck Medicine of USC, including Keck Hospital of USC, USC Norris Cancer Hospital, USC Verdugo Hills Hospital, and the 600-physician practice group known as USC Care Medical Group, Inc. He will also oversee development for the Keck School of Medicine of USC, including academic departments, research centers, institutes, and programs. Carrera will report to Al Checcio, senior vice president for University Advancement.

Carrera comes to USC from Johns Hopkins University, where he served as associate vice president for The Fund for Johns Hopkins Medicine (FJHM), the enterprise responsible for raising all private philanthropy for Johns Hopkins Medicine. He was the longest serving member of FJHM's senior management team. Since 2005, his oversight of fourteen clinical programs within Johns Hopkins School of Medicine and Johns Hopkins Hospital and five affiliated hospitals in the Johns Hopkins Health System produced dramatic results in grateful patient giving and led to increased revenue each year.

"Dave has a collaborative style and has built successful principal, major, and annual giving programs at several universities," said Al Checcio. "At Johns Hopkins, he implemented fundraising practices that are now widely regarded as the gold standard. As USC's medical enterprise continues to expand rapidly, Dave is the ideal person to help our team capitalize on the opportunities that lie ahead."

Carrera also served on the Johns Hopkins University development and alumni relations executive team, helping to set policy and manage 450 staff who are supporting the university's $4.5 billion campaign which was announced in May 2013. Johns Hopkins Medicine seeks to raise $2.4 billion as part of that campaign.

Calendar of Events

Friday, Aug. 29

11 a.m. Hematology Grand Rounds. "Targeting Chemotherapy-Resistant Leukemias," "Fatih Uckun, USC. LAC+USC Medical Center Inpatient Tower Conference Room D. Info: Carolyn Castellanos, (323) 865-3913, Carolyn.castellanos@med.usc.edu

Wednesday, Sept. 3

7:30 a.m. Institute for Integrative Health Seminar. "It's All About Community: The Critical Role of Behavioral Medicine in Creating a Successful and Effective Integrative Health Center," P. Tobi Fishel, Vanderbilt University. Harkness Auditorium. Info and RSVP: Quintilia Avila, (323) 442-2638, qavila@usc.edu, integrativehealth.usc.edu

11:30 a.m. Eric Cohen Student Health Center Seminar. "Mindfulness Kick-off Event," Allen Weiss, USC. Aresty Auditorium. Info: Jessica Cerda, (323) 442-6816, jdrcerda@med.usc.edu, ecohenshc.usc.edu. RSVP: (323) 442-5631

Noon. The Saban Research Institute Seminar. "Analyzing Brain Development and Disease with Neuroimaging and Genomes from 29,000 People Worldwide: The ENIGMA Project," Paul Thompson, USC. Saban Research Building, First Floor Auditorium, CHLA. Info: Laura Rabin, (323) 361-8715, laurarabin@gmail.com, www.chla.org/TECPAD

Wednesday, Sept. 10

12:30 p.m. Southern California Clinical and Translational Science Institute Discussion. "Research Ethics Forum: The Havasupai People vs. Arizona State University: Genetics, Consent and Communities" "Donna Spruijt-Metz, USC. Aresty LG503. Info and RSVP: Ray De Mesa, (323) 442-8281, ecde@sc-ctsi.org, ow.ly/zygS2

Thursday, Sept. 11

2 – 4 p.m. Southern California Clinical and Translational Science Institute Workshop. "Mentoring Workshop," Emil Bogenmann, USC. Aresty LG503. Info and RSVP: Ray De Mesa, (323) 442-8281, ecde@sc-ctsi.org, ow.ly/yCUtC

Saturday, Sept. 13

7 a.m. – 4:15 p.m. USC Pulmonary Symposium. "2014 State of the Art," Kamyar Afshar, USC. 191 N. Robles Avenue, Pasadena. Info: Teresa Ball, (323) 442-2555, teresa.ball@med.usc.edu, www.usc.edu/cme

Monday, Sept. 15

Noon. Southern California Clinical and Translational Science Institute, KSOM Office of Research Advancement's Research Seminar Series and NIH T32 Training Program. "Innovative Thinking Lecture and Interactive Workshop," Roberta Ness, University of Texas. Aresty LG503. Info and RSVP: Ray De Mesa, (323) 442-8281, ecde@sc-ctsi.org, ow.ly/zG7Nr

Thursday, Sept. 18

7 a.m. – 5 p.m. 18th Annual Max R. Gaspar Symposium. "Peripheral Arterial Disease in 2014." Millennium Biltmore Hotel, 506 S. Grand Ave., Los Angeles. Info: Lisa Delgado, (323) 442-2555, lisa.ho@med.usc.edu, www.usc.edu/cme. RSVP: usccme@usc.edu, www.usc.edu/cme

Noon. GI and Liver Seminar. "Mechanisms of Autophagy in Protecting Against Drug-Induced Liver Injury," "Wen-Xing Ding, University of Kansas Medical Center. Hastings Auditorium. Info: Dolores Mendoza, (323) 442-1283, dmmendoz@usc.edu

Thursday, Sept. 25

Noon. USC Research Center for Liver Diseases Seminar. "Role of Mixed-Lineage Kinase 3 in Cellular Stress Responses," Anja Jaeschke, USC. Hastings Auditorium. Info: Dolores Mendoza, (323) 442-1283, dmmendoz@usc.edu

Saturday, Sept. 27

7 a.m. – 4:30 p.m. 2014 Annual Cerebrovascular Disease Symposium "Medical Versus Surgical Management of Cerebrovascular Disease," Arun Amar and Gene Sung, USC. Aresty Auditorium. Info: Teresa Ball, (323) 442-2555, teresa.ball@med.usc.edu, www.usc.edu/cme

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.

For CSOs, blue is the new hue

Community Service Officers Michael Dunn, Jenny Granados, Steven Cuarenta show off their new uniforms.

Community service officers (CSOs) on USC's campuses are sporting new uniforms, swapping green hues in favor of blues.

Charles Holloway, healthcare security director, said that on July 28, the USC Department of Public Safety (DPS) CSOs began wearing uniforms consisting of a light blue shirt and navy blue pant as part of a plan to rebrand the department and provide for a more professionally consistent uniform appearance.

DPS Public Safety Officers transitioned to a solid navy blue uniform several months ago. Both uniforms feature a distinctive department patch on the uniform shoulder with the words, "University of Southern California Public Safety" and a star emblem.

PSOs are sworn police officers. CSOs are unarmed, non-sworn officers who handle non-emergency calls.

LAC+USC Medical Center appoints new chief medical officer

Brad Spellberg, MD, has been appointed chief medical officer of the LAC+USC Medical Center and professor of medicine and associate dean for clinical affairs at the Keck School of Medicine of USC.

Spellberg joins the Keck School of Medicine of USC from the David Geffen School of Medicine at UCLA, where he was professor of medicine at the Harbor-UCLA Medical Center and associate medical director for inpatient services and associate program director for the internal medicine residency training program.

An infectious disease specialist, Spellberg and his laboratory conduct research on drug-resistant infections in an effort to develop vaccines and immune therapies to prevent and treat them. He has published more than 100 peer-reviewed papers in the areas of infectious diseases and antimicrobial therapy.

Spellberg has served as chair of the gram negative committee and as a steering committee member of the Antibiotic Resistance Leadership Group, an organization dedicated to prioritizing, designing and executing clinical research to reduce the public health threat of antibacterial resistance.

WHITE COAT: Keck students take their Hippocratic Oath

Continued from page 1

School of Medicine and 2014 Leonard Tow Humanism in Medicine Award recipient, reminded the incoming students that the manner in which they provide care to patients is just as important to the practice of medicine as scientific proficiency and technical training.

"Over the next four years, you are going to go from thinking about why you wanted to do medicine, to actually learning the mechanics of how you practice medicine," said Inaba. "And the reality is that, in 2014, it requires an unbelievable amount of knowledge, and it's easy to get caught up in the science of all of this. In your rush to learn and saves lives, I hope that you will think back to this day, and remember the importance of compassion, and the reason you chose to be here today."

With nervous smiles and eager steps, the students were presented with their coats by Ford, Keck School of Medicine Dean Carmen A. Puliafito, MD, MBA, and Donna Elliott, MD, EdD, senior associate dean for student and educational affairs. Proud parents, beaming grandparents, cheering family and friends all snapped photos and shouted hurrahs as the students crossed the stage.

After receiving their coats, the students rose to recite the Hippocratic oath, promising to practice the art of medicine with honor and loyalty.

The Keck School of Medicine's ceremony was the first of several White Coat Ceremonies scheduled to take place on the Health Sciences and University Park Campuses in the coming weeks.

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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.