BRAIN Initiative grants fund research on mouse

By Zara Abrams

The USC Mark and Mary Stevens Neuroimaging and Informatics Institute (INI) at the Keck School of Medicine of USC has received $19 million to help create a classification system for cells in the mouse brain. Led by Associate Professor of Neurology Hong-Wei Dong, the team will join the BRAIN Initiative Cell Census Network (BICCN) consortium, a five-year multisite collaboration funded by the BRAIN Initiative.

In the present project, researchers will examine the brain in finer detail than ever before—combining anatomical, physiological, and genetic approaches to paint a comprehensive picture of different cell types. It’s an extensive classification and mapping effort comparable in scale to the human genome project.

“When scientists first began studying the brain, we divided it into lobes,” said Dong. “Then we began classifying it into progressively smaller regions. Now we’re looking at groups of cell types and even individual cells.”

Joining the BRAIN Initiative, one of NIH’s most prestigious consortiums, is a significant milestone for the team, according to Dong. “We’re excited to work with other scientists to understand the molecular basis of disease and to foster innovative solutions by scientists working together.”

Mosqueda named interim dean of the Keck School

Laura Mosqueda, MD, chair and professor of family medicine (clinical scholar) and associate dean of primary care, was announced as the interim dean of the Keck School of Medicine of USC in an Oct. 6 email from Provost Michael Quick, PhD. Mosqueda has served as chair of the Department of Family Medicine since 2014. She is the director of the federally funded National Center on Elder Abuse, is the principal investigator for a study examining the prevention of abuse in vulnerable older adults and is widely respected authority on geriatric and family medicine, the email stated.

“Dr. Mosqueda, a highly esteemed and widely respected leader at Keck School, is the best person to lead our school during this crucial time,” Quick said in the email. “With her experience in our medicine department, she will be in an ideal position to lead our school as we continue our efforts to improve our culture.”

University leaders announce measures to improve campus culture

The university is implementing a series of measures that aims to strengthen and improve working and teaching environments, USC leaders announced in an Oct. 10 memo to Keck School of Medicine of USC faculty and staff.

The measures, which include creating a new office to provide leadership training as well as an investigative unit to address personnel issues, were announced in response to recent events at the Keck School, according to USC Provost Michael Quick, PhD, and Todd Dickey, JD, senior vice president for administration.

“While the issues at (the Keck School) have been painful, they have informed us,” Quick and Dickey wrote in the memo. “We have reflected on what it means to be a member of the Trojan Family, and more importantly, the crucial role that university leaders have in creating a strong and supportive culture on our campuses. We must build the respectful, honest community that is embodied in our code of ethics.”

The measures outlined included:

1. Vice Provost for Leadership Development and Evaluation: The creation of an office, reporting to the Provost, that will...
Microbiomes explored at 2017 Massry Prize lecture

By Amanda Busick

The microbiome — microorganisms that populate an ecosystem, either internal or external to a biological host — was the topic of this year’s Massry Prize Lecture, delivered Oct. 5 on the Health Sciences Campus.

Norman R. Pace, PhD, of the University of Colorado, Boulder, called microbiomes “the least understood, yet most important aspects of the global ecosystem.” Pace presented examples of microbiomes in indoor environments. Some — in locations such as swimming pools and bathrooms — contain microbes that may cause ailments including non-tuberculous mycobacterial pulmonary disease, which affects from 100 in 100,000 to more than 500 in 100,000 people in the United States, which is considered an epidemic level.

“That is a serious disease and it’s all over the place,” Pace said, giving the crowd a personal connection to his research. “I am sure that there are people with this disease out here in the audience.”

Rob Knight, PhD, of the University of California, San Diego, spoke about his work to perform microbial gene sequencing on a large scale. This was a necessary step in the study of microbiomes because, as Knight stated, “There are 100 million times as many bacteria on Earth as stars in the universe.”

“Microbiology,” he said, “is the ultimate big data science.”

Jeffrey I. Gordon, MD, and Rob Knight are seen before the 2017 Massry Prize lectures, held Oct. 5 on the Health Sciences Campus. From left, Norman R. Pace, M. Elizabeth Fini, Shaul G. Massry, Jeffrey I. Gordon and Rob Knight are seen before the 2017 Massry Prize lectures, held Oct. 5 on the Health Sciences Campus.

Gordon’s team has moved on to working with children in Bangladesh and Malawi. The first study is nearly complete, using a nutritional supplement specifically designed for the environment where these children live.

“At this point in time we have a human biological study that will allow us to determine whether we can repair this immature organ.”

Gordon said: “We’ll learn a lot from these studies about the interactions between healthy growth of a microbiota and healthy growth of children.”

The Meira and Shaul G. Massry Foundation established the annual Massry Prize in 1996 to recognize contributions to the biomedical sciences and the advancement of health. Fifty Massry Prize winners have gone on to win the Nobel Prize.

Calendar of Events

Wednesday, Oct. 25


Thursday, Oct. 26


A high school student participates in a simulation wearing “beer goggles” during a Sept. 25 visit to Keck Medical Center of USC.

Friday, Oct. 27

9 a.m.-11 a.m. SC CTMS Workforce Development Seminar. “How to Write a Manuscript,” Robert McKean-Cowdin, PhD, Health Sciences, Audiology. Info: Karen Kim, (323) 442-8281, wdcpsc-ctms@usc.edu. RSVP: https://education.usc.edu/surveys/?s=YEEFLJEHYK

Wednesday, Nov. 1

5:30 p.m.-8:30 p.m. USC Institute for Integrative Health and USC Office of Continuing Medical Education. “Preserving Healthcare: Reclaim the Soul of Medicine.” California Endowment, 1006 N. Alameda St. Info: Lynsayo Valemuse, (323) 442-2555, uschr@usc.edu, http://bit.ly/2QTPvd

November 6

Saturday, Nov. 4-Sunday, Nov. 5


BRAIN: grants fund research on mouse brain cells

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programs, means that INI researchers will have the chance to impact diverse research activities and serve as catalyst to other projects across the field of neurosciences.

“We’re creating a classification system for a finer level of detail than we’ve ever tackled before,” said Arthur W. Toga, director of the INI. “In the process, we’re developing datasets and tools essential to illuminating the structure and function of the brain.”

The consortium’s overarching goal is to identify and catalog each cell type in the mouse brain, which requires tackling the problem from all angles: from connectivity mapping to observing molecular signatures, electrophysiological properties, and functional relevance.

Toga is the principal investigator for the neuroanatomy analysis, based at INI, and will also provide support for two other projects: a connectivity and transcriptome analysis based at the Cold Spring Harbor Laboratory and an epigenetic analysis project based at the Salk Institute for Biological Studies.

For each project, Dong’s team will generate and analyze data, and provide informatics support. The group will work on identifying the most advanced imaging technologies available, including cutting-edge microscopy and viral tracing methods.

Wednesday, Oct. 4

Friday, Oct. 27


It’s all part of a workshop that Danios Clark, MD, assistant professor of clinical surgery, has set up with Foran and Soledad Enrollment Action (SEA), a nonprofit organization that provides intervention and education for young people who are at risk for gang involvement.

“We try to teach them about violence and how to avoid it, show them what trauma really is and then we try to give them higher educational goals,” Clark said.

The afternoon was an intense one: The SEA students started with a presentation on the cost—financial and human—of gun violence. They then toured the ICU and the fresh-tissue dissection lab for a look at what the caregivers in the trauma division see on a daily basis, as well as a primer on how to help others during a medical emergency.

The day ended with another perspective shift as Foran gave a presentation on potential medical careers so the students could see that they could get good-paying jobs whether they had a high school diploma, vocational training or a degree. “A lot of these kids started out not expecting to finish high school,” Clark said. “Now they see they have options.”

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Thursday, Nov. 2

10 a.m.-3 p.m. USC Human Resources. “Benefits Fair” Harry and Celinda Pippins Quad. Info: (213) 821-8100, uchr@usc.edu, http://openenrollment.usc.edu

Friday, Nov. 3

8 a.m.-8 p.m. HTC@USC and TurkPrime. “Transforming Healthcare with Data.” Radisson Hotel Los Angeles Midtown at USC. Info: Nadine Alas, nazar@usc.edu, http://bit.ly/2QTPvd

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. Submit items attinyurl.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.
New big data study will investigate link between gender and Alzheimer's disease

By Zara Abrams

Twice as many women as men develop Alzheimer's disease, but even after years of research, aging experts are unsure why. Judy Pa, PhD, assistant professor of neurology at the Keck School of Medicine of USC, will lead a new big data study focused on the link between gender and Alzheimer’s risk. “We believe there are distinct biological reasons for why women are at increased risk of Alzheimer’s disease — reasons that can be probed and discovered from data that already exist,” said Pa, who is based at the USC Mark and Mary Stevens Neuroimaging and Informatics Institute. “Previous research may have missed these gender-specific variations because the disparities can be subtle. This is why our targeted approach is important and necessary for addressing these questions.”

The five-year study is funded by a $3.78 million National Institutes of Health award and will use imaging and genetics data to explore the issue. Pa and her team include Alzheimer’s disease investigators across USC in the departments of Neurology, Psychology, Pharmaceutical Sciences and Preventive Medicine.

“The data are already there, but need to be cleaned up and reconciled for the study,” Pa said. “The data are already there, but need to be cleaned up and reconciled for the study.”

“Men and women may require specialized treatment strategies for a disease as complex as Alzheimer’s,” said Arthur W. Toga, PhD, Provost Professor of Neuroscience; and director of the USC Mark and Mary Stevens Neuroimaging and Informatics Institute. “It’s important to understand these differences so we can develop effective targeted therapies.”

“Our actions must be a visible manifestation of our highest ideals and shared values. With all of these steps, and more, we know we will become an even more exceptional community.”

“With your help we will move forward with the major initiatives in a calm and reasonable way,” Mosqueda said in the memo. “I look forward to learning a lot during this process and to meeting each of you.”

MOSQUEDA: named interim dean

Continued from page 1

Mosqueda encouraged Keck School leaders to reach out to her as the school prepares for upcoming events including recruitment, strategic planning and the accreditation visit from the Liaison Committee on Medical Education.

“With your help we will move forward with the major initiatives in a calm and reasonable way,” Mosqueda said in the memo. “I look forward to learning a lot during this process and to meeting each of you.”

FLU VACCINES: required for Keck Medicine employees

Continued from page 1

The Los Angeles County Department of Public Health mandates that health care personnel in acute care hospitals, long-term care facilities and intermediate care facilities in Los Angeles County be vaccinated against influenza or wear a protective mask. The goal of the order is to lower the rates of transmission of influenza among health care personnel and the vulnerable populations they serve. Preservative-free and egg-free flu vaccines are available.

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**Five questions with TJ Malseed**

**By Douglas Morino**

As the chief health information officer and vice president of the Keck School of Medicine at USC, Timothy James (TJ) Malseed oversees information management, technology and cybersecurity across the medical enterprise. He is drawn to the fast-paced, ever-evolving nature of the health care field.

“Technology in health care is rapidly evolving,” he said. “It keeps me on my toes. We have to be evolving as well as able to forecast where the technology is moving and how the health care landscape is changing.”

Malseed grew up in Michigan before moving to California with his family. He went on to study international business and computer science at the University of California, Davis. Prior to joining Keck Medicine in 2016, he held the positions of vice president, chief information officer and chief applications officer at Children’s Hospital of Los Angeles.

Malseed lives in La Crescenta with his wife and two young daughters.

Who is someone that you admire, and why?

Jack Welch, former CEO of General Electric. I admire his people-centric view and values with the addition of domain expertise.

What’s one attribute that has led to your professional success?

Empathy. There is typically a lot of anxiety among staff when you change the technology in an organization. I try to stand in the shoes of a staff member and understand how, on a day-to-day basis, the technology will impact their work life. I think that ability has helped make me successful. When I’m building teams I look for people with the similar capabilities.

What is the hardest part of your job?

Change management. It can be challenging to motivate people to adopt new technologies. With new technology in the workplace, most people fear they won’t be good at it or that they will appear to not be proficient. You’ve got to ensure they are confident that they will be supported until they become successful. When anxiety drops, people can learn. It’s all about building trust from the first step.

What book are you reading?

I just finished the book Future Crimes by Marc Goodman. It’s an interesting look at cyber security and where technology and the criminal industry are going.

Team receives $3 million to produce sophisticated rats

QI: Long Ying, PhD, associate professor of stem cell biology and regenerative medicine at the Keck School of Medicine of USC, and his team have introduced a new transgenic animal — the conditional and inducible gene knockout rat. Created using embryonic stem cell-based technology, these rats allow researchers to control both where and when any specific gene is expressed. His team made these breakthroughs with support from a $1.33 million grant from the National Institutes of Health.

By Lex Davis

Mammograms at USC-VHH for $99 in October

October is Breast Cancer Awareness Month and USC Verdugo Hills Hospital is doing its part to help fight the most common cancer among women in the United States. The USC-VHH Breast Healthcare Center is offering 99 mammograms during the month of October. Average-risk women who are 50 to 74 years old are recommended to receive a mammogram screening every two years, according to the U.S. Preventive Services Task Force. Average-risk women who are 40 to 49 years old should talk to their doctor about when to start screenings, according to the Centers for Disease Control and Prevention.

To schedule an appointment, call (818) 952-2266.

Kenji Inaba named vice chair of the Department of Surgery

By Lex Davis

V

aughn A. Starnes, MD, chair and Distinguished Professor of Surgery, has appointed Kenji Inaba, MD, associate professor of surgery (clinical scholar) and director of the general surgery program at the Keck School of Medicine of USC, to the role of vice chair of the Department of Surgery.

“We are doing surgery in so many locations now. A vice chair is vital to oversee that department this large,” said Starnes, the H. Russell Smith Foundation Chair for Stem Cell and Cardiovascular Thoracic Research. “Dr. Inaba is one of the bright young surgical luminaries of the future. He’s shown a lot of leadership in the trauma division and in his role as the program director for the general surgical residency program.”

Inaba brings his understanding of graduate and under-graduate education to the role as well as his experience with research, grant funding and editorial board work. In March, he became a director of the American Board of Surgery, the national certifying organization for general surgeons and related specialists.

Inaba said that he looks forward to enriching the department’s faculty development and mentoring programs, as well as improving the department’s access to federal training grants.

“With any new position, there is always so much to learn and that’s exciting,” he explained. “This department is on a sharp upward trajectory; whether you look at clinical volumes, research output, or educational initiatives and trainees. It’s exciting to be able to make a small contribution to making it even better.”

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