UC San Diego
UC San Diego News Center

July 15, 2013 | By Daniel Kane

New Dean of the UC San Diego Jacobs School of Engineering Named

Al Pisano

The University of California, San Diego has named professor Albert P. (Al) Pisano, a highly accomplished mechanical engineer from UC Berkeley, as the next dean of the UC San Diego Jacobs School of Engineering. Pisano's appointment begins Sept. 1, 2013. The appointment follows an international search for a prominent research engineer to lead the Jacobs School of Engineering, which ranks 12th in the world according to the Academic Ranking of World Universities.

"Al Pisano is one of those rare individuals who is an extremely accomplished engineering educator, researcher, organizational leader and entrepreneur. I look forward to collaborating with him, and the entire Jacobs School community, as we work to become the leading student-centered, research- and service-oriented, public engineering school," said UC San Diego Chancellor Pradeep K. Khosla.

As an engineering professor at UC Berkeley, Pisano served in a number of leadership positions at the department, school and campus level, including chair of the mechanical engineering department; acting dean of Berkeley's engineering school; and the Founding Faculty Head of the Operational Excellence program office. Pisano also served as a program manager for the Defense Advanced Research Projects Agency (DARPA), a key engineering research funding agency.

In 2001, Pisano was elected to the National Academy of Engineering, the highest honor bestowed upon engineers in the United States. He was recognized for contributions to the design, fabrication, commercialization, and educational aspects of microelectromechanical

systems (MEMS). Tiny machines with moving parts, MEMS devices generally range in size from .02 to 1,000 micrometers. Much of Pisano's current research involves the use of MEMS to develop sensors that function in harsh and punishing environments such as within gas turbines, geothermal wells, jet engines and tires.

"With his breadth of experience as an inclusive and engaging academic leader, mentor, scholar and researcher, Dr. Pisano is well-positioned to lead the Jacobs School to new heights in advancing innovative solutions to some of the most pressing health, energy and information-technology challenges facing society today. I am delighted that he has accepted this critical leadership position for the Jacobs School and the campus, and look forward to welcoming him to our University community," said UC San Diego Executive Vice Chancellor Suresh Subramani.

A self-described "technology polymath," Pisano's research is driven by his passion for developing, mastering and advancing technologies in order to solve problems.

"I am honored to be given the opportunity to serve as the dean of the Jacobs School of Engineering at UC San Diego. The campus is ranked number one in terms of the public good. This to me is a big deal. If a university is not serving the public good, then we are not doing our job correctly," said Pisano, referring to the fact that in 2012, for the third consecutive year, UC San Diego ranked first in the nation for positive impact on the country by Washington Monthly's College Guide. The ranking is based on research, the social mobility of students, and commitment to service.

One of Pisano's new projects is development of an inexpensive yet rugged sensor system that will predict landslides in the Philippines, a country where landslides are a deadly, national problem.

"My secret to making a very rugged sensor is miniaturizing it as much as you can because that gets you the shock resistance. You beat temperature and corrosion by using slightly exotic materials, which also means the devices need to be small in order to keep materials costs down," Pisano explained. Using MEMS, Pisano and his colleagues can make the sensors sufficiently small and rugged.

In addition to developing small sensors for harsh environments, Pisano is developing larger sensors that can be manufactured at extremely low cost and made from sustainably sourced polymers. Low-cost and sustainable sensors will be necessary to realize the "trillion-sensor universe" in which ubiquitous, inexpensive and environmentally benign sensors serve to improve health and environmental monitoring, food safety and much more.

“I look forward to getting a feel for how all of the gears of the Jacobs School turn, the big and the small, to gauge where people are trying to get to and where are they blocked, so that we can work together to unleash the creative forces that are already in the school and get maximum gain for everyone,” said Pisano.

Pisano will continue his research at UC San Diego, where he is expected to hold faculty appointments in the departments of Mechanical and Aerospace Engineering and Electrical and Computer Engineering. “I am staying very much in the research and teaching business. Of course it won’t be at the same pace as before, but I will be keeping my hand in the game,” said Pisano.

Undergraduate engineering education is one of Pisano’s passions. Last year, he developed and taught a rapid prototyping class for engineering freshman at Berkeley, which gave students hands-on experience at the very start of their college careers.

“We had students building car chassis, truss elements for load and deflection analyses, and viscometers for measuring the viscosity of fluids—all as freshman before they had the prerequisite classes,” said Pisano. “Early on as undergraduates, engineering students should have the opportunity to feel what it’s like to be an engineer. I look forward to working with the faculty and staff of the Jacobs School to strengthen our undergraduates’ hands-on and practical engineering experiences.”

These types of courses can help to engage and retain a diverse pool of engineering students.

“A great engineering school mirrors the community in which it resides,” said Pisano. “A diverse population will have diverse perspectives, which will lead to more creativity and a better set of new ideas.”

A co-founder of ten companies, Pisano is dedicated to translating engineering breakthroughs for the benefit of society. In 2000, for example, he co-founded Mercator MedSystems with UC Berkeley doctoral student Kirk Seward in order to commercialize their MEMS-enabled breakthrough in medical device design and manufacturing. Today, the company’s medical devices are used around the world to deliver drugs, stem cells and other therapies to tissues at precise locations deep with the body.

“As a founder and director of the Jacobs School’s professional engineering degree program in Medical Device Engineering, I am especially pleased to have another professor with significant medical device engineering experience joining the Jacobs School faculty. Al not only has extensive experience as an administrator in the UC System, but his MEMS work brings a new

dimension to our mechanical engineering activities. I look forward to working with Al on many different levels," said Juan C. Lasheras, a distinguished professor in the departments of Mechanical and Aerospace Engineering and Bioengineering at UC San Diego. Lasheras serves as interim dean of the Jacobs School until August 31, 2013.

Pisano earned his undergraduate ('76) and graduate degrees ('77, '80, '81) in mechanical engineering at Columbia University. A UC Berkeley faculty member for 30 years, Pisano held the FANUC Endowed Chair of Mechanical Systems, served as senior co-Director of the Berkeley Sensor & Actuator Center (an NSF Industry-University Cooperative Research Center), and Director of the Electronics Research Laboratory (UC Berkeley's largest organized research unit) among other leadership positions. He held faculty appointments in both the mechanical engineering department and the electrical engineering and computer sciences department at UC Berkeley.

Pisano will serve as the fourth dean of the Jacobs School of Engineering. He follows Frieder Seible who is now an Academic Vice President, and Dean of Engineering and Information Technology at Monash University in Melbourne, Australia.
