

Founder Of UCSD Bioengineering Program Honored With Lifetime Achievement Award From Asian American Engineers

March 1, 2004

Doug Ramsey

A Chinese engineer who came to the United States right after World War II and went on to do pioneering research in aeronautics and bioengineering has been honored by his fellow Asian American engineers. On Feb. 28, Yuan-Cheng Fung received the Distinguished Life Time Achievement Award at the 2004 CIE EWEEK Asian American Engineer of the Year Award Banquet in Santa Clara, CA.

University of California, San Diego (UCSD) bioengineering professor emeritus Y.-C. "Bert" Fung was selected for the honor by the Chinese Institute of Engineers, USA (CIE/USA), co-sponsor of National Engineers Week 2004. The award program was created to recognize outstanding Asian American professionals in academe, public services and corporate entities for their great contributions to the nation and communities. Previous winners of the lifetime achievement award include Leo Esaki and Samuel Chao-Chung Ting who won the Nobel Prize in Physics, respectively, in 1973 and 1976, as well as Chang-Lin Tien, former Chancellor of the University of California at Berkeley.

More than a dozen organizations sponsored the event, and nearly 800 distinguished guests, honorees, corporate executives and community leaders attended the awards banquet.

Fung retired from full-time teaching at UCSD in 1990, but still goes to his office and lab daily at UCSD's Jacobs School of Engineering, where the newly-built bioengineering building's main auditorium is named after him. He was one of the first visionaries to recognize that engineering principles and technologies could be used to develop innovative ways to diagnose, treat and prevent human disease. President Clinton awarded him the National Medal of Science in 2000 for his pioneering work in not one, but two, fields: bioengineering, and aeronautics.

Born near Shanghai in 1919, Fung studied aeronautical engineering in college and helped design airplanes for China's Bureau of Aeronautical Research towards the end of World War II. He began graduate school at Caltech in 1945, and joined its aeronautics faculty in 1948 after receiving his Ph.D. in aeronautics and mathematics. His early focus was on structural dynamics and aerodynamics. "My specialty in aeronautics was so-called aeroelasticity - the dynamics of airplanes, or even space ships, encountering sudden disturbance from the environment, like flying a plane into a stormy cloud," recalls Fung. "The trouble in such situations is always sudden vibration, and this vibration can be generating amplitude very, very rapidly."

In 1957, Fung's interests began to shift after his mother - still in China - was diagnosed with glaucoma. Fung began studying physiology, and translated the latest Western medical texts into Chinese for his mother's doctor. Says Fung: "It got me involved in literature in medicine and literature in biology, and from that beginning, my interest in biology kept on growing."

Fung began harnessing his knowledge of force, motion, flow, stress and strength from aeronautics, and applying it to better understand how the body works. "Dr. Fung is a trailblazer, and is widely considered the father of biomechanics," says Shu Chien, chair of the Bioengineering department at the Jacobs School. "He started this

new field by merging biology, medicine, and engineering." In 1966, together with two Caltech colleagues, Marcos Intaglietta (who is still on the faculty at UCSD) and the late Benjamin Zweifach, Fung moved to San Diego to start and build UCSD's bioengineering program, which has remained among the top three in the nation to this day. And UCSD's Chien says Fung's influence extends well beyond the university's confines: "His impact is not only on fundamental research, but also on the delivery of health care to benefit patients."

Fung's current research is on the remodeling of cells under stress, and the changes that occur in blood vessels when blood pressure is suddenly increased or decreased. He has received dozens of awards and honorary professorships, and is one of only seven people who are concurrently members of all three U.S. academies (National Academy of Science, National Academy of Engineering, and the Institute of Medicine). And Fung is the only person in the world to also be a member of both the Chinese Academy of Sciences in Beijing and the Academia Sinica in Taiwan.

Media Contact: Doug Ramsey (858) 822-5825

