

Professor Chih-Ming HO

Citation

From pioneering “smart skin” research for controlling turbulence on an aircraft’s wings to phenotypic personalized medicine, Professor Chih-Ming Ho’s interdisciplinary insights and innovative mindset have helped unleash a seemingly unstoppable flow of ideas and applied solutions. His journey of multiple discoveries has taken him across an array of science and engineering frontiers.

Following his bachelor degree in Mechanical Engineering at National Taiwan University, Professor Ho moved to Johns Hopkins University in the United States, where he earned a PhD in 1974 before heading into academia at the University of Southern California.

Focusing initially on experimental research of turbulent free shear layers made him a global front-runner in fluid mechanics by the 1990s. He moved across town and joined UCLA in 1991. Professor Ho has ventured forth into many emerging areas, pioneering advances in microfluidics, and biomolecular sensors. It is an amazing confluence of fields for a single academic, all traversed at world-leading levels.

In 1992, he became Founding Director of the Center for Microsystems at UCLA, leading it to become one of the world’s top centers in the field. Later, while being the University’s Associate Vice-Chancellor for Research, he

formed the NASA-funded Institute for Cell Mimetic Space Exploration, bringing together top faculty members and researchers in bio, nano and information technologies from several universities to explore 21st century technologies. He also served as a Director of the Center for Cell Control, supported by the National Institutes of Health.

Forging new discoveries across a spectrum of disciplines, Professor Ho has trained a generation of multi-talented students and postdoctoral researchers, drawn to his team by his remarkable passion for innovation but also his insightful mentoring of the next generation of engineering leadership. The charismatic master team builder has earned accolades from his students and early career faculty. Despite his frenetically busy schedule, Professor Ho’s individual talks with his researchers, pinpointing their areas of strength and propelling them on to make the most of their capabilities, have been remembered with much appreciation down the years. He has mentored 50 PhD students. Half of them are now faculty members, including five holding chair professorships. Another half of his former students are industry leaders, including several high-level executives of multinational companies.

Among his most important discoveries is his development of powerful platforms to optimize combinatorial therapy for personalized medicine. Importantly, his approach is the first to be

able to truly personalize and optimize patient treatment efficacy and safety based on their unique phenotypic outcomes.

Such a system can be employed in multiple ways. At HKUST, where Professor Ho is a highly respected Visiting Professor at the HKUST Jockey Club Institute for Advanced Study, he is now overseeing the use of the feedback system control (FSC) technique in ground-breaking studies on traditional Chinese medicine with School of Science and School of Engineering faculty members.

Professor Ho's far-reaching contributions have been widely recognized west and east. He is an elected academician of the US National Academy of Engineering and Academia Sinica. He is a Fellow of the American Institute for Medical and Biological Engineering, American Institute of Aeronautics and Astronautics, and American Physical Society. He is also a Science Advisor for many academic institutions in the world and holds 10 honorary professorships including the Einstein Professor of the Chinese Academy of Sciences. He has now chalked up 150 keynote speeches at international conferences. Professor Ho has been one of the 250 most cited researchers across engineering fields globally, according to the Institute for Scientific Information (ISI) index.

The results of the high importance he places on mentoring his team members have been impressive: a burgeoning generation of top-class academics and start-up companies working at the frontiers of technological innovation. He has managed to be equally inspiring in his family life. He and his wife Shirley, who is active

in community affairs, encouraged their only son, Dean, to enter academia where he is now a successful biomedical professor pioneering nanodiamond solutions for drug delivery. Dean was also recently recruited to UCLA from Northwestern University.

Mr Acting Council Chairman, on behalf of the Council of the Hong Kong University of Science and Technology, I have the high honor of presenting to you Professor Chih-Ming Ho, Ben Rich-Lockheed Martin Chair Professor of the University of California at Los Angeles, for the award of Doctor of Engineering *honoris causa*.