

Conferment of the Degree of Doctor of Science, *honoris causa* A Citation

Professor Yang Tzu-yow, Henry, DEng (Hon), BS, MS, PhD

On a scenic stretch of the California coast that is often referred to as the American Riviera sits the University of California at Santa Barbara (UCSB). Ranked among the best research-intensive institutions in North America, it is one of the premier campuses in the University of California system and home to a renowned faculty that currently includes five Nobel Prize winners. The educator entrusted with the mandate of this great university and with steering the course of its future development is the scholar we are honoring in today's congregation, Professor Yang Tzu-yow, Henry, Chancellor of UCSB.

Professor Yang is an aerospace engineer by training. After graduating from Taiwan University with a major in Civil Engineering, he attended West Virginia University, earning a M.S. in 1965, and later studied at Cornell University, where he was awarded a doctorate in Structural Engineering in 1968. In 1969 he accepted a teaching appointment at Purdue University in the School of Aeronautics and Astronautics and over the subsequent twenty-five years built a distinguished career. In 1979 Professor Yang was named Head of the School. Five years later he became Dean of Schools of Engineering. And during this period of more than two decades, he worked with unrelenting dedication and enthusiasm to groom the next generation of aerospace engineers and astronauts, swiftly advancing the competitive edge that America enjoyed in the aerospace industry. He was director of two important research centers at Purdue: the Computer Integrated Design, Manufacturing and Automation Center, and the National Science Foundation Engineering Research Center for Intelligent Manufacturing Systems. Both centers, reaping noteworthy results in manufacturing and curriculum innovation, became exemplary models for close collaborations among university, government and industry. Also, during his tenure as Dean (1984-1994), Professor Yang undertook an admirable campaign to increase diversity in student enrollments. During this decade, Purdue succeeded not only in attracting minority students to its engineering programs but also in granting a large number of engineering degrees to women, African-American and Hispanic American students, a record that out-stripped the other Big-Ten Universities. When he moved to the University of California, Professor Yang left Purdue with a legacy of academic excellence and a national ranking that placed its engineering school at the very top of all public universities.

Professor Yang assumed the helm as the fifth Chancellor of UC Santa Barbara in 1994. In addition to a rich experience in university administration, he brought to the post the wisdom and vision of a compassionate scholar and educator. With an open

approach characterized by transparency and fairness, he soon transformed UCSB from a fledgling college to a major AAU institution. Through vigorous recruitment, the campus now prides itself on a faculty that includes Nobel laureates, recipients of the U.S. National Humanities Medal and National Medal of Science, and members and fellows of distinguished academic bodies such as the National Academy of Sciences, the National Academy of Engineering, and the American Association for the Advancement of Sciences. One Fields Medalist joined UCSB in 2005 to set up a Quantum Computing Station with funding from Microsoft. Professor Yang invests just as much academic and resource support in the junior faculty. In the words of one professor who earned her tenure at UCSB, Professor Yang often took an extra step to reach out, safe-guarding her from bureaucratic hurdles and making it possible for her to do research in a most conducive and collaborative environment. It was this generosity and personal support that ultimately convinced her to stay on as a permanent member of the Santa Barbara team. Professor Yang's commitment to academic excellence has led to success in creating interdisciplinary research centers and innovative teaching and learning programs. Often listed as one of the "public Ivies," UC Santa Barbara now ranks among the top universities world-wide, with freshmen applications rising three-fold within a few years to more than forty-seven thousand in 2008.

Professor Yang's scholarly achievements are extraordinary. He is among the pioneers in the fields of finite element structural analysis, transonic flutter and aero-elasticity, structural dynamics, tire dynamics, earthquake structural engineering, and intelligent manufacturing systems. With more than a hundred and seventy journal papers published on various topics, and having been in charge of more than thirty major research projects nation-wide, Professor Yang has made tremendous strides in the field of engineering. Among his notable recent honors is the 2008 Structures, Structural Dynamics, and Materials Award from the American Institute of Aeronautics and Astronautics. Professor Yang is celebrated for the passion and care he devotes to each project, from inception to conclusion. An illustration of this incredible tenacity is the Thirty Meter Telescope (TMT) Project that he has taken on as chair of the TMT board since 2007. With the need to raise funding of close to a billion dollars, the project aims to construct, operate and maintain a telescope, the most advanced and powerful ever in history, that will make it possible for the human eye to see far into the universe, and billions of years into the past, to shortly after the Big Bang took place. The TMT partnership includes Caltech, the University of California, and the Association of Canadian Universities for Research in Astronomy; other potential partners include the National Astronomical Observatory of Japan and others. The Thirty Meter Telescope has also won a pledge of \$200 million from the Moore Foundation.

Professor Yang is an exemplary teacher. Over the past four decades, he has been mentor to numerous students, including fifty-two doctoral graduates who are now

scholars, researchers and professors in their own right. His 1986 publication, *Finite Element Structural Analysis*, remains a classic reference for all burgeoning scientists. Now available in both Chinese and Japanese translations, the book is adopted by many universities as required reading for the finite element theory and its applications to diverse engineering disciplines. He has been honored with thirteen outstanding teaching awards, including the coveted Benjamin Garver Lamme gold medal that the American Society of Engineering Education gave out in 1998 in recognition of "his numerous and significant contributions to engineering education as a dedicated teacher of undergraduate and graduate students." Professor Yang always considers it a privilege and an invigorating experience to interact with students of different ages and diverse backgrounds. Even now, despite overwhelming administrative duties, he chooses to continue teaching at least one undergraduate structural engineering class every year. In 2007, he was recipient of an honorary distinguished teaching award from the Academic Senate of UC Santa Barbara.

A staunch promoter of research and university education, Professor Yang has been engaged in various causes and activities pertinent to higher education across the globe. He is a founding member of the Steering Committee of the Association of the Pacific Rim Universities. In recent years, he has been exceptionally generous with his support for the Chinese University of Hong Kong (CUHK). In 2004, he graced the CUHK 40th Anniversary Celebration with a keynote speech at the University Presidents' Global Forum on "The Universities in the 21st Century." Two years later he made a special visit to CUHK and offered expert advice on matters relating to university governance and administration.

An internationally distinguished scholar and a world leader in higher education, Professor Yang has earned many honorary degrees from universities in both America and Asia. A researcher who has achieved great fame for his work in aeronautics and astronautics, he is just as accomplished in creating a field of human synergy where academic dreams can take flight. As one of the few Chinese Americans ever appointed to head a major American university, Professor Yang is a role model for hundreds of thousands of young men and women of all races who aspire to build a world where discrimination makes way for diversity, determination gives rise to confidence, and where exploration expands the great horizons of humanity.

Mr Chairman, it is my great honor to present to you Professor Yang Tzu-yow, Henry, Chancellor of the University of California, Santa Barbara, for the award of the degree of Doctor of Science, *honoris causa*.

This citation is written by Professor Samuel Cheung