

# Remarks after Winning the 2007 Outstanding Alumnus Award

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graduate of physics, 1974

**T**hank You, My Alma Mater

When the Dean of Science Andy Fuh informed me that I was selected as an Outstanding Alumnus, I felt immensely flattered, especially before the glamour of my mentors who have achieved even more. I have left NCKU for over three decades, and every achievement I have can still be attributed to my school days at NCKU. I still recall the black Fridays when we had tests of general physics, which helped me learn perseverance in pursuit of knowledge. When I was in junior and senior year, under the professional instruction by Dr. Hsien-Jung Wang (王先鎔) and Chang-Shou Jan (冉長壽), I laid a solid foundation for classical physics. Then, I was led to the fields of high energy and nuclear physics by Dr. Chien-Er Lee (李建二), Dr. Yeou-Wei Yang (楊友偉), Dr. Liang-Shiun Chou (周樑勳) and Dr. Wei-He Chen (陳維和), who had just then obtained their PhDs and returned to Taiwan. I especially want to mention that my master's thesis could not have been published in American Journal of Physics had it not been for the instruction from Dr. Lee. Because of that, I received a fellowship from Yale University and went to America for further study in 1978.



I had studied at Yale for more than five years. I first studied high energy physics, but later changed to applied physics that focused more on experimental physics, due to my limited capability for physics. It was easier for me to study in the field that combined semiconductor experiments and theories. While studying there, I accomplished some research projects in my lab with what I had learned from Dr. Lee and the free philosophy Yale had encouraged among PhD students. During that period of time, I was recommended by my mentor at Yale to participate in the Hubble Space Telescope Project directed by NASA. I was then responsible for and completed the development of the physical thin film of the primary mirror and secondary mirror. Not until then did I realize that the optical theories and experimenting skills I had learned from Dr. Wang were really useful. When I reflect upon those memories, I always feel grateful for the basic education I received from NCKU. I joined Watson Research Center of IBM, working on the research and development of the technology of semiconductor in 1984 when I received my PhD from Yale. I have been very lucky to have the chances to lead some IBM and international teams to make some technical breakthroughs; some of them are innovative and unprecedented. These teams consist of researchers and engineers from around the worlds. Besides Germany, France and Japan, some of them are also from Nan Ya Plastics Corp., UMC and MXIC of Taiwan. From then on, the technology of DRAM developed by IBM has still been used widely in the product lines of Winbond, ProMos Technologies and Inotera Memories. I started to take charge of the technological research in IBM in 2003. In addition to the technology of semiconductor that will go into the next 15 years, we are also working on the innovations with nano science and technology and the applications of quantum computing theories. Hopefully, our research results will benefit the whole human beings.

I have graduated from NCKU for over 30 years and learned something about technological research and development that I'd like to share with every NCKU student. When I recall the four years of undergraduate study and 2 years of graduate study at NCKU, I have to admit that studying is still most enjoyable. The friendships that I share with friends I met here last the longest. When you graduate, it is most important to pursue your passions and dreams. We should also remain optimistic at work and maintain the integrity, honesty and sincerity as an NCKU fellow. I believe that as long as we have untiring perseverance, pursue our goals vigorously and never give up, the dreams we have at young age will eventually come true.

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