

National Cheng Kung University (NCKU) of Tainan, Taiwan Welcome Distinguished Guests to the Eighth Emerging Information and Technology Conference on June 26-27, 2008 with a Series of Scientific and Educational Events

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Nobel laureate of 2005 in chemistry and member of US National Academy of Sciences, Dr. Robert Grubbs of California Institute of Technology, member of Academia Sinica and foreign member of US National Academy of Engineers, Dr. Chun-Yen Chang, members of US National Academy of Engineers, Dr. Albert King of Wayne State University and Dr. Chung K. Law of Princeton University, and a number of world-class scientists were guests of NCKU in June, 2008. They spoke at the Eighth Emerging Information and Technology Conference and joined forces with faculty and research staff members to pursue creative and excellence in research under an administrative auspices known as Institute of Innovations and Advanced Studies (IIAS) that was established at NCKU in December 2006. The conference began on June 26, 2008 and lasted for two days.



EITC (<http://www.eitc.org>) was initiated in Princeton, New Jersey in 2001 by a group of enthusiastic scholars from Taiwan. In the past seven years, EITC has been held in Princeton, New Jersey, Dallas, Texas, and Taipei, Taiwan in an effort to facilitate information exchange among professionals from Asia and North America on emerging technologies and services. The objectives of the annual conference are:

- to strengthen the technical and business ties between the Asian and North American universities, R&D institutions, and industries;
- to bring together experts and industry leaders to share technological advancements and business experiences; and
- to jointly explore opportunities in emerging technologies and services.

The main themes and activities for the conference focused on emerging biomedicine, energy, micro-

nanotechnology, and system on chip (SoC) science and technology. Joining forces for the brainstorming and initiation of international collaborative research projects were distinguished scientists and technologists from US, Canada, Australia, Japan and Taiwan. They gathered at NCKU, Tainan, Taiwan to present and share with one another scientific findings and valuable experiences. With sincere and active interactions, on-going productive collaboration was further enhanced and new collaborative teams on subjects of common interest were initiated.



Professor Robert Grubbs is a Nobel laureate of 2005 in chemistry and the Victor and Elizabeth Atkins Professor of Chemistry of California Institute of Technology in California, USA. Professor Grubbs has been a member of the National Academy of Sciences since 1989, and was the 2000 recipient of the Benjamin Franklin Medal. Professor Grubbs is a native of Kentucky who earned his bachelor's and master's degrees in chemistry at the University of Florida and his doctoral degree in chemistry at Columbia University.

Professor Grubbs shared the 2005 Nobel Prize in Chemistry with other two co-winners for the development of the metathesis method in organic synthesis. Professor Grubbs worked on olefin metathesis and developed powerful new catalysts for metathesis that enabled custom synthesis of valuable molecules with a broad spectrum of industrial applications such as pharmaceuticals and new polymers with novel materials properties.

Professor Grubbs visited Chi Mei Corporation and ITRI-South, held an open discussion forum with students and faculty of NCKU before the EITC started, and paid a visit with President Lai of NCKU. Professor Grubbs advised faculty and students that writing skills were important and research should start from undergraduate students. Instead of spending too much time on memorizing facts, more time should be reserved for thinking and creativity. Professor Grubbs also hoped that more Taiwanese especially those from NCKU could be admitted to California Institute of Technology and work with his team of graduate students. Faculty members are welcome to discuss with him about spending their sabbatical leaves in his laboratory.

Professor Grubbs explained about his complicated catalytic chemical reactions by means of a simple Hungarian dance with carbon double bonds being represented by two dancing partners holding both hands. A catalyst is a dancer among the team who helps form a ring of four dancers who later separate into two couples that are composed of different dancers than the previous ones. This continuous process enables and accelerates the desirable chemical reactions, i.e. the change of dancing partners to form different couples, which in chemical case forms different chemical bonds of new and valuable molecules.

Professor Chun-Yen Chang is a member of Academia Sinica, a foreign member of the National Academy of Engineering, USA, for his outstanding contributions to the electronics industry, education and materials technology. He is an exceptional alumnus of NCKU, a former President of National Chao-Tung University, Taiwan, and recently nominated by President Ma to lead the Examination Yuan of Taiwan.

Professor Albert King of Wayne State University is a member of National Academy of Engineering, USA.

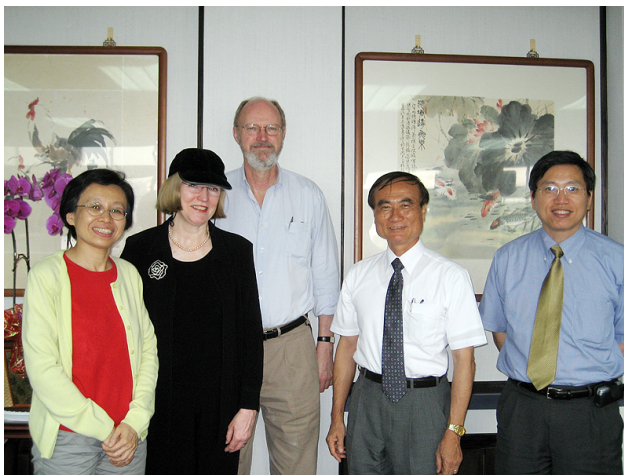
He is a pioneer and world famous scientist in impact injury, especially car impact. With unique computer simulation and modeling techniques, effects of impacts by various causes on human beings were predicted and later validated by experiments.

Following Professor King's presentation, Professor Alan Shih of University of Alabama at Birmingham presented simulation and modeling based virtual patients for medical education and real-time remote surgical assistance techniques. Active interactions with Professor King and Professor Shih by researchers at NCKU would be followed through with sponsored international research projects. Professor T.K. Lee of Academia Sinica also emphasized the importance of a timely effort in Taiwan for promoting simulation and modeling based engineering and science.

Robert H. Goddard Professor Chung K. Law of Princeton University is a member of the National Academy of Engineering and an expert in combustion with applications to propulsion, energy and environmental issues. His expertise is expected to help solve some energy problems our society faces. Professor Jing-Tang Yang of National Tsing Hua University accessed the world energy problems and analyzed various solutions that might be suitable for the special environment of Taiwan.

Among the guests were four members of a Canadian delegation. In March 2008, a NSC delegation led by Professor MK Wu and Professor Y. Tzeng visited University of Ottawa in Canada. Following extensive discussion, the visit of NCKU by the Canadian delegation further strengthened the collaboration between Taiwan and Canada. Among our Canadian guests, Professor May Griffith presented her pioneering work in biomimetic corneal substitutes for transplantation and invited researchers in Taiwan to collaborate with her group in this exciting research.

Professor Mendel Chen of Baylor College of Medicine presented his pioneering work in oxidized LDL also known as the "bad guy" cholesterol/lipoprotein. Professor Chen also offered to recruit two doctoral candidates at NCKU who had completed their course work to conduct research projects using the state-of-the-art cryogenic electron microscopes at Baylor College of Medicine under instructions by him, Professor Wah Chiu, and Professor Steven J. Ludtke. Dean of College of Medicine at NCKU, Professor Charles Lin was very pleased with this opportunity for NCKU students.



We are fortunate to have fifty some distinguished scholars joining the EITC 2008. The 2-day conference offered plenary talks in the morning and four parallel oral presentation sessions in the afternoon as well as poster sessions. Four parallel sessions emphasized on emerging science and technology in biomedicine, energy, micro/nanotechnology, and system-on-chip, respectively. Detailed technical program can be found at the conference website: <http://conf.ncku.edu.tw/eitc08>

For the Emerging Biomedicine Track, among invited speakers were

- Professor and Distinguished Research Fellow John Yu of Institute of Zoology, Academia Sinica, Taiwan.

- Chair of the Department of Biomedical Engineering and Distinguished Professor Albert I. King of Wayne State University in Detroit, Michigan, USA.
- Professor Alan M. Shih of University of Alabama at Birmingham, Alabama, USA.
- Professor and Deputy Director Filip Braet of Australian Key Centre for Microscopy & Microanalysis, Australia.
- Professor Mendel Chen of Baylor College of Medicine, Texas, USA.
- Professor and Director Tatsuya Sawamura of National Cardiovascular Center Research Institute in Osaka, Japan.
- Professor and Dean Naoto Oku of University of Shizuoka School of Pharmaceutical Sciences, Japan.
- Professor Benjamin Tsang of University of Ottawa, Canada.
- Professor Eve Tsai of University of Ottawa, the Ottawa Hospital, Ottawa Health Research Institute of Ottawa, Ontario, Canada.
- Professor May Griffith of Department of Cellular and Molecular Medicine and Department of Ophthalmology, University of Ottawa.
- Associate Investigator, Division of Basic Chinese Medicine, Jenny Wang of National Research Institute of Chinese Medicine, Taiwan.
- Professor Patrick C.H. Hsieh of Institute of Clinical Medicine, National Cheng Kung University, Tainan, Taiwan.
- Assistant Professor Po-Yuan Chang of National Taiwan University College of Medicine, Taipei, Taiwan.
- Associate Professor and Director Chao-Hung Wang of Chang Gung Memorial Hospital, Keelung, Taiwan.
- Associate Professor and Director Dar-Bin Shieh of National Cheng Kung University, Tainan, Taiwan.

For the Emerging Energy Track, among invited speakers were

- Professor Liwei Lin of University of California at Berkeley, USA.
- Professor Chung K. Law of Princeton University, USA.
- Professor Minking K. Chyu of University of Pittsburgh, USA.
- Professor Wei-Jen Lee of University of Texas at Arlington, USA.
- Professor Jing-Tang Yang of National Tsing Hua University, Taiwan.

- Executive Vice President Dr. Hsin-Sen Chu of Industrial Technology Research Institute, Taiwan.
- Professor Chyi-Yeou Soong of Feng Chia University, Taiwan.
- Professor Wei-Fang Su of National Taiwan University, Taiwan.
- Associate Professor J. Andrew Yeh of National Tsing-Hua University, Taiwan.
- Professor Hung-Shan Weng of National Cheng Kung University, Taiwan.
- Professor Hsisheng Teng of National Cheng Kung University, Taiwan.
- Professor and Dean Ching-Ting Lee of National Cheng Kung University, Taiwan.
- Professor Ta-Hui Lin of National Cheng Kung University, Taiwan.

For the Micro/Nanotechnology Track, among invited speakers were

- Professor Benjamin S. Hsiao of State University of New York at Stony Brook, USA.
- Professor Chih-hung Chang of Oregon State University, USA.
- Professor and Distinguished Research Fellow Ting-Kuo Lee of Institute of Physics, Academia Sinica, Taiwan.
- Professor and Research Fellow Kuei-Hsien Chen of Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan.
- Professor Watson Kuo of National Chung Hsing University, Taiwan.
- Professor Gou-Jen Wang of National Chung Hsing University, Taiwan.
- Professor Kuan-Jiuh Lin of National Chung Hsing University, Taiwan.
- Professor Shangjr Gwo of National Tsing-Hua University, Taiwan.
- Professor Shoou-Jinn Chang of National Cheng Kung University, Taiwan.
- Professor Yung-Chun Lee of National Cheng Kung University, Taiwan.
- Professor J.C. Andy Huang of National Cheng Kung University, Taiwan.
- Professor Sandip Kumar Dhara of National Cheng Kung University, Taiwan.

For the System-on-Chip Track, among invited speakers were

- Chair Professor Chun-Yen Chang of National Chiao Tung University, Taiwan.
- Professor Wei Hwang of National Chiao Tung University, Taiwan.
- President Dr. Jyh-Ming Lin of Andes Technology Corporation, Taiwan.

- Professor Kuen-Jong Lee of National Cheng Kung University, Taiwan.
- Professor Sao-Jie Cheng of National Taiwan University, Taiwan.
- Professor and Director General Chin-Long Wey of National Chip Implementation Center, National Applied Research Laboratories, Taiwan.
- Professor and Research Fellow Chun-Ming Huang of National Chip Implementation Center, National Applied Research Laboratories, Taiwan.
- Professor Cheng-Wen Wu of National Tsing Hua University, Taiwan.

NCKU is one of the most well established comprehensive universities in Taiwan. With the Colleges of Medicine, Engineering, EECS, Sciences and Bioscience and Biotechnology among nine colleges being all within walking distance from one another and led by visionary deans with proactive policies in interdisciplinary collaborative research, this series of activities is believed to add extra powerful thrust to push NCKU towards the next level of excellence. More detailed information about the Workshop can be found at websites linked from <http://research.ncku.edu.tw/banyan>

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