

Intelligent Transportation Systems in Taiwan

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In the 21st century, the technology development mainstream is the interdisciplinary integration, together with the human-centered technologies (i.e., Human-Technologies, HT) that emphasizes on friendly service for human rather than the forced adaptation by human. Intelligent Transportation Systems (ITS) represents a typical human-centered large-scale and highly complex dynamic system, while it is the mainstream of the development of next-generation technologies. ITS is an integrated discipline of sensing, controls, computers, electronics, communications and traffic management.

This lecture discusses some achievements of HT-ITS in Taiwan, including ITS information and communication platform, traffic dynamics simulation platform, driving safety assistance systems, and intelligent control technologies applied to next generation smart vehicles. Some real-life demonstrations of Advanced Traveler Information Systems (ATIS) and Advanced Vehicle Control and Safety Systems (AVCSS) on our experimental car are also shown in this lecture.

We believe that the proposed efforts will in turn enrich our research and teaching environment, reinforce our academic strength and open up new territory applications for each discipline. Equally importantly, the success of our efforts should bring social and economical benefits, in addition to academic values.



Tsu-Tian Lee is currently the National Endow Chair of Ministry of Education and President of National Taipei University of Technology. He received Ph.D. degree in Electrical Engineering from the University of Oklahoma, OK, in 1975. He had served as Professor and Chairman of the Department of Control Engineering, as a Chair Professor of the Department of Electrical and Control Engineering at National Chiao Tung University, as a Visiting Professor (1987), as a Full Professor of Electrical Engineering at the University of Kentucky, KY (1988-1990), as Professor and Chairman of the Department of Electrical Engineering, as Dean of the Office of Research and Development at National Taiwan University of Science and Technology. He received the Distinguished Research Award from the National Science Council, Taiwan (1991-1998), the Academic Achievement Award in Engineering and Applied Science from the Ministry of Education, Taiwan, in 1997, and the TECO Science and Technology Award in 2003. He was elected to the grade of IEEE Fellow in 1997, a Fellow of IET in 2000, a Fellow of New York Academy of Sciences in 2002, and a Fellow of Chinese Automatic Control Society in 2007. He received the IEEE SMC Society Outstanding Contribution Award and Norbert Wiener Award in 2003 and 2009, respectively. He is now the Vice President for Membership for the IEEE SMC Society.