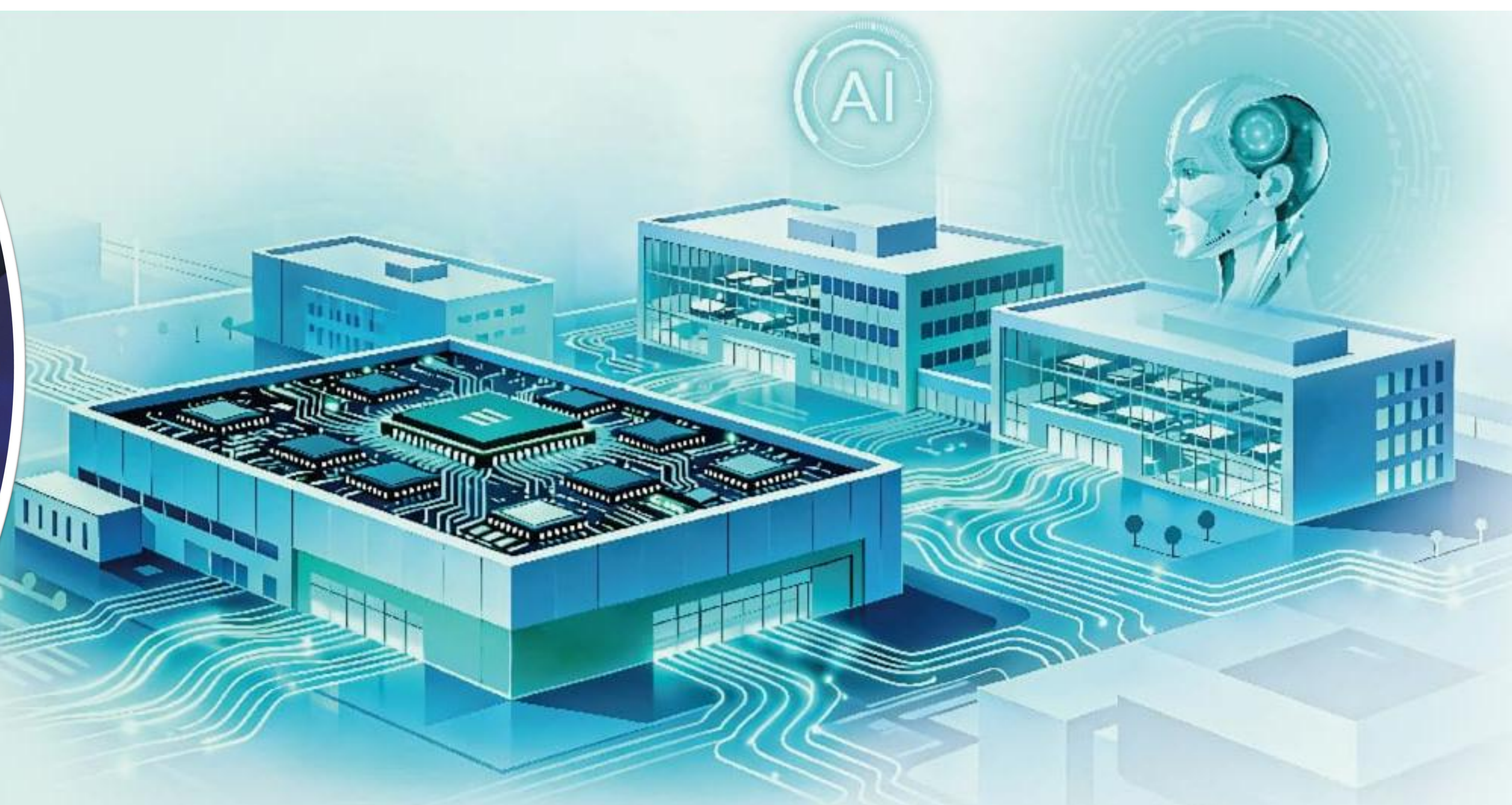


2026 傑出學者專題演講

2026 DISTINGUISHED GUEST LECTURE



講者

SPEAKER

Luh-Maan Chang (張陸滿)

國立臺灣大學工學院高科技廠房工程 講座教授

Endowed Chair for High-Tech Fab Engineering, Engineering College,
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美國普渡大學及國立臺灣大學土木與營建工程管理 名譽教授

Professor Emeritus for Civil & Construction Engineering & Management of
Purdue University and National Taiwan University



2026/10/21 Wed 13:20-15:00

To Measure and Manage Engineering Performance by AI and Semiconductor Chips

運用人工智慧和半導體晶片衡量和管理工程績效



國立陽明交通大學 工程二館 117室

Room 117, Engineering Building II, National Yang Ming Chiao Tung University (NYCU)

HOSTED
BY:

國立陽明交通大學 土木工程學系 營建管理組

CM group, Civil Engineering Department, NYCU

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Brief-Resume

張陸滿 教授 (Luh-Maan Chang)



- Professor Emeritus Luh-Maan Chang received his B.S. degree from Department of Civil Engineering, National Cheng-Kung University at Taiwan in 1971. In 1974-77, he worked as a project engineer for Industry Technology Research Institute (ITRI) at Hsinchu, the Silicon Valley of Taiwan, where he helped design/build the 1st Integrated Circuit Demonstration Plant of Taiwan.
- After getting his MS and PhD degrees from the Department of Civil, Architectural and Environmental Engineering, University of Texas at Austin, he taught in the School of Building Construction, University of Florida at Gainesville from 1983 to 1985.
- From 1986 to 2009, Professor Chang taught in the School of Civil Engineering, Purdue University at West Lafayette. After he took early retirement from Purdue, he taught in the Civil Engineering Department of National Taiwan University till 2016.
- Presently, he is an adjunct professor and the director of High-Tech Facility Research Center of NTU at Zhubei campus. He continues teaching and performing high-tech fab engineering related R&D in National Taiwan University.
- His current research interests are in Mitigation of Vibration (Micro-vibration & Electromagnetic Interference) & Contamination Control for below 2nm Semiconductor Fabrication (Fab) process, 4D Construction Project Scheduling through Fab/Facility Information Modeling (FIM), and Artificial Intelligence (AI) for improving fab engineering productivity.

Seminar Abstract

To Measure and Manage Engineering Performance by AI and Semiconductor Chips

(運用人工智慧和半導體晶片衡量和管理工程績效)

Human intelligence is the complex ability of individuals to learn, reason, solve problems, and make decision for adapting to new situations. Artificial intelligence (AI) is the capability of computational systems to perform tasks typically associated with human intelligence.

The use of AI enhances individual's performance and facilitates human society and global economy to significant change. However, the fast AI development has accompanied with many controversial issues in the explosive AI industry.

Nevertheless, one has to recognize that semiconductor chips accelerate and enrich the AI's development. Moreover, there must have a fabrication plant (fab) first before all the AI semiconductor chips being manufactured. The fab facilities supply the necessary water, electricity, and chemical raw materials for the AI chips manufacturing.

Meanwhile, the AI chips manufacturing must be processed under tightly controlled environments supported by fab facilities for ensuring stable manufacturing conditions free from vibration interference and contamination as well as carbon reduction, energy saving and ecological protection.

The seminar will begin with the definitions of engineering performance measurement following with a brief introduction of Artificial Intelligence (AI.)

Subsequently, disassembled mobile phones, laptops and samples of wafers and chips will be displayed so that attendees could obtain hands-on understanding of semiconductors, integrated circuits and semiconductor wafers and chips, as well as, the manufacturing processes and their key implications to supporting AI revolution.

Then, how to use Deep Machine Learning of AI for measuring Engineering Performance thru Fuzzy-Neural-Networks (FNN) and Genetic Algorithms will be explained. Finally, AI issues will be raised and conclusions will be made.