

## Department of Manufacturing Engineering and Engineering Management

### Seminar Series

#### **Robotics as Systems Integration - from Dance Partner Robot to Real World Applications -**

by

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**Date:** August 17, 2010 (Tuesday)  
**Time:** 2:30pm - 4:00pm (Tea reception at 2:15pm)  
**Venue:** Room B6605, CSE Conference Room

#### **ABSTRACT**

In this presentation, we discuss two issues for systems integration of robot systems by introducing the technology road map for robotics issued by METI in 2005 and the New Research Paradigm proposed by the Science Council of Japan in 1999. One is related to how robotic systems are integrated from devices and unit technologies, and the other is related to how the robotic systems are integrated into society. Both issues are very important for bringing the robotics into the real world. Then, concept of RT Systems is introduced together with several examples in our surroundings and recent research results from our laboratory, a dish handling robot system and an intelligent car transportation system. Finally, the systems integration issues are discussed using examples of robots and RT systems having physical interactions with humans which include robot helpers, passive robotic systems, and walking helpers. The dance partner robot, PBDR, is also discussed as a research platform for the future robot and RT systems for quality of life.

#### **BIOGRAPHY**

Dr. Kazuhiro Kosuge is a Professor in the Department of Bioengineering and Robotics at Tohoku University, Japan. He received the B.S., M.S., and Ph.D. in Control Engineering from the Tokyo Institute of Technology, in 1978, 1980, and 1988 respectively. From 1980

through 1982, he was a Research Staff in the Production Engineering Department, Nippon Denso Co., Ltd. (DENSO Co., Ltd. at present). From 1982 through 1990, he was a Research Associate in the Department of Control Engineering at Tokyo Institute of Technology. From 1990 to 1995, he was an Associate Professor at Nagoya University. From 1995, he has been at Tohoku University. He received the JSME Awards for the best papers from the Japan Society of Mechanical Engineers in 2002 and 2005, the RSJ Award for the best papers from the Robotics Society of Japan in 2005. He is an IEEE Fellow, a JSME Fellow, a SICE Fellow, and a RSJ Fellow. He is President of IEEE Robotics and Automation Society for 2010-2011.

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***All are welcome!***

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