

Seminar Series

Control, Biomedical Engineering, and Systems Biology

by

Dr. Lu LIU

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Date: Mar. 24, 2010 (Wednesday)

**Time: 10:30am - 11:30am (Tea Reception at
10:00am)**

Venue: LT-18, 4/F, Academic Building

Abstract

Rapid developments in sensing systems, computing technologies, communication networks, biological sciences and materials offer new opportunities for the field of systems and control to expand its contributions to many different disciplines. This talk will present some recent advances in nonlinear systems and control and its emerging applications to networked systems, system biology, and biomedical engineering. Application examples in cooperation of a group of robotics, analysis of gene regulation, and force tracking of rehabilitation devices with smart materials will be highlighted. It will be seen that, as an enabling tool, systems and control is playing a critical role in building interconnected systems, understanding various complex biological phenomena, providing highly reliable performance and reconfigurable operation in the presence of uncertainties. On the other hand, the interaction with these different fields also challenges and advances the field of systems and control, and thus provides the opportunities for control technology to spread far beyond its traditional boundaries.

Biography

Dr. Lu Liu received her B.S. degree from Northwestern Polytechnical University, Xi'an, China, in 2003, and the M.Phil. and Ph.D. degree both from the Chinese University of Hong Kong, in 2005 and 2008, respectively. She was a postdoctoral fellow at the Smart Materials and Structures Laboratory in the same university for six months and she joined The University of Tokyo as an Assistant Professor in March 2009. She is also an adjunct assistant professor in Tokyo Institute of Technology.

Her research interests include robust and adaptive control, nonlinear systems, networked systems, system biology and biomedical devices. She received the Guan Zhaozhi Best Paper Award in 2008 Chinese Control Conference.

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All are welcome!