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Automatic
Control and
Systems
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The Department of Automatic Control & Systems Engineering
is pleased to announce the following seminar:

**Re-design robotics system from the rigid to deformable: a case study of
wireless power supply for robots**

Dr Takuya Umedachi

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Faculty of TEXTILE Science and Technology,
Shinshu University, Japan*

Wednesday, 06 May 2020 at 14:00

Via Google Meet

Host Academic: Dr Shuhei Miyashita, Lecturer in ACSE

Abstract

Manufacturing robots with deformable materials requires us to reconstruct the existing control method, evaluation index of the mechanical design, and power supply. This is because the existing methods have been optimized for hard and rigid robots. The design index changes from high rigidity to high toughness; the power supply shifts from highly efficient wired supply to wireless supply, and the control method deepens from only centralized ones to ones with distributed/decentralized ones. The talk presents our attempt at the reconstruction, mainly focuses on the wireless power supply for soft-bodied robots

Biography

Takuya Umedachi Ph.D. is an associate professor directing the Bio-robotics Lab at the Faculty of Textile Science and Technology, Shinshu University, and a soft-roboticist inspired by primitive living organisms such as amoeba and caterpillars. He obtained Ph.D. from the Department of Engineering, Tohoku University in 2009; was a postdoctoral fellow under Prof. Barry Trimmer at the Department of Biology, Tufts University from 2012; and was a lecturer at the Graduate School of Information Science and Technology, the University of Tokyo from 2016. He has been in his current position since November 2019