UNIVERSITÄT PADERBORN
Die Universität der Informationsgesellschaft

REGELUNGS- UND AUTOMATISIERUNGS-TECHNIK

FAKULTÄT FÜR ELEKTROTECHNIK, INFORMATIK UND MATHEMATIK

Vortragsankündigung

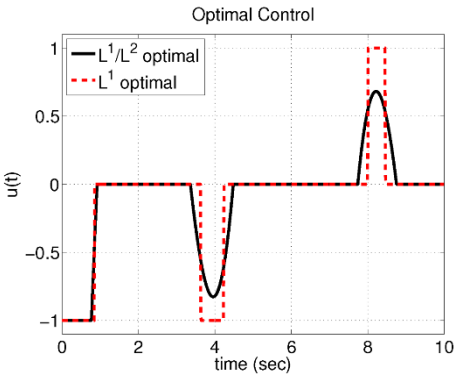
Am

Mittwoch, 27. Februar 2019
in Raum P1.3.01 um 14.00 Uhr

hält Herr Prof. Masaaki Nagahara, University of Kitakyushu, Japan, einen Vortrag über

Sparsity methods for systems and control

Abstract:
Recently, sparsity has been playing a central role in signal processing, machine learning, and data science. Here we consider a problem of reconstructing (or learning) a signal (or a function) from observed data, which may be under-sampled and disturbed by noise. To address this problem, a method called sparse modeling, also known as compressed sensing, has become a hot topic.
In this talk, I will give a brief introduction to sparse modeling for signal estimation, and its applications to optimal control. In particular, I will give an introduction to "maximum hands-off control," which has the minimum support length among all feasible solutions for saving energy and reducing CO2 emissions in control systems.



Bio:
Masaaki Nagahara received the bachelor's degree in engineering from Kobe University in 1998, and the master's degree and the Doctoral degree in informatics from Kyoto University in 2000 and 2003, respectively. He is currently a Full Professor with the Institute of Environmental Science and Technology, The University of Kitakyushu. He has been a Visiting Professor with Indian Institute of Technology Bombay since 2017. His research interests include control theory, machine learning, and sparse modeling. He received Transition to Practice Award in 2012 and George S. Axelby Outstanding Paper Award in 2018 from IEEE Control Systems Society. He also received Young Authors Award in 1999, Best Paper Award in 2012, and Best Book Authors Award in 2016, from SICE, and Best Tutorial Paper Award in 2014 from IEICE Communications Society. He is a member of SICE, ISCIE, IEICE, and JSAI.