

# Mathematical Theory of Control and Signal Processing in the Digital World

## (A workshop dedicated to Yutaka Yamamoto's 70th birthday)

Organizer: Masaaki Nagahara

The University of Kitakyushu

Co-Organizer(s):

Hideaki Ishii

Tokyo Institute of Technology

Kenji Kashima

Kyoto University

Kenji Sugimoto

Nara Institute of Science and Technology

8:50-9:00

*Opening Remarks*

Organizers

9:00-9:30

*Output Regulation of Multivariable Invertible Nonlinear Systems via Robust Dynamic Feedback Linearization*

Alberto Isidori

University of Rome

9:30-10:00

*Thoughts on Optimal Control*

Paul Fuhrmann

Ben-Gurion University of the Negev

10:00-10:30

*Interpolation-based Design of Stabilizing Controllers for Retarded and Neutral Delay Systems*

Hitay Ozbay

Bilkent University

10:30-11:00

*Coffee Break*

11:00-11:30

*Dynamic Relations in Sampled Processes*

Anders Lindquist

Shanghai Jiao Tong University

11:30-12:00

*Determining Causality*

Brian Anderson

Australian National University

12:00-12:30

*On the Geometry of Optimal Mass Transport, Where Probability, Control, and Physics Meet*

Tryphon Georgiou

University of California, Irvine

12:30-14:00

*Lunch Break*

14:00-14:30

*Ramanujan Graphs and the Matrix Completion Problem*

Mathukumalli Vidyasagar

Indian Institute of Technology Hyderabad

14:30-15:00

*Estimating the State of a Linear System Across a Network*

Stephen Morse

Yale University

15:00-15:30

*Signal Reconstruction, Neuroscience, and Deep Learning*

Pramod Khargonekar

University of California, Irvine

15:30-16:00

*Coffee Break*

16:00-16:30

*Kernel Methods for Data-driven Control*

Toshiharu Sugie

Osaka University

16:30-17:00

*Implication of the Lifting Technique to System Identification*

Yoshito Ohta

Kyoto University

17:00-17:30

*Adjustable Lossless Mechanisms: What Is It Possible to Build?*

Malcolm Smith

University of Cambridge

17:30-17:40

*Closing Remarks*

Organizers