



# Toward Post-Modern Control Theory and Beyond

## Control Division

### Technical Committee on Control Theory

#### Goal

- Driving force behind the Japanese control theoretical communities
- Provision of innovative control theory to control technology communities

#### Background

- Key science for emerging technologies  
ICT revolution, nanotechnology, biotechnology, etc.
- Development of universal approach via control  
Solution to environment, natural resources and energy problems.

#### Strategy

Provide opportunities for discussions to develop control system research, cooperating with control theory, control technology researchers and its application engineers.

#### Activity Plan

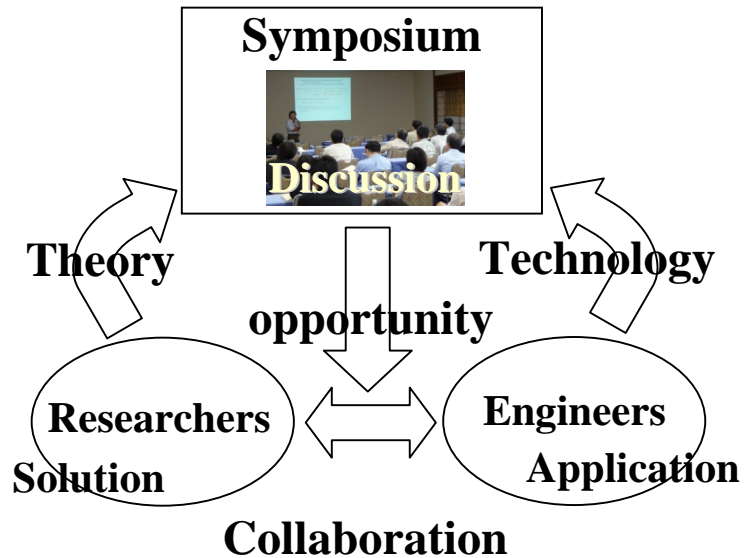
- Annually organizing **SICE Symposium on Control Theory** since 1972
  - In 2008: 86 papers/120 participants
  - In 2009: **the 38<sup>th</sup> symposium will be held in Osaka from September 14<sup>th</sup> to 16<sup>th</sup>.**
- Cooperation with TC for Control Technology

##### 1) Control Theory

Linear control, Nonlinear control, Robust control, Digital control, Model building, Estimation and identification, Adaptive and Learning theory, Numerical optimization, Large scale and Complex systems

##### 2) Control Technology

Information and communication technology, Process control, Metal and Steel process control, Space and Aviation technology, Automobile and Vessel control, Power system and Nuclear power control, etc.



#### Encouraging Young Scientists

- More than 30% of the presentations are given by student members (in 2008)
- 8 speakers won the young author awards of SICE and Control Division (from 2006 to 2008)



**Randomized algorithms for efficient controller design**

**Formation Control**

**Technical Seeds**

**Network/Networked Control**

**Quantum Control**

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 Manager: Masato Ishikawa (Kyoto Univ.), Liaison with control technology: Yutaka Iino (Toshiba),  
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