

Plenary Talks

Plenary Session is composed of nine plenary speeches addressing new concepts/approaches, development methodologies/tools, and current status/future direction in theory, technology and applications of automatic control. They are delivered by the world most eminent scholars chosen among sixty nine nominees recommended by an ad hoc Plenary Board and CC/TC Chairs of IFAC. The Plenary speech fields cover key control subjects, industry-related control applications and emerging control issues such as nonlinear control system, commercial transport airplane, and robust control in biology, stochastic learning and optimization, system identification, automation and control systems technology in Korean shipbuilding industry, control-theoretic approach to model-based medicine, rough-terrain robot, and smart factory.



Reduced Complexity Control Systems

MoPL1

Roger Brockett, Harvard Univ. (US)

Date July 7 (Mon)

Time 08:00 - 09:00

Location Room 301, Auditorium, 3rd Floor

CHAIR Wook Hyun Kwon (KR)



Overview of Potential Evolutions of Technologies

MoPL2

Applied in Commercial Transport Airplanes

Etienne Tarnowski, AIRBUS (FR)

Date July 7 (Mon)

Time 09:00 - 10:00

Location Room 301, Auditorium, 3rd Floor

CHAIR Alberto Isidori (IT)



Robust Control in Biology: From Genes to Cells to Systems

TuPL1

Francis Joseph Doyle III, Univ. of California at Santa Barbara (US)

Date July 8 (Tue)

Time 08:00 - 09:00

Location Room 301, Auditorium, 3rd Floor

CHAIR Dong-il "Dan" Cho (KR)



Stochastic Learning and Optimization - A Sensitivity-Based Approach

TuPL2

Xi-Ren Cao, Hong Kong Univ of Sci. & Tech (CN)

Date July 8 (Tue)

Time 09:00 - 10:00

Location Room 301, Auditorium, 3rd Floor

CHAIR Vladimir Kucera (CZ)



Perspectives on System Identification

WePL1

Lennart Ljung, Linköping University (SE)

Date July 9 (Wed)

Time 08:00 - 09:00

Location Room 301, Auditorium, 3rd Floor

CHAIR Shinji Hara (JP)



***Automation and Control Systems Technology in Korean Shipbuilding Industry:
The State of the Art and the Future Perspectives*** **WePL2**

Keh-Sik Min, Hyundai Heavy Industries Co., Ltd. (KR)

Date July 9 (Wed)
Time 09:00 - 10:00
Location Room 301, Auditorium, 3rd Floor

CHAIR P.J. Fleming (UK)



A Control-Theoretic Approach to Model-Based Medicine **ThPL1**

Hidenori Kimura,
The Institute of Physical and Chemical Research (JP)

Date July 10 (Thu)
Time 08:00 - 09:00
Location Room 301, Auditorium, 3rd Floor

CHAIR Sirkka-Liisa Jamsa-Jounela (FI)



BigDog, the Rough-Terrain Robot **ThPL2**

Marc Raibert, Boston Dynamics (US)

Date July 10 (Thu)
Time 09:00 - 10:00
Location Room 301, Auditorium, 3rd Floor

CHAIR Hyungsuck Cho (KR)



SmartFactory - From Vision to Reality in Factory Technologies **FrPL1**

Detlef Zuehlke, TU Kaiserslautern (DE)

Date July 11 (Fri)
Time 09:00 - 10:00
Location Room 301, Auditorium, 3rd Floor

CHAIR Shimon Y. Nof (US)