

ASCC 2002
Wednesday, 25 September

8:30 - 9:30

Auditorium

Keynote I

The Changing Face of Adaptive Control

K.S. Narendra
Yale University, USA

Chair: T.H. Lee National Univ. of Singapore,
Singapore
Co-Chair: M. Araki Kyoto Univ., Japan

Room 307

WA1

Network Control

Chair: Ki Baek Kim California Inst. of Technology,
USA
Co-Chair: Stephen Hanly Univ. of Melbourne,
Australia

10:00 WA1-1
Design of Receding Horizon AQM in Stabilizing TCP with Multiple Links and Heterogeneous Delays
Ki Baek Kim California Inst. of Tech., USA
Steven H. Low California Inst. of Tech., USA
Paper ID: 10303

10:20 WA1-2
Designing AVQ Parameters for a General Topology Network
Srisankar Kunniyur Univ. of Pennsylvania, USA
R. Srikant Univ. of Illinois at Urbana-Champaign, USA
Paper ID: 10305

10:40 WA1-3
Simultaneous Routing and Resource Allocation via Dual Decomposition
L. Xiao Stanford Univ., USA
M. Johansson Univ. of California Berkeley, USA
S. Boyd Stanford Univ., USA
Paper ID: 10301

11:00 WA1-4
A Study of the Applicability of a Scaling Hypothesis
Rong Pan Stanford Univ., USA
Balaji Prabhakar Stanford Univ., USA
Konstantinos Psounis Stanford Univ., USA
Mayank Sharma Stanford Univ., USA
Paper ID: 10304

11:20 WA1-5
System Identification and Linear Congestion Control for TCP
Langford B. White Univ. of Adelaide, Australia
Paper ID: 10306

11:40 WA1-6
Analysis of a Flow Control Scheme for Rate Adjustment by Managing Inflows
Lachlan Andrew Univ. of Melbourne, Australia
Stephen Hanly Univ. of Melbourne, Australia
Rami Mukhtar Univ. of Melbourne, Australia
Paper ID: 10302

12:00 WA1-7
Network Analysis on Generalized Stochastically Bounded Bursty Traffic
Qinghe Yin Inst. for Communications
Research, Singapore
Paper ID: 10307

Room 308

WA2

Linear Control

Chair: Kenji Hirata Osaka Univ., Japan
Co-Chair: Delin Chu National Univ. of Singapore,
Singapore

10:00 WA2-1
A Numerically Reliable Method for Input-Output Decoupling Problem with Stability
Delin Chu National Univ. of Singapore,
Singapore
Paper ID: 1207

10:20 WA2-2
Infinite Dimensional LQ Control of an Open-Channel Hydraulic System
Mei-Ling Chen National Lien-Ho Inst. of Tech.,
Taiwan
Didier Georges INPG-CNRS, France
Laurent Lefevre INPG-CNRS, France
Paper ID: 1089

10:40 WA2-3
Risk-Sensitive Control for Time-Delay Systems
Jun Yoneyama Aoyama Gakuin Univ., Japan
Paper ID: 1311

11:00 WA2-4
An Off-Line Reference Management Technique for Linear Constrained Systems with Time-Varying Uncertainties
K. Kogiso Osaka Univ., Japan
K. Hirata Osaka Univ., Japan
Paper ID: 1653

11:20 WA2-5
Flight Safety Improvement: a Basic Issue for the Success of Future Launchers
M. Mayrhofer Technische Universitat Munchen,
Germany

M. Wachter Technische Universitat Munchen,
Germany
G. Sachs Technische Universitat Munchen,
Germany

Paper ID: 1897

11:40 WA2-6
*Maximum Phase Added Lead, Minimum Phase Reduced
Lag Non-Trial-and-Error Compensator Design*

Jian-Xin Xu National Univ. of Singapore,
Singapore

Eng Hui Kwong Singapore Polytechnic, Singapore
Rong Huan Yang Singapore Polytechnic, Singapore
Paper ID: 1934

T. Kawahara Tech., Japan
Hiroshima Univ., Japan
Paper ID: 1839

11:40 WA3-6
*On Inverse Optimal Adaptive Designs for Tracking Control
of Ships with Exogenous Disturbances*

S.H. Fu National Sun Yat-Sen Univ.,
Taiwan

C.C. Cheng National Sun Yat-Sen Univ.,
Taiwan

W.M. Haddad Georgia Inst. of Tech., USA
Paper ID: 1360

Room 310

WA3

Adaptive Control I

Chair: A. Leonessa Florida Atlantic Univ., USA
Co-Chair: Takami Matsuo Oita Univ., Japan

10:00 WA3-1
*Adaptive Decrypter of Chaotic Communication Systems
Based on Riccati Equation*

Takami Matsuo Oita Univ., Japan

Masafumi Nishikawa Oita Univ., Japan

Haruo Suemitsu Oita Univ., Japan

Kazushi Nakano Univ. of Electro-Communications,
Japan

Paper ID: 1357

10:20 WA3-2
*Neural Network-Based Optimal Adaptive Tracking Using
Genetic Algorithms*

Sisil Kumarawadu Saga Univ., Japan

Keigo Watanabe Saga Univ., Japan

Kazuo Kiguchi Saga Univ., Japan

Kiyotaka Izumi Saga Univ., Japan

Paper ID: 1854

10:40 WA3-3
Delta Adaptive Control

M. Sysel Tomas Bata Univ. in Zlin, Czech
Republic

V. Bobal Tomas Bata Univ. in Zlin, Czech
Republic

P. Dostal Tomas Bata Univ. in Zlin, Czech
Republic

Paper ID: 1303

11:00 WA3-4
*Adaptive Nonlinear Heading Control of an Underactuated
Nonminimum Phase Model of a Marine Vehicle*

Y. Morel Florida Atlantic Univ., USA

A. Leonessa Florida Atlantic Univ., USA

Paper ID: 1710

11:20 WA3-5
*Helicopter Posture Control by the Use of Decouple and
Robust SAC*

H. Ohtsuka Kumamoto National College of

WA4

Robotics and Motion Control I

Chair: Yugeng Xi Shanghai Jiao Tong Univ., China
Co-Chair: Tadashi Ishihara Tohoku Univ., Japan

10:00 WA4-1
*Dynamic Walking Stability of Young and Elderly People
Using 3D Portable Acceleration Measuring System*

Muhammad Arif Tohoku Univ., Japan

Yasuaki Ohtaki Tohoku Univ., Japan

Tadashi Ishihara Tohoku Univ., Japan

Hikaru Inooka Tohoku Univ., Japan

Paper ID: 1420

10:20 WA4-2
Stationary Alignment Methods for the SDINS

Sang Heon Oh Chungnam National Univ., Korea

Hong Ju Min Chungnam National Univ., Korea

Dong-Hwan Hwang Chungnam National Univ., Korea

Sang Jeong Lee Chungnam National Univ., Korea

Paper ID: 1869

10:40 WA4-3
*Simulation of Biped Walking on Slopes by Three-
Dimensional Musculoskeletal Model*

Atsushi Nakayama Nagoya Univ., Japan

Goro Obinata Nagoya Univ., Japan

Kazunori Hase National Inst. of Advanced
Industrial Sci. and Tech., Japan

Mitsuhiro Obara Nagoya Univ., Japan

Paper ID: 1756

11:00 WA4-4
*Sub-Optimality Analysis of Mobile Robot Rolling Path
Planning*

Chungang Zhang Shanghai Jiao Tong Univ., China

Yugeng Xi Shanghai Jiao Tong Univ., China

Paper ID: 1532

11:20 WA4-5
A Robotic Cane Based on Interactive Technology

Inbo Shim Pusan National Univ., Korea

Joongsun Yoon Pusan National Univ., Korea

Paper ID: 1928

11:40 WA4-6
A Method of Modeling of Traffic System Using Modal Logic
Tadanao Zanma Mie Univ., Japan
Takamasa Suzuki Mie Univ., Japan
Muneaki Ishida Mie Univ., Japan
Paper ID: 1661

Room 311

WA5

Robust Control I

Chair: Hansheng Wu Hiroshima Prefectural Univ., Japan
Co-Chair: Tae-Yong Doh Hanbat National Univ., Korea

10:00 WA5-1
Repetitive Control Design for Linear Systems with Time-Varying Uncertainties
Tae-Yong Doh Hanbat National Univ., Korea
Myung Jin Chung KAIST, Korea
Paper ID: 1379

10:20 WA5-2
Decentralized Robust Controller Design for Large-Scale Systems with Uncertainties
Fucheng Liao Univ. of Sci. and Tech. Beijing, China
Liancun Zheng Univ. of Sci. and Tech. Beijing, China

Tohru Katayama Kyoto Univ., Japan
Fucheng Liao Kyoto Univ., Japan
Paper ID: 1361

10:40 WA5-3
Robust Stabilization Subject to Control Constraints for Uncertain Linear Systems
Fei Liu Southern Yangtze Univ., China
Hongye Su Zhejiang Univ., China
Baoguo Xu Southern Yangtze Univ., China
Jian Chu Zhejiang Univ., China
Paper ID: 1370

11:00 WA5-4
Robust Stabilization for a Class of Adaptive Control Systems with Multiple Time Delays
Hansheng Wu Hiroshima Prefectural Univ., Japan
Suyu Zhang Hiroshima Prefectural Univ., Japan
Paper ID: 1118

11:20 WA5-5
Robust Control of Populaton Dynamical Systems
Noboru Kunimatsu Keio Univ., Japan
Paper ID: 1365

11:40 WA5-6
Active Vibration Suppression of Flexible Structures - Robust Gain-Scheduled Control Approach
A. Forrai Utsunomiya Univ., Japan
P. Korondi Budapest Univ. of Tech. and Economics, Hungary
S. Hashimoto Utsunomiya Univ., Japan

H. Funato Utsunomiya Univ., Japan
K. Kamiyama Utsunomiya Univ., Japan
Paper ID: 1415

Room 312

WA6

Fuzzy and Neural System I

Chair: Min-Soeng Kim KAIST, Korea
Co-Chair: Young Fei Low Univ. of Queensland, Australia

10:00 WA6-1
Enhancing Neural Network Electricity Load Forecast with Wavelet Techniques
Young Fei Low Univ. of Queensland, Australia
Zhao Yang Dong Univ. of Queensland, Australia
Paper ID: 1748

10:20 WA6-2
Fuzzy Modeling and Control for Dynamic Positioning Systems of Ships
Sheng-Ming Wu National Taiwan Ocean Univ., Taiwan
Wen-Jer Chang National Taiwan Ocean Univ., Taiwan
Yi-Lin Yeh National Taiwan Ocean Univ., Taiwan
Paper ID: 1419

10:40 WA6-3
Robust Adaptive Fuzzy Neural Controller Design of MIMO Nonlinear Systems
Y. Gao Nanyang Technological Univ., Singapore
M.J. Er Nanyang Technological Univ., Singapore
Paper ID: 1608

11:00 WA6-4
Identification and Computer Control of a Fermentor Using Neural Networks
A. Meszaros Slovak Univ. of Tech., Slovak Republic
A. Andrasik Slovak Univ. of Tech., Slovak Republic
L. Sperka Slovak Univ. of Tech., Slovak Republic
Paper ID: 1328

11:20 WA6-5
Evolutionary Optimization of Membership Functions in Fuzzy Logic System Using Newly Defined Fitness Function for Classification and Nonlinear Time-Series Prediction
Min-Soeng Kim KAIST, Korea
Sung-Gi Hong Hanwool Robotics Corporation, Korea
Ju-Jang Lee KAIST, Korea
Paper ID: 1487

11:40 WA6-6
GA-Based Approach to Design a Class of Discrete T-S Fuzzy Controllers
Chein-Chung Sun National Central Univ., Taiwan
Hung-Yuan Chung National Central Univ., Taiwan
Wen-Jer Chang National Taiwan Ocean Univ., Taiwan

Paper ID: 1340

11:40 WA7-6
Optimal Tuning of Two-Degree-of-Freedom PD Controllers
Hidefumi Taguchi Kobe City College of Tech., Japan
Masaaki Kokawa Kyoto Univ., Japan
Mituhiko Araki Kyoto Univ., Japan
Paper ID: 1486

Room 313

WA7
PID Control

Chair: Matthew Wade Univ. of Strathclyde, U.K.
Co-Chair: Toru Yamamoto Hiroshima Univ., Japan

10:00 WA7-1
Self-Tuning PI Controller for Multivariable Systems with Uncertain Time-Delays
M. Tokuda Hiroshima Univ., Japan
T. Yamamoto Hiroshima Univ., Japan
Y. Monden Hiroshima Univ., Japan
K. Ozaki Kawasaki Safety Service Ltd., Japan

O. Habata Kawasaki Heavy Industries Ltd., Japan

Paper ID: 1451

10:20 WA7-2
Control Design of a Safety Restraint System
R.J. Hesselting Eindhoven Univ. of Tech., The Netherlands

M. Steinbuch Eindhoven Univ. of Tech., The Netherlands

T. Klisch BMW AG, Germany
Paper ID: 1816

10:40 WA7-3
Exact Analytical Expressions for Relay Feed Back Responses - Second Order Plus Dead Time Processes
R.C. Panda National Taiwan Univ., Taiwan
Cheng-Ching Yu National Taiwan Univ., Taiwan
Paper ID: 1681

11:00 WA7-4
Iterative Feedback Tuning and an Application to Wastewater Treatment Plant
Kasetr Mahathanakiet Univ. of Strathclyde, U.K.
Michael A. Johnson Univ. of Strathclyde, U.K.
Alberto Sanchez Univ. of Strathclyde, U.K.
Matthew Wade Univ. of Strathclyde, U.K.
Paper ID: 1693

11:20 WA7-5
PID Regulator Tuning for Nonlinear Actuators and Sensors
Cs. Banyasz Hungarian Academy of Sci., Hungary
L. Keviczky Hungarian Academy of Sci., Hungary
Paper ID: 1674

Room 314

WA8
Nonlinear Control I

Chair: A.A. Bobtsov St.-Petersburg State Inst. of Fine Mechanics and Optics, Russia
Co-Chair: M. Nakamura Saga Univ., Japan

10:00 WA8-1
Nonlinear Separation Model and Control for a Complex Process Realized by Conventional PID Controller Hardware
M. Nakamura Saga Univ., Japan
T. Sugi Saga Univ., Japan
S. Goto Saga Univ., Japan
Paper ID: 1490

10:20 WA8-2
Nonlinear Quadratic Gaussian Adaptive Control for Closed-Loop Systems
Ming-hao Tan Northeastern Univ., China
Tian-you Chai Northeastern Univ., China
De-cheng Yuan Shenyang Inst. of Chemical Tech., China
Paper ID: 1275

10:40 WA8-3
Neural Control of Pure-Feedback Systems
Cong Wang City Univ. of Hong Kong, China
Shuzhi S. Ge National Univ. of Singapore, Singapore
David J. Hill City Univ. of Hong Kong, China
Guanrong Chen City Univ. of Hong Kong, China
Paper ID: 1434

11:00 WA8-4
Algorithms of Control of Nonlinear Systems with Uncertainties
Alexey A. Bobtsov St.-Petersburg State Inst. of Fine Mechanics and Optics, Russia
Darina A. Romasheva St.-Petersburg State Technical Univ., Russia
Paper ID: 1031

11:20 WA8-5
A Unified Approach to Implement Nonlinear Controllers Based on Neurofuzzy Networks
W.K. Yeung Univ. of Hong Kong, China
C.W. Chan Univ. of Hong Kong, China
K.C. Cheung Univ. of Hong Kong, China
Paper ID: 1093

11:40
Adaptive NN Control for a Class of Nonlinear Systems Using Neural Networks
 S.N. Huang National Univ. of Singapore, Singapore
 K.K. Tan National Univ. of Singapore, Singapore
 T.H. Lee National Univ. of Singapore, Singapore
 Paper ID: 1797

Room 305

WA9 (Poster)
Intelligence and Adaptation

WA9-1
Structure-Adaptive Self-Tuning Regulators
 Yubo Duan Daqing Petroleum Inst., China
 Qiong Wang Daqing Petroleum Inst., China
 Weijian Ren Daqing Petroleum Inst., China
 Fengcai Huo Daqing Petroleum Inst., China
 Paper ID: 1795

WA9-2
Adaptive Control Design for Multiplicative Nonlinearly Parameterized Systems with a Triangular Structure
 Kiyoshi Yokoi Nagoya Univ., Japan
 N.V.Q. Hung Toyota Technological Inst., Japan
 H.D. Tuan Toyota Technological Inst., Japan
 Shigeyuki Hosoe Nagoya Univ., Japan
 Paper ID: 1844

WA9-3
The Development of Methods Robust Control in the Tasks of Adaptation
 Alexey A. Bobtsov St.-Petersburg State Inst. of Fine Mechanics and Optics, Russia
 Darina A. Romasheva St.-Petersburg State Technical Univ., Russia
 Paper ID: 1820

WA9-4
Adaptive PI Postoperative Blood Pressure Control
 K.Y. Zhu Nanyang Technological Univ., Singapore
 Y. Xiao Nanyang Technological Univ., Singapore
 Paper ID: 1100

WA9-5
Fuzzy Adaptive Position Control of Brushless DC Motors with Spiral Vector
 Kouhei Oshio Oita Univ., Japan
 Takami Matsuo Oita Univ., Japan
 Haruo Suemitsu Oita Univ., Japan
 Kazushi Nakano Univ. of Electro-Communications, Japan
 Paper ID: 1355

WA9-6
H_(infinity)-Control for T-S Fuzzy Descriptor Systems: LMI Approaches
 Xiaodong Liu Northeastern Univ., China
 Qingling Zhang Northeastern Univ., China
 Guanghong Yang National Univ. of Singapore, Singapore
 Paper ID: 1040

WA9-7
Neuro-Fuzzy Control of Mobile Robots
 Chang Deng Nanyang Technological Univ., Singapore
 Meng Joo Er Nanyang Technological Univ., Singapore
 Yalei Sun Nanyang Technological Univ., Singapore
 Paper ID: 1615

WA9-8
Human-Machine Cooperation for the Rehabilitation Robots Based on the Design Principle
 Hyong-Euk Lee KAIST, Korea
 Dae-Jin Kim KAIST, Korea
 Jong-Sung Kim ETRI, Korea
 Zeungnam Bien KAIST, Korea
 Paper ID: 1811

WA9-9
Pattern-Based Control for Product Purity in ETBE Reactive Distillation
 Yu-Chu Tian Curtin Univ. of Tech., Australia
 F. Zhao Curtin Univ. of Tech., Australia
 B.H. Bisowarno Curtin Univ. of Tech., Australia
 M.O. Tade Curtin Univ. of Tech., Australia
 G.P. Rangaiah National Univ. of Singapore, Singapore
 Paper ID: 1284

WA9-10
Genetic Algorithm with Two Iterative Searching Stages for Fuzzy Controller Design
 Chia-Feng Juang National Chung Hsing Univ., Taiwan
 Paper ID: 1233

WA9-11
Dynamic Programming on Clusters for Solving Control Problems
 S.D. Canto UNED, Spain
 A.P. de Madrid UNED, Spain
 S. Dormido UNED, Spain
 Paper ID: 1343

WA9-12
Stochastic Optimal Control Design for Sampled-Data Systems Under Erlang-Distributed Observations
 A. Kanchanaharuthai Chulalongkorn Univ., Thailand
 M. Wongsaisuwan Chulalongkorn Univ., Thailand
 Paper ID: 1753

WA9-13
A Minimax Controller Design for Constrained Systems

T. Sato Tokyo Metropolitan Inst. of Tech., Japan
A. Kojima Tokyo Metropolitan Inst. of Tech., Japan
S. Ishijima Tokyo Metropolitan Inst. of Tech., Japan

Paper ID: 1495

WA9-14
A One-Class-One-Net Neural Network-Based Structure for Operating State Identification

C. Wang National Univ. of Singapore, Singapore
Rajagopalan Srinivasan National Univ. of Singapore, Singapore
W.K. Ho National Univ. of Singapore, Singapore
K.W. Lim National Univ. of Singapore, Singapore

Paper ID: 1880

WA9-15
Dynamic Systems Efficient Control on the Basis of Represented Model in the Intelligent Environment

Vladimir N. Pilishkin Bauman Moscow State Technical Univ., Russia

Paper ID: 1941

WA9-16
Lyapunov Equation with Positive Definite Solution for Descriptor Systems

Q. Wang Northeastern Univ., China
Q.L. Zhang Northeastern Univ., China
G.S. Zhang Shenyang Inst. of Aeronautical Engineering, China
W.Q. Liu Curtin Univ. of Tech., Australia

Paper ID: 1450

WA9-17
Integrated Controller Design of Electric Motorcycles Under Energy Management

Su-Hau Hsu National Taiwan Univ., Taiwan
Song-Yao Lin National Taiwan Univ., Taiwan
Li-Chen Fu National Taiwan Univ., Taiwan
De-Wei Hsu National Taiwan Univ., Taiwan

Paper ID: 1323

WA9-18
Direct Adaptive Fuzzy Logic Controller with Self-Tuning Input Scaling Factors

Ibrahim Beklan Kucukdemiral Yildiz Technical Univ., Turkey
Galip Cansever Yildiz Technical Univ., Turkey
Gulderen Yildirmaz Yildiz Technical Univ., Turkey

Paper ID: 1452

WA9-19
Batch Processing in Controlled Queuing Chains

H.S. Kang Independent Researcher, USA

Paper ID: 1768

WA9-20
Self-Segmentation of Sequences Algorithm with Eligibility Traces in POMDPs

Hiroyuki Kamaya Hachinohe National College of Tech., Japan
Kenichi Abe Tohoku Univ., Japan

Paper ID: 1697

WA9-21
Laser Manipulation System for Automatic Control of Microscopic Particles

Akitsu Murakami Univ. of Tokushima, Japan
Yoshio Tanaka AIST, Japan
Yohsuke Kinouchi Univ. of Tokushima, Japan

Paper ID: 1462

WA9-22
Learning of Contact Motion Using a Neural Network and its Application for Force Control

Fusaomi Nagata Interior Design Research Inst., Japan
Keigo Watanabe Saga Univ., Japan

Paper ID: 1597

WA9-23
Design of Control System for 2 DOF Haptic Interface

Jong-Bae Lee KETI, Korea
Ha-Gyeong Sung KETI, Korea
Seong-Ho Lee KETI, Korea
Joon-hong Lim Hanyang Univ., Korea

Paper ID: 1835

WA9-24
Bilinear Optimal Control of Semi-Active Suspension with ER Damper

Tong Li Tokyo Univ. of Mercantile Marine, Japan
Feifei Zhang Tokyo Univ. of Mercantile Marine, Japan
Kiyoshi Mishima Tokyo Univ. of Mercantile Marine, Japan
Masanori Ito Tokyo Univ. of Mercantile Marine, Japan
Hideaki Takahashi Tokyo Univ. of Mercantile Marine, Japan

Paper ID: 1208

Room 307

WM1 Iterative Learning Control

Chair: J. X. Xu National Univ. of Singapore, Singapore
Co-Chair: Kevin L. Moore Utah State Univ., USA

13:30 WM1-1
Higher Relative Degree Nonlinear Systems with Sampled-Data ILC Using Lower-Order Differentiations

Mingxuan Sun Nanyang Technological Univ., Singapore
Danwei Wang Nanyang Technological Univ., Singapore

Paper ID: 10114

13:50 WM1-2
Feedback Controller Design to Ensure Monotonic Convergence in Discrete-Time, P-Type Iterative Learning Control

Kevin L. Moore Utah State Univ., USA
YangQuan Chen Utah State Univ., USA
Vikas Bahl Utah State Univ., USA

Paper ID: 10111

14:10 WM1-3
Memory Based Nonlinear Internal Model: What Can a Control System Learn

Jing Xu National Univ. of Singapore, Singapore
Jian-Xin Xu National Univ. of Singapore, Singapore

Paper ID: 10116

14:30 WM1-4
A New Recurrent Fuzzy Neural Network Based Iterative Learning Control System

Ying-Chung Wang National Chiao Tung Univ., Taiwan
Chiang-Ju Chien Huafan Univ., Taiwan
Ching-Cheng Teng National Chiao Tung Univ., Taiwan

Paper ID: 10115

14:50 WM1-5
Predictive Iterative Learning Control

K.K. Tan National Univ. of Singapore, Singapore
S.N. Huang National Univ. of Singapore, Singapore
T.H. Lee National Univ. of Singapore, Singapore

Paper ID: 10112

15:10 WM1-6
A Study on Robustness of Iterative Learning Controller with Input Saturation Against Time-Delay

Kwang-Hyun Park KAIST, Korea
Zeungnam Bien KAIST, Korea

Paper ID: 10113

Room 308

WM2

Multivariable Control

Chair: J. F. Magni ONERA-CERT, France
Co-Chair: St.-Petersburg State Inst. of Fine Mechanics and Optics, Russia
Taalaibek A. Akunov

13:30 WM2-1
Ellipsoidal Estimations of Quality of Processes in MIMO Continuous System with an Interval State Matrix Under Stochastic Exogenous Signal

Taalaibek A. Akunov St.-Petersburg State Inst. of Fine Mechanics and Optics, Russia

Sergey A. Sudarchikov St.-Petersburg State Inst. of Fine Mechanics and Optics, Russia
Anatoly V. Ushakov St.-Petersburg State Inst. of Fine Mechanics and Optics, Russia

Paper ID: 1924

13:50 WM2-2
Symmetric Controller Design for Symmetric Systems

Guang-Hong Yang National Univ. of Singapore, Singapore
Jian Liang Wang Nanyang Technological Univ., Singapore

Paper ID: 1829

14:10 WM2-3
Design of Predictor-Based Integral Controllers via LTR for Plant Output Side

Jingwei Wu National Research Council of Canada, Canada
Tadashi Ishihara Tohoku Univ., Japan
Xiaochun G. Wang National Research Council of Canada, Canada

Paper ID: 1521

14:30 WM2-4
Feedback Design in LFT Form

Jean-Francois Magni ONERA-CERT, France
Stephanie Chable ONERA-CERT, France

Paper ID: 1818

14:50 WM2-5
Multivariable Direct Adaptive Decoupling Controller Using Multiple Models

Xin Wang Northeastern Univ., China
Heng Yue Northeastern Univ., China
Xiaojie Zhou Northeastern Univ., China
Tianyou Chai Northeastern Univ., China

Paper ID: 1649

15:10 WM2-6
Relation Between IMC Parametrization and Generalized Stabilizer

Keiji Watanabe Yamagatga Univ., Japan
Guido Izuta Yamagatga Univ., Japan
Zhi-wei Luo RIKEN, Japan
Yosiaki Asagi Yamagatga Univ., Japan

Paper ID: 1268

Room 309

WM3

Adaptive Control II

Chair: Northern Jiaotong Univ., China
Zhongsheng Hou
Co-Chair: I. Mizumoto Kumamoto Univ., Japan

13:30 WM3-1
Robust Adaptive Control for Nonlinear Systems with Non-Parametric Uncertainties

I. Mizumoto Kumamoto Univ., Japan
R.B. Gopaluni Univ. of Alberta, Canada
S.L. Shah Univ. of Alberta, Canada

Z. Iwai Kumamoto Univ., Japan
Paper ID: 1410

13:50 WM3-2
Auto-Tuning for Strongly Stable Adaptive Pole Placement Control System

H. Hirata Tokai Univ., Japan
P. Ratiroch-anant King Mongkut's Inst. of Tech., Thailand

M. Anabuki Tokai Univ., Japan
Paper ID: 1513

14:10 WM3-3
Adaptive Robust State Feedback Controllers for a Class of Uncertain Dynamical Systems with Unknown Bounds of Uncertainties

S. Shigemaru Hiroshima Prefectural Univ., Japan
T. Tanaka Hiroshima Prefectural Univ., Japan
Hansheng Wu Hiroshima Prefectural Univ., Japan
Paper ID: 1266

14:30 WM3-4
The Model-Free Direct Adaptive Predictive Control for a Class of Discrete-Time Nonlinear System
Zhongsheng Hou Northern Jiaotong Univ., China
Paper ID: 1687

14:50 WM3-5
An FD Approach For Sampled-Data Systems Based On Parametric Transfer Functions

P. Zhang Tsinghua Univ., China
S.X. Ding Univ. of Duisburg, Germany
B.P. Lampe Univ. of Rostock, Germany
G.Z. Wang Tsinghua Univ., China
D.H. Zhou Tsinghua Univ., China
Paper ID: 1736

15:10 WM3-6
Adaptive Control of Nonlinear Affine System with Disturbances in the Canal of Measurement

A.A. Bobtsov St.-Petersburg State Inst. of Fine Mechanics and Optics, Russia

D.V. Efimov Inst. of Problem of Mechanical Engineering, Russia

Paper ID: 1329

Room 310

WM4

Robotics and Motion Control II

Chair: Sunil K. Agrawal Univ. of Delaware, USA

Co-Chair: G. Yasuda Nagasaki Inst. of Applied Sci., Japan

13:30 WM4-1
Sensor-Based Path Planning for Nonholonomic Mobile Robots Using a Genetic Algorithm

G. Yasuda Nagasaki Inst. of Applied Sci., Japan

H. Takai Hiroshima City Univ., Japan
Paper ID: 1890

13:50 WM4-2
Two-Time Scale Control of a High Speed Planar Parallel Manipulator with Structural Flexibility

Bongsoo Kang Hannam Univ., Korea
James K. Mills Univ. of Toronto, Canada
Paper ID: 1394

14:10 WM4-3
Development of Multi-Client Robot Control Through the Internet

S.H. Yang Loughborough Univ., U.K.
X. Chen Loughborough Univ., U.K.
C.J. Hinde Loughborough Univ., U.K.
Paper ID: 1252

14:30 WM4-4
Dynamics and Control of a Vehicle with Expanding Wheels Using Differential Flatness

Sunil K. Agrawal Univ. of Delaware, USA
Jin Yan Univ. of Delaware, USA
Jaume Franch UPC, Spain
Paper ID: 1350

14:50 WM4-5
A Connectionist Model for Mobile Robot Navigation Integrating Spatial and Temporal Experiences

Zixing Cai Central South Univ., China
Juan Liu Central South Univ., China
Paper ID: 1742

15:10 WM4-6
Stabilization of Unstable Periodic Motions in Parallel-Type Double Inverted Pendulum

Ken-ichi Fujimoto Anan National College of Tech., Japan
Yoshio Tanaka AIST, Japan
Hiroshi Kawakami Univ. of Tokushima, Japan
Paper ID: 1334

Room 311

WM5

Robust Control II

Chair: Hisaya Fujioka Kyoto Univ., Japan

Co-Chair: Vladimir N. Pilishkin Bauman Moscow State Technical Univ., Russia

13:30 WM5-1
Real-time Robust H^∞ Speed Control for a PM Synchronous Motor

Jianguo Zhou Nanyang Technological Univ., Singapore

Youyi Wang Nanyang Technological Univ., Singapore

Paper ID: 1751

13:50 WM5-2
Gain-Scheduled H_∞ Controllers for Linear Parameter Varying Systems

K. Thiptawonnukoon Chulalongkorn Univ., Thailand
M. Wongsaisuwan Chulalongkorn Univ., Thailand
Paper ID: 1766

14:10 WM5-3
The Necessary and Sufficient Conditions of Homogeneous Systems Phase Controllability
Vladimir N. Pilishkin Bauman Moscow State Technical Univ., Russia

Paper ID: 1940

14:30 WM5-4
Sensor/Actuator Scheduling for Control Systems with Communication Constraints
Hisaya Fujioka Kyoto Univ., Japan
Kensaku Ito Kyoto Univ., Japan
Paper ID: 1804

14:50 WM5-5
Robust Absolute Stability of a Class of Uncertain Systems
Tianguang Chu Peking Univ., China
Cishen Zhang Univ. of Melbourne, Australia
Zongda Zhang Harbin Inst. of Tech., China
Paper ID: 1785

15:10 WM5-6
A New Fractional Interpolation Based Smoothing Scheme for Variable Structure Control
Jian-Xin Xu National Univ. of Singapore, Singapore
Ya-Jun Pan National Univ. of Singapore, Singapore
Tong-Heng Lee National Univ. of Singapore, Singapore
Paper ID: 1226

Room 312

WM6

Fuzzy and Neural System II

Chair: Guangquan Li Tianjin Univ., China
Co-Chair: Peter Baranyi Integrated Intelligent Systems Japanese--Hungarian Laboratory, Hungary

13:30 WM6-1
Minimal TS Model Realization of Analytically Given Differential Equations to LMI Based Controller Design Methodologies
Peter Baranyi Integrated Intelligent Systems Japanese--Hungarian Laboratory, Hungary
Peter Korondi Integrated Intelligent Systems Japanese--Hungarian Laboratory, Hungary
Ron J. Patton Univ. of Hull, U.K.
Hideki Hashimoto Integrated Intelligent Systems Japanese--Hungarian Laboratory, Hungary
Paper ID: 1868

13:50 WM6-2
Modeling of Continually Stirred Tank Heater with ANNs Using Successive Over-Relaxation Backpropagation Algorithm
A.K. Goel GZS College of Engineering &

Tech., India
GZS College of Engineering & Tech., India
Surekha Bhanot
Paper ID: 1739

14:10 WM6-3
Modeling of River Discharges Using Neural Networks with Structure Determined by Support Vectors
C.W. Chan Univ. of Hong Kong, China
A.W. Jayawardena Univ. of Hong Kong, China
K.Y. Choy Univ. of Hong Kong, China
T.M.K.G. Fernando Univ. of Hong Kong, China
Paper ID: 1099

14:30 WM6-4
Dynamic Structure Neural Network Control in Nonlinear Systems
Guangquan Li Tianjin Univ., China
Baokun Liu Tianjin Univ., China
Yong Liu Tianjin Univ., China
Paper ID: 1990

14:50 WM6-5
Design of a Mixed-Type Fuzzy Logic Controller by Computing with Words
Y.L. Sun Nanyang Technological Univ., Singapore
M.J. Er Nanyang Technological Univ., Singapore
Paper ID: 1602

15:10 WM6-6
An Adaptive Identification and Control Scheme Based on Direction Basis Function Neural Network
Wenming Cao Zhejiang Univ. of Tech., China
Hao Feng Zhejiang Univ. of Tech., China
Shuojue Wang Zhejiang Univ. of Tech., China
Ping Li Zhejiang Univ. of Tech., China
Paper ID: 1538

Room 313

WM7

Predictive Control

Chair: Adrian Gambier Univ. of Mannheim, Germany
Co-Chair: J.M. Maciejowski Cambridge Univ., U.K.

13:30 WM7-1
Exact State-Space Correspondence to GPC: Observer Eigenvalue Locations
J.M. Maciejowski Cambridge Univ., U.K.
S.N. Redhead Cambridge Univ., U.K.
Paper ID: 1237

13:50 WM7-2
Control of The Time Delay Systems Based on Elman Network and Smith Predictor
Jie Tian Beijing Inst. of Tech., China
Jie Chen Beijing Inst. of Tech., China
Yuhe Zhang Beijing Inst. of Tech., China
Zhihao Gong Beijing Inst. of Tech., China
Paper ID: 1297

14:10 WM7-3
A PID-Like Formulation of Fast GPC Algorithm Applied on the Typical Industrial Processes
Shao-Yuan Li Shanghai Jiao Tong Univ., China
Min Xu Shanghai Jiao Tong Univ., China
Paper ID: 1947

14:30 WM7-4
Multivariable State-Space Adaptive Predictive Control of a Turbogenerator Using Bilinear Models
Adrian Gambier Univ. of Mannheim, Germany
Paper ID: 1703

14:50 WM7-5
Cross-Coupled Generalized Predictive Control with Reference Models
Y. Xiao Nanyang Technological Univ., Singapore
K.Y. Zhu Nanyang Technological Univ., Singapore
Paper ID: 1609

15:10 WM7-6
Study of the Influence of Prefiltering on the Robustness of GPC with Structured Perturbations
C. Manoso UNED, Spain
R. Hernandez UNED, Spain
A.P. de Madrid UNED, Spain
S. Dormido UNED, Spain
Paper ID: 1527

Room 314

WM8

Nonlinear Control II

Chair: Kang-Zhi Liu Chiba Univ., Japan
Co-Chair: Young-Joong Kim Korea Univ., Korea

13:30 WM8-1
Robust Stabilizing Control Methods for Singularly Perturbed Discrete Bilinear Systems
Beom-Soo Kim Korea Univ., Korea
Young-Joong Kim Korea Univ., Korea
Myo-Taeg Lim Korea Univ., Korea
Paper ID: 1367

13:50 WM8-2
Design of Discrete-Time Composite Nonlinear Feedback Control with Measurement for Hard Disk Drives
Kemao Peng National Univ. of Singapore, Singapore
Guoyang Cheng National Univ. of Singapore, Singapore
Ben M. Chen National Univ. of Singapore, Singapore
Tong H. Lee National Univ. of Singapore, Singapore
Paper ID: 1852

14:10 WM8-3
An Alternative Nonlinear Observer--DESO
Zuoxin Gan Chinese Academy of Sci., China

Jingqing Han Chinese Academy of Sci., China
Yi Huang Chinese Academy of Sci., China
Paper ID: 1725

14:30 WM8-4
Nonlinear Control of Rotary Cranes
Kang-Zhi Liu Chiba Univ., Japan
Shigeto Ouchi Tokai Univ., Japan
Naoki Yamamoto Chiba Univ., Japan
Paper ID: 1314

14:50 WM8-5
Robust Controller Synthesis for Multivariable Nonlinear Systems with Unmeasurable Disturbances
Emrod Elisante National Univ. of Singapore, Singapore
Gade Pandu Rangaiah National Univ. of Singapore, Singapore
Srinivas Palanki Florida State Univ., USA
Paper ID: 1914

15:10 WM8-6
Global Robust Stabilization of MIMO Nonlinear High-Order Systems
K. Alimhan Tokyo Denki Univ., Japan
H. Inaba Tokyo Denki Univ., Japan
Paper ID: 1269

Room 305

WM9 (Poster)

Linear and Nonlinear Control

WM9-1
Identification of Hammerstein Models to Minimize the H_{∞} Norm of the Mismatch Error
Samir H. Al-Amer King Fahd Univ. of Petrol & Minerals, Saudi Arabia
Foad M. Al-Sunni King Fahd Univ. of Petrol & Minerals, Saudi Arabia
Paper ID: 1506

WM9-2
Quasi-Deadbeat Guaranteed H_{∞} Estimation for Deterministic Generic Linear Models
Kwan Ho Lee Seoul National Univ., Korea
Soo Hee Han Seoul National Univ., Korea
Wook Hyun Kwon Seoul National Univ., Korea
Paper ID: 1516

WM9-3
Closed-Loop Identification of Nonlinear Unstable Plants and its Application to Magnetic Levitation System
Naohiro Hayashi Osaka Univ., Japan
Caizhong Tian Osaka Univ., Japan
Takao Fujii Osaka Univ., Japan
Paper ID: 1776

WM9-4
Variable Structure Control of Large-Scale Power Interconnected Systems with Time-Delays
Xinzheng Zhang Guangdong Univ. of Tech., China

- S.K. Tso City Univ. of Hong Kong, China
Paper ID: 1984
- WM9-5
Hierarchical Structure of Multi-Agent Control Systems
Veronica Indrawati Universitas Surabaya, Indonesia
R.J. Widodo Institut Teknologi Bandung, Indonesia
Paper ID: 1261
- WM9-6
Information Structure Consideration for Decentralized Large-Scale System
Yufan Zheng Univ. of Melbourne, Australia
Robin J. Evans Univ. of Melbourne, Australia
Paper ID: 1484
- WM9-7
Design of Proper Controllers for Unstable Time Delay Systems
P. Dostal Tomas Bata Univ. in Zlin, Czech Republic
V. Bobal Tomas Bata Univ. in Zlin, Czech Republic
M. Sysel Tomas Bata Univ. in Zlin, Czech Republic
Paper ID: 1517
- WM9-8
A Solution to the Directional Interpolation Problem with a Norm Constraint - Interpolating Transfer Functions with Unstable Poles -
K. Horiguchi Univ. of Kitakyushu, Japan
Paper ID: 1255
- WM9-9
Efficient Eigenvalue Assignment for Linear Time-Varying Systems via Ackermann-Like Formula
Ho Chul Lee Pusan National Univ., Korea
Jae Weon Choi Pusan National Univ., Korea
Paper ID: 1630
- WM9-10
Control Structure of All Stabilizing Repetitive Controllers for Non-Minimum Phase Systems
Kou Yamada Gunma Univ., Japan
Keiji Satoh Gunma Univ., Japan
Noriyuki Iida Gunma Univ., Japan
Tadashi Okuyama Shonai College of Industry and Tech., Japan
Paper ID: 1576
- WM9-11
Hybrid Observer Design with Application to Stabilization of Nonlinear Systems
Zhengtao Ding Ngee Ann Polytechnic, Singapore
Paper ID: 1847
- WM9-12
On Approximation Errors of Automatic Choosing Control for a Class of Nonlinear Systems with Single Input
Hitoshi Takata Kagoshima Univ., Japan
Paper ID: 1316
- WM9-13
Synchronisation of Lipschitz Chaotic Systems via a Nonlinear Control Law
Matthew C. Turner Univ. of Leicester, U.K.
Guido Herrmann Univ. of Leicester, U.K.
Paper ID: 1812
- WM9-14
Static Output Feedback Control for a class of Nonlinear Systems with Time-Varying Parameters
Choon Ki Ahn Seoul National Univ., Korea
Wook Hyun Kwon Seoul National Univ., Korea
Paper ID: 1604
- WM9-15
An Adaptive Controller for a Class of Nonlinear System Using Direction Basis Function
Hao Feng Zhengjiang Univ. of Tech., China
Wenming Cao Zhengjiang Univ. of Tech., China
Shuojue Wang Zhengjiang Univ. of Tech., China
Ping Li Zhengjiang Univ. of Tech., China
Paper ID: 1988
- WM9-16
Decentralized IMC Design Using Linear Multiple Models
Christopher Loh Kian Keong National Univ. of Singapore, Singapore
Min-Sen Chiu National Univ. of Singapore, Singapore
Qing-Guo Wang National Univ. of Singapore, Singapore
Paper ID: 1841
- WM9-17
Imaging Through Scattering Media with Lens and a Spatial Filter: System Resolution and Signal to Noise Ratio
E. Juliastuti Mustafa Institut Teknologi Bandung, Indonesia
Andrianto Handoyo Institut Teknologi Bandung, Indonesia
Paper ID: 1586
- WM9-18
Phase-Conditionally Stable Systems
Pedro Albertos Universidad Politecnica de Valencia, Spain
Paper ID: 1107
- WM9-19
Sufficient Conditions for - Stability of Linear Time Delay Systems
M. De La Sen Universidad del Pais Vasco, Spain
Ningsu Luo Univ. of Girona, Spain
Paper ID: 1104
- WM9-20
An Algorithm for Exploiting the Structure of Linear Optimal Control Problems
S. Winderl Universitat Bayreuth, Germany
Paper ID: 1900
- WM9-21
Study on the Application of Auto-Associative Neural Network in Sensor Validation for Water Treatment Plant

Peijin Wang Yantai Univ., China
Chris Cox Univ. of Sunderland, U.K.
Paper ID: 1212

WM9-22
A Study on the Characteristics of 2 DOF Haptic Device
Ha-Gyeong Sung Ajou Univ., Korea
Jin-Hwan Bom Ajou Univ., Korea
Sung-Ho Lee KETI, Korea
Paper ID: 1833

WM9-23
The Real-Time Detection of City Traffic Condition in Traffic Control Based on GPS
Xiaojing Li Ocean Univ. of Qingdao, China
Qingchun Meng Ocean Univ. of Qingdao, China
Zhengang Wei Ocean Univ. of Qingdao, China
Tianbin Wei Ocean Univ. of Qingdao, China
Xuzhu Wang Ocean Univ. of Qingdao, China
Zhongwen Guo Ocean Univ. of Qingdao, China
Peng Ding Ocean Univ. of Qingdao, China
Paper ID: 1648

WM9-24
Design of Optimum Controllers for Gas Turbine Engines
Junxia Mu Univ. of Glamorgan Pontypridd, U.K.
David Rees Univ. of Glamorgan Pontypridd, U.K.
Ceri Evans Univ. of Glamorgan Pontypridd, U.K.
Neophytos Chiras Praxis Critical Systems Limited, U.K.
Paper ID: 1986

Room 307

WP1

Trends in Nonlinear Control

Chair: Z.P. Jiang Polytechnic Univ., USA
Co-Chair: David J. Hill City Univ. of Hong Kong, China

16:00 WP1-1
Global Output Regulation of Nonlinear Triangular Systems with Uncertain Exosystem
Zhiyong Chen Chinese Univ. of Hong Kong, China
Jie Huang Chinese Univ. of Hong Kong, China
Paper ID: 10074

16:20 WP1-2
Universal Controllers for Stabilization and Tracking of Underactuated Ships
K.D. Do Polytechnic Univ., USA
Z.P. Jiang Polytechnic Univ., USA
J. Pan Univ. of Western Australia, Australia
Paper ID: 10072

16:40 WP1-3
Slope Seeking in Equilibrium Maps of Nonlinear Systems
Kartik B. Ariyur Univ. of California San Diego, USA
Miroslav Krstic Univ. of California San Diego, USA
Paper ID: 10071

17:00 WP1-4
Global Hybrid Control for Large Power Systems
David J. Hill City Univ. of Hong Kong, China
Yi Guo Oak Ridge National Laboratory, USA
Youyi Wang Nanyang Technological Univ., Singapore
Paper ID: 10073

17:20 WP1-5
Output Feedback Asymptotic Stabilization with Bounded Measurements
G. Kaliora Imperial College, U.K.
A. Astolfi Politecnico di Milano, Italy
Paper ID: 10075

17:40 WP1-6
Nonlinear PI Control Revisited
Iven Mareels Univ. of Melbourne, Australia
J. W. Polderman Univ. of Melbourne, Australia
Z. P. Jiang Polytechnic Univ., USA
Paper ID: 10076

Room 308

WP2

Optimal Control and Optimization I

Chair: Yonmook Park KAIST, Korea
Co-Chair: Hiroyuki Takano National Defense Academy, Japan

16:00 WP2-1
A Method for Trajectory Optimization of a Spacecraft Flying in the Atmosphere
Hiroyuki Takano National Defense Academy, Japan
Yoriaki Baba National Defense Academy, Japan
Paper ID: 1507

16:20 WP2-2
Hypersonic Heat Transfer Reduction by Trajectory Optimization with Multipoint Constraints
M. Wachter Technische Universitat Munchen, Germany
G. Sachs Technische Universitat Munchen, Germany
Paper ID: 1895

16:40 WP2-3
A GA-Based Method for Time-Optimal Control of Flexible Slewing Structure
Guan-Yu Liu Nankai College, Taiwan
Chia-Ju Wu National Yunlin Univ. of Sci. and Tech., Taiwan
Chia-Chang Tong Chien-kuo Inst. of Tech., Taiwan

Han-Tai Fan Nankai College, Taiwan
Tsong-Li Lee Nankai College, Taiwan
Paper ID: 1250

17:00 WP2-4
Optimal Attitude Stabilization of Spacecraft Using Minimal Kinematic Parameters
Yonmook Park KAIST, Korea
Min-Jea Tahk KAIST, Korea
Paper ID: 1515

17:20 WP2-5
Pareto Optimal Strategy of Linear Multiparameter Singularly Perturbed Systems
H. Mukaidani Hiroshima Univ., Japan
Paper ID: 1103

17:40 WP2-6
Optimal Control of Nonlinear Descriptor Systems
P.C. Muller Univ. of Wuppertal, Germany
Paper ID: 1228

Room 309

WP3

Identification and Estimation I

Chair: Koichi Hidaka Tokyo Metropolitan College of Aeronautical Engineering, Japan
Co-Chair: Weijian Ren Daqing Petroleum Inst., China

16:00 WP3-1
A New Predictor for a Kind of Nonlinear System
Xuezhong Guan Daqing Petroleum Inst., China
Weijian Ren Daqing Petroleum Inst., China
Tianan Liu Daqing Petroleum Inst., China
Lingzhao Yong Daqing Petroleum Inst., China
Paper ID: 1740

16:20 WP3-2
On Comparing the Performances of Class I, II, III and IV Generalized Fuzzy Models
Smriti Srivastava NSIT, India
Ashish Kumar Chauda NSIT, India
M. Hanmandlu NSIT, India
A.N. Jha NSIT, India
Paper ID: 1792

16:40 WP3-3
H_(infinity) Identification of Human Operator in Control System - in the Case of Leg Operation -
Y. Ando Gunma Univ., Japan
H. Mihara Gunma Univ., Japan
Paper ID: 1319

17:00 WP3-4
Time-Varying Parameter Estimation Using New LMS Algorithm
Koichi Hidaka Tokyo Metropolitan College of Aeronautical Engineering, Japan
Paper ID: 1387

17:20 WP3-5
Mathematical Modeling and Identification of the Glass Capillary Tube Drawing Process
Dragutin Debeljkovic Univ. of Belgrade, Yugoslavia
Stevan Milinkovic Univ. of Belgrade, Yugoslavia
Snezana Sarboh Univ. of Belgrade, Yugoslavia
Milorad Rancic Univ. of Belgrade, Yugoslavia
Veselin Mulic Univ. of Belgrade, Yugoslavia
Paper ID: 1783

17:40 WP3-6
Prediction and Control of Rolling Quality by Just-In-Time Method
Qiubao Zheng Univ. of Sci. and Tech. Beijing, China
Hidenori Kimura Univ. of Tokyo, Japan
Paper ID: 1596

Room 310

WP4

Robotics and Motion Control III

Chair: Sangchul Won POSTECH, Korea
Co-Chair: P. Vadakkepat National Univ. of Singapore, Singapore

16:00 WP4-1
Fuzzy Behaviour Coordination for a Single Agent Mobile Robot
Chia Miin Ooi National Univ. of Singapore, Singapore
Pralhad Vadakkepat National Univ. of Singapore, Singapore
Tong-Heng Lee National Univ. of Singapore, Singapore
Paper ID: 1913

16:20 WP4-2
Road Boundary Detection for ALV Based on Edge Information and Region Information
Guowei Tang Daqing Petroleum Inst., China
Xiande Liu Daqing Petroleum Inst., China
Wencui Yuan Daqing Petroleum Inst., China
Jinghui Li Daqing Petroleum Inst., China
Paper ID: 1449

16:40 WP4-3
An Efficient Module-Base Off-Line Programming for a Robot Welding of Panel Blocks
C.S. Kim Daewoo Shipbuilding and Marine Engineering Ltd., Korea
H.S. Hwang Daewoo Shipbuilding and Marine Engineering Ltd., Korea
J.H. Lee Daewoo Shipbuilding and Marine Engineering Ltd., Korea
J.M. Han Daewoo Shipbuilding and Marine Engineering Ltd., Korea
Hans Y.S. Han Daewoo Shipbuilding and Marine Engineering Ltd., Korea
Paper ID: 1643

17:00 WP4-4
Real Time 3D Object Recognition for Automation Robots
Sangchul Won POSTECH, Korea
Hong Jeong POSTECH, Korea
Sungjin Kim POSTECH, Korea
Sungchan Park POSTECH, Korea
Paper ID: 1620

17:20 WP4-5
Experimental Evaluation of Command Shaping Techniques for Vibration Control of a Flexible Manipulator
Z. Mohamed Univ. of Sheffield, U.K.
M.O. Tokhi Univ. of Sheffield, U.K.
Paper ID: 1091

17:40 WP4-6
Trajectory Segmentation Approach for Vision-Based Learning of Human Instructions by Service Robots
K.P. Liu City Univ. of Hong Kong, China
S.K. Tso City Univ. of Hong Kong, China
Paper ID: 1915

Room 311

WP5

Robust Control III

Chair: K.C. Huang Lan Yang Inst. of Technology, Taiwan
Co-Chair: S. I. Niculescu HEUDIASYC, France

16:00 WP5-1
Robust Stability of Some Oscillatory Systems Including Time-Varying Delay With Applications in Congestion Control
Silviu-Iulian Niculescu Universite de Technologie de Compiègne, France
Keqin Gu Southern Illinois Univ. at Edwardsville, USA
Paper ID: 1529

16:20 WP5-2
Nonlinear Mixed H_2 / H_∞ Lateral Control of Missiles
Yung-Yue Chen National Tsing-Hua Univ., Taiwan
Bor-Sen Chen National Tsing-Hua Univ., Taiwan
Paper ID: 1870

16:40 WP5-3
Robust Servo System with Adaptive Compensation Input for Linear Uncertain Systems
Hidetoshi Oya Univ. of Electro-Communications, Japan
Kojiro Hagino Univ. of Electro-Communications, Japan
Paper ID: 1439

17:00 WP5-4
A Dynamic Feedback Linearization Controller for Three Dimensional Control of the RTG Crane
K.C. Huang Lan Yang Inst. of Tech., Taiwan
J.J. Liou Lan Yang Inst. of Tech., Taiwan
Tien-Lun Liu St. John's & St. Mary's Inst. of

Tech., Taiwan
Paper ID: 1650

17:20 WP5-5
Theoretical Performance/Robustness Limits for Linear SISO Control Systems
L. Keviczky Hungarian Academy of Sci., Hungary
Cs. Banyasz Hungarian Academy of Sci., Hungary
Paper ID: 1670

17:40 WP5-6
Mixed H_2/H_∞ (infinity) Control via State Feedback
Guang-Hong Yang National Univ. of Singapore, Singapore
Jian Liang Wang Nanyang Technological Univ., Singapore
Paper ID: 1831

Room 312

WP6

Fuzzy and Neural Systems III

Chair: B. Moshiri Univ. of Tehran, Iran
Co-Chair: P.C. Chen Yuan Ze Univ., Taiwan

16:00 WP6-1
Robust Sliding-Mode Control for Nonlinear Flexible Arm via Neural Network
R.J. Wai Yuan Ze Univ., Taiwan
P.C. Chen Yuan Ze Univ., Taiwan
M.C. Lee Yuan Ze Univ., Taiwan
Paper ID: 1388

16:20 WP6-2
A New Fuzzy Sliding Mode Approach to the Control of Cascade Nonlinear Systems with Bounded Inputs
Chi-Ying Liang National Yunlin Univ. of Sci. & Tech., Taiwan
Juhng-Perng Su National Yunlin Univ. of Sci. & Tech., Taiwan
Paper ID: 1705

16:40 WP6-3
The Application of Neural Network PID Controller in the Oil-Water Separation Device of Oil Field
Weijian Ren Daqing Petroleum Inst., China
Keyong Shao Daqing Petroleum Inst., China
Xuesong Chen Daqing Petroleum Inst., China
Hongli Dong Daqing Petroleum Inst., China
Paper ID: 1741

17:00 WP6-4
Fuzzy Clustering Approach Using Data Fusion Theory for Automatic Isolated Word Recognition
Behzad Moshiri Univ. of Tehran, Iran
Parisa Eslambolchi Univ. of Tehran, Iran
Paper ID: 1543

17:20 WP6-5
The Design of Fuzzy Controllers Using Space-Filling Curves
Steven Lau Univ. of Hong Kong, China
C.W. Chan Univ. of Hong Kong, China
Paper ID: 1032

17:40 WP6-6
Discrete Fuzzy Perturbed Stochastic Systems Via Upper Bound Covariance Control
Chong-Cheng Shing National Taiwan Ocean Univ., Taiwan
Wen-Jer Chang National Taiwan Ocean Univ., Taiwan
Paper ID: 1418

17:20 WP7-5
Optimal Period and Priority Assignment for Guaranteeing Real-Time Requirements in Distributed Control Systems
Hyoung Yuk Kim Kangwon National Univ., Korea
Hong Seong Park Kangwon National Univ., Korea
Paper ID: 1891

17:40 WP7-6
Modeling of BZ Reaction Under State-Dependent Noise and Simulation Studies
M. Ishikawa Yamaguchi Univ., Japan
K. Miyajima Yamaguchi Univ., Japan
M. Hirano NEC Machinery Corporation, Japan
Paper ID: 1260

Room 313

WP7

Process and Chemical Systems I

Chair: W.K. Ho National Univ. of Singapore, Singapore
Co-Chair: M.J. Wade Univ. of Strathclyde, U.K.

16:00 WP7-1
The Generic Control Structure of Wastewater Treatment Systems
M.J. Wade Univ. of Strathclyde, U.K.
M.R. Katebi Univ. of Strathclyde, U.K.
M.A. Johnson Univ. of Strathclyde, U.K.
L. Brady Univ. of Strathclyde, U.K.
Paper ID: 1694

16:20 WP7-2
Control Structure Design for Heat Integrated Reactors
Y.H. Chen National Taiwan Univ., Taiwan
C.C. Yu National Taiwan Univ., Taiwan
Paper ID: 1691

16:40 WP7-3
Generalized Generic Model Control
D. Wang Tsinghua Univ., China
D.H. Zhou Tsinghua Univ., China
Y.H. Jin Tsinghua Univ., China
Paper ID: 1090

17:00 WP7-4
Control of Chemical Mechanical Polishing in Microelectronic Manufacturing
Ganesh Kumar Varadarajan National Univ. of Singapore, Singapore

Da Li National Univ. of Singapore, Singapore
Abdullah Al Mamun National Univ. of Singapore, Singapore
Arthur Tay National Univ. of Singapore, Singapore
Weng Khuen Ho National Univ. of Singapore, Singapore
Paper ID: 1853

Room 314

WP8

Nonlinear Control III

Chair: H.-L. Choi KAIST, Korea
Co-Chair: Kang-Zhi Liu Chiba Univ., Japan

16:00 WP8-1
Piecewise Smooth Switching Control Algorithms for Chained Systems
Kang-Zhi Liu Chiba Univ., Japan
Paper ID: 1315

16:20 WP8-2
I/O Linearization Based Robust Control of MIMO Nonlinear Uncertain Systems
Z.H. Peng Beijing Inst. of Tech., China
J. Chen Beijing Inst. of Tech., China
M. Wu Central South Univ., China
Paper ID: 1280

16:40 WP8-3
Differential Algebraic Approach Based Controller Design of Nonlinear Processes
Shurong Li Univ. of Petroleum, China
Weibo Wang Univ. of Petroleum, China
Paper ID: 1301

17:00 WP8-4
Global Stabilization of a Class of Nonlinear Systems by Output Feedback
H.-L. Choi KAIST, Korea
J.-T. Lim KAIST, Korea
Paper ID: 1408

17:20 WP8-5
Feedback Stabilization of Driftless System by Norm-Bounded Input
M. Yokomichi Miyazaki Univ., Japan
Paper ID: 1498

17:40 WP8-6
Local Stabilizability of Non-Linear Stochastic Systems with State and Control-Dependent Noise
Weihai Zhang Shandong Inst. of Light Industry, Taiwan

Bor-Sen Chen National Tsing Hua Univ., Taiwan
Yung-Yue Chen National Tsing Hua Univ., Taiwan
Paper ID: 1623

Room 305

WP9 (Poster)
Control Systems

WP9-1
Robustness of Linear Systems with Delayed Nonlinear Perturbations

Mao-Lin Ni Nanyang Technological Univ.,
Singapore

Meng Joo Er Nanyang Technological Univ.,
Singapore

Paper ID: 1509

WP9-2
Performance Analysis of Lur'e Systems with Multiple Slope Restrictions Using Convex Optimization

Thapana Nampradit Chulalongkorn Univ., Thailand

David Banjerdpongchai Chulalongkorn Univ., Thailand

Paper ID: 1850

WP9-3
Dynamic Boundary Controls of a Rotating Body-Beam System with a Nonconstant Angular Velocity

Boumediene Chentouf Sultan Qaboos Univ., Sultanate of
Oman

Messaoud Boulbrachene Sultan Qaboos Univ., Sultanate of
Oman

Paper ID: 1234

WP9-4
Sliding Mode Control for a Reaction Wheel Pendulum

Rajashree Taparia Indian Inst. of Tech. Bombay,
India

B. Bandyopadhyay Indian Inst. of Tech. Bombay,
India

Paper ID: 1287

WP9-5
Modeling of a Large PHWR with Feedback of Fuel and Coolant Temperatures

D.B. Talange TKIET, India

B. Bandyopadhyay Indian Inst. of Tech., India

A.P. Tiwari Bhabha Atomic Research Centre,
India

Paper ID: 1522

WP9-6
Applying Genetic Algorithms to Optimization of Tool-Change Timing in a Nut-Forming Process

Yinghong Guang Nanyang Technological Univ.,
Singapore

Zhaowei Zhong Nanyang Technological Univ.,
Singapore

Zhengtao Ding Ngee Ann Polytechnic, Singapore
Paper ID: 1800

ASCC 2002
Thursday, 26 September

8:30 - 9:30

Auditorium

Keynote II

**Why Control and Biology Now?:
From Cells to Brain**

Hidenori Kimura
University of Tokyo, Japan

Chair: Q.G. Wang National Univ. of Singapore,
Singapore

Co-Chair: Z. Bien KAIST, Korea

Room 307

TA1
Further Development of Coefficient Diagram Method

Chair: S. Manabe Independent Researcher, Japan

Co-Chair: Chyi Hwang National Chung Cheng
Univ., Taiwan

10:00 TA1-1
A Study on the Controller Design for PenduBot using CDM

Daekwan Kim Univ. of Ulsan, Korea

Hansil Kim Univ. of Ulsan, Korea

Paper ID: 10062

10:20 TA1-2
Brief Tutorial and Survey of Coefficient Diagram Method

Shunji Manabe Independent Researcher, Japan

Paper ID: 10061

10:40 TA1-3
PI Controller Designed by CDM for Process with Dead Time

D. Kumpanya King Mongkut's Inst. of Tech.
Ladkrabang, Thailand

S. Panaudomsup King Mongkut's Inst. of Tech.
Ladkrabang, Thailand

T. Benjanarasuth King Mongkut's Inst. of Tech.
Ladkrabang, Thailand

J. Ngamwiwit King Mongkut's Inst. of Tech.
Ladkrabang, Thailand

N. Komine Tokai Univ., Japan
Paper ID: 10063

11:00 TA1-4
Application of CDM to PDF Controller for Motion Control System

D. Isarakorn King Mongkut's Inst. of Tech.
Ladkrabang, Thailand

S. Panaudomsup King Mongkut's Inst. of Tech.
Ladkrabang, Thailand

T. Benjanarasuth King Mongkut's Inst. of Tech.
Ladkrabang, Thailand

J. Ngamwiwit King Mongkut's Inst. of Tech.
Ladkrabang, Thailand

N. Komine Tokai Univ., Thailand

Paper ID: 10064

11:20 TA1-5
Design of PID-Deadtime Control for Time-Delay Systems by Coefficient Diagram Method
Chyi Hwang National Chung Cheng Univ.,
Taiwan

Jyh-Haur Hwang National Chung Cheng Univ.,
Taiwan

Li-Fong Hwang National Chung Cheng Univ.,
Taiwan

Paper ID: 10065

11:40 TA1-6
Control Laws Comparison via Real-Time Stabilization of Two-Link Inverted Pendulum
Yun-Gin Lai National Cheng Kung Univ.,
Taiwan

Yiing-Yuh Lin National Cheng Kung Univ.,
Taiwan

Chen-Zen Hung National Cheng Kung Univ.,
Taiwan

Paper ID: 10066

Paper ID: 1453

11:00 TA2-4
H₂-Optimal Controller Design for Multirate Systems via LMI Approach
E. Piaboriboon Chulalongkorn Univ., Thailand
M. Wongsaisuwan Chulalongkorn Univ., Thailand
Paper ID: 1786

11:20 TA2-5
Control Design for Constrained Discrete-Time Servo System
Bin Qin Data Storage Inst., Singapore
Paper ID: 1116

11:40 TA2-6
Digital Redesign of Analog Controllers Based on Minimizing Integral of Squared Errors
Chyi Hwang National Chung Cheng Univ.,
Taiwan

Fang-Pi Chang National Chung Cheng Univ.,
Taiwan

Jyh-Haur Hwang National Chung Cheng Univ.,
Taiwan

Paper ID: 1867

Room 309

TA2

Optimal Control and Optimization II

Chair: Chulalongkorn Univ., Thailand
M. Wongsaisuwan
Co-Chair: R.D. Hill RMIT Univ., Australia

10:00 TA2-1
Time-Domain Performance Limitations with Hard Limits on Control Activity
R.D. Hill RMIT Univ., Australia
R.B. Wenzel RMIT Univ., Australia
A.C. Eberhard RMIT Univ., Australia
R. Akmeiliawati RMIT Univ., Australia
Paper ID: 1715

10:20 TA2-2
Multirate Design of Optimal Preview Servomechanism for Discrete-Time Systems
Fucheng Liao Univ. of Sci. and Tech. Beijing,
China

Kiyotsugu Takaba Kyoto Univ., Japan
Tohru Katayama Kyoto Univ., Japan
Jyoji Katsuura Kyoto Univ., Japan
Paper ID: 1461

10:40 TA2-3
An LMI Formulation for Optimal Control via Piecewise Linear Approximations
Slim Hbaieb Supelec, France
Stephane Font Supelec, France
Pascale Bendotti Supelec, France
Clement- Marc Falinower Supelec, France

TA3

Identification and Estimation II

Chair: Mans Ostring Linkopings Universitet Sweden
Co-Chair: O.A. Stepanov State Research Center of
Russia, Russia

10:00 TA3-1
Nonlinear Filtering Algorithms for Markov Gaussian Sequences
O.A. Stepanov State Research Center of Russia,
Russia
Paper ID: 1761

10:20 TA3-2
A Wavelet Network for Identification and Control of Non-Linear Dynamical Systems
Madhusudan Singh GTBIT, India
Smriti Srivastava NSIT, India
A.N. Jha IIT, India
Paper ID: 1793

10:40 TA3-3
Blind Identification Algorithms by Oblique Projection
Hideki Ishihara Kyoto Univ., Japan
Tohru Katayama Kyoto Univ., Japan
Paper ID: 1598

11:00 TA3-4
Recursive Identification of Physical Parameters in a Flexible Robot Arm
M. Ostring Linkopings Universitet, Sweden
S. Gunnarsson Linkopings Universitet, Sweden
Paper ID: 1626

11:20 TA3-5
Modeling and Frequency Domain Identification of the Head-Neck Complex
M. Atapourfard Tohoku Univ., Japan
T. Ishihara Tohoku Univ., Japan
H. Inooka Tohoku Univ., Japan
Paper ID: 1469

11:40 TA3-6
A New Identification Approach for Discrete Systems
G.M. Luo Tsinghua Univ., China
H. Kimura Univ. of Tokyo, Japan
W.H. Kwon Seoul National Univ., Korea
Paper ID: 1562

Room 310

TA4

Robotics and Motion Control IV

Chair: S.K. Tso City Univ. of Hong Kong, China
Co-Chair: Osamu Ono Meiji Univ., Japan

10:00 TA4-1
Simulation of Nonlinear Control Approximated to Human Operation for Robot Manipulator
Osamu Ono Meiji Univ., Japan
Masanori Horie Meiji Univ., Japan
Paper ID: 1636

10:20 TA4-2
Sliding Mode Control with Fuzzy Adaptive Perturbation Compensator for 6-DOF Parallel Manipulator
Min Kyu Park Pusan National Univ., Korea
Min Cheol Lee Pusan National Univ., Korea
Seok Jo Go Dongeui Inst. of Tech., Korea
Paper ID: 1553

10:40 TA4-3
Application of Small-Gain Theorem in Dead-Time Compensation of Voltage Source Inverter Drives
Juing-Huei Su Lunghwa Univ. of Sci. and Tech., Taiwan
Bor-Chin Hsu Lunghwa Univ. of Sci. and Tech., Taiwan
Paper ID: 1605

11:00 TA4-4
Application of Hidden Markov Model to Mapping of Typical Human Hand Motion Types for Automatic Programming of Service Robots
K.P. Liu City Univ. of Hong Kong, China
S.K. Tso City Univ. of Hong Kong, China
Paper ID: 1916

11:20 TA4-5
Whole-Arm Passivity Approach to Whole-Arm Manipulation
Hiromi Mochiyama National Defense Academy, Japan
Yasuchika Mori National Defense Academy, Japan
Paper ID: 1843

11:40 TA4-6
Environment Exploration with Multiple Mobile Robots
Liyong Su Chinese Academy of Sci., China
Min Tan Chinese Academy of Sci., China
Zhiqiang Cao Chinese Academy of Sci., China
Shuo Wang Chinese Academy of Sci., China
Guo Ping Liu Univ. of Nottingham, U.K.
Paper ID: 1296

Room 311

TA5

System Theory I

Chair: Univ. of Wuppertal, Germany
Dirk van Schrick
Co-Chair: Girish N. Nair Univ. of Melbourne, Australia

10:00 TA5-1
Mean Square Stabilisability of Communication-Limited Stochastic Linear Systems
Girish N. Nair Univ. of Melbourne, Australia
Robin J. Evans Univ. of Melbourne, Australia
Paper ID: 1560

10:20 TA5-2
Forced Oscillation Conditions in Single Loop Systems
A.P. Loh National Univ. of Singapore, Singapore
J. Fu National Univ. of Singapore, Singapore
W.W. Tan National Univ. of Singapore, Singapore
Paper ID: 1769

10:40 TA5-3
A Simple Existence Condition for Limit Cycles of Relay Feedback Systems
Chong Lin National Univ. of Singapore, Singapore
Qing-Guo Wang National Univ. of Singapore, Singapore
Tong Heng Lee National Univ. of Singapore, Singapore
Paper ID: 1211

11:00 TA5-4
PI-Observer-Based Effect-Variable Reconstruction
Dirk van Schrick Univ. of Wuppertal, Germany
Paper ID: 1120

11:20 TA5-5
Efficient Model Order Reduction of Singular System
Won Kyu Lee Hanbat National Univ., Korea
Victor Sreeram Univ. of Western Australia, Australia
Paper ID: 1762

11:40 TA5-6
Uncertain Continuous System: Stability Condition and Model Reduction
G. Wang Univ. of Western Australia,

V. Sreeram Univ. of Western Australia, Australia
Paper ID: 1830

Room 312

TA6

Fuzzy and Neural Systems IV

Chair: Chen-Chia Chuang Hwa-Hsia College of Technology and Commerce, Taiwan
Co-Chair: Louis Wang Univ. of New South Wales, Australia

10:00 TA6-1
Multi-Agents Competition and Cooperation Using Fuzzy Neural Systems

L. Xu National Univ. of Singapore, Singapore

K.C. Tan National Univ. of Singapore, Singapore

P. Vadakkepat National Univ. of Singapore, Singapore

T.H. Lee National Univ. of Singapore, Singapore

Paper ID: 1851

10:20 TA6-2
Piecewise Robust H_{∞} Controller Synthesis of Discrete Time Fuzzy Systems

Louis Wang Univ. of New South Wales, Australia

Gang Feng City Univ. of Hong Kong, China

Paper ID: 1436

10:40 TA6-3
Analog Fuzzy Controller Circuit Design for Control Applications

Faizal A. Samman Hasanuddin Univ., Indonesia

Rhiza S. Sadjad Hasanuddin Univ., Indonesia

Paper ID: 1745

11:00 TA6-4
Stability Analysis of Discretizing Continuous-Time Controllers via Fuzzy Logic Control Systems

Shao-I Chiu Jen-Te Medical Nursing and Management Junior College, Taiwan

Chen-Chia Chuang Hwa-Hsia College of Tech. and Commerce, Taiwan

Paper ID: 1304

11:20 TA6-5
Comparative Study of Compensating Schemes for Robotic Manipulators

Meng Joo Er Nanyang Technological Univ., Singapore

Chang Deng Nanyang Technological Univ., Singapore

Paper ID: 1612

11:40 TA6-6
Fuzzy Controller Design Using VHDL-Based Synthesis on CPLD for Control Applications

Faizal A. Samman Hasanuddin Univ., Indonesia

Eniman Y. Syamsuddin Institut Teknologi Bandung, Indonesia

Paper ID: 1744

Room 313

TA7

Fault Detection

Chair: T. Suesut King Mongkut's Inst. of Tech. Ladkrabang, Thailand

Co-Chair: H. Yue UMIST, U.K.

10:00 TA7-1
Fault Diagnosis of LTI Systems in the Frequency Domain

K.F. Fong National Univ. of Singapore, Singapore

A.P. Loh National Univ. of Singapore, Singapore

S.B.B. Chia National Univ. of Singapore, Singapore

Paper ID: 1750

10:20 TA7-2
Observer-Based Approaches to Fault Detection in Multirate Sampled-Data Systems

P. Zhang Tsinghua Univ., China

S.X. Ding Univ. of Duisburg, Germany

G.Z. Wang Tsinghua Univ., China

D.H. Zhou Tsinghua Univ., China

E.L. Ding Univ. of Applied Sci. Gelsenkirchen, Germany

Paper ID: 1737

10:40 TA7-3
Model-Based Fault Detection and Diagnosis Using Parameter Estimation and Fuzzy Inference

Mohamad Shukri Zainal Abidin Universiti Teknologi Malaysia, Malaysia

Marzuki Khalid Universiti Teknologi Malaysia, Malaysia

Rubiyah Yusof Universiti Teknologi Malaysia, Malaysia

Shamsuddin Mohd. Amin Universiti Teknologi Malaysia, Malaysia

Paper ID: 1738

11:00 TA7-4
Neurofuzzy Based on PLC Controllers with Parallel Processing for Fault Location of the Distribution Line

V. Tipsuwanporn King Mongkut's Inst. of Tech. Ladkrabang, Thailand

T. Suesut King Mongkut's Inst. of Tech. Ladkrabang, Thailand

K. Thongnopakun King Mongkut's Inst. of Tech. Ladkrabang, Thailand

S. Rukkaphan King Mongkut's Inst. of Tech. Ladkrabang, Thailand

S. Kulphanich King Mongkut's Inst. of Tech.

Ladkrabang, Thailand

Paper ID: 1634

11:20 TA7-5
Fault Diagnosis of Stochastic Systems by Minimizing Residuals Uncertainty
 H. Yue UMIST, U.K.
 H. Wang UMIST, U.K.
 Paper ID: 1224

11:40 TA7-6
Application of Discrete Models to Hydraulic Circuits Diagnostic
 V.P. Chipulis Russian Academy of Sci., Russia
 Paper ID: 1477

Marek Kubaleik Tomas Bata Univ. in Zlin, Czech Republic
 Petr Dostal Tomas Bata Univ. in Zlin, Czech Republic

Paper ID: 1528

11:40 TA8-6
Implementation of Web-Based Monitoring and Control System of a Process Mini-Plant
 Yul Y. Nazaruiddin Institut Teknologi Bandung, Indonesia
 Feri Maulana Institut Teknologi Bandung, Indonesia

Paper ID: 1678

Room 314

TA8

Control Education

Chair: Robert Tuschak Budapest Univ. of Tech. and Economics, Hungary
 Co-Chair: Gerhard Lappus Brandenburg Technical Univ. of Cottbus, Germany

10:00 TA8-1
A Tutorial on Model Predictive Control
 Liuping Wang RMIT Univ., Australia
 Paper ID: 1977

10:20 TA8-2
Advanced Control in Freelance 2000 with Online Interface to Matlab/Simulink
 Amer Noureldin Brandenburg Technical Univ. of Cottbus, Germany
 Gerhard Lappus Brandenburg Technical Univ. of Cottbus, Germany
 Paper ID: 1279

10:40 TA8-3
The Control Engineering Education Using an Advanced Control Training System by Mean of integrating MATLAB Software and Experimental Systems
 Akihiro Kaneshige Tokuyama College of Tech., Japan
 Kazuhiko Terashima Toyohashi Univ. of Tech., Japan
 Paper ID: 1433

11:00 TA8-4
Optimal Control Course Supported by Matlab/Simulink Exercises
 Robert Tuschak Budapest Univ. of Tech. and Economics, Hungary
 Ruth Bars Budapest Univ. of Tech. and Economics, Hungary
 Paper ID: 1665

11:20 TA8-5
Verification of Decentralized Control Using Simple Self-Tuning Controllers in Real Time Conditions
 Vladimir Bobal Tomas Bata Univ. in Zlin, Czech Republic
 Petr Chalupa Tomas Bata Univ. in Zlin, Czech

Room 305

TA9 (Poster)

Robust Control and Robotics

TA9-1
Research of Design Automatization and Real-Time Simulation on Control Systems Type
 Honghui Zhu Wuhan Univ. of Tech., China
 Jing Zha Wuhan Univ. of Tech., China
 Dingfang Chen Chinese Academy of Sci., China
 Paper ID: 1717

TA9-2
A Comparison of Optimal Control Strategies for a Toy Helicopter
 Jonas Balderud Karlstad Univ., Sweden
 David I. Wilson Karlstad Univ., Sweden
 Paper ID: 1254

TA9-3
Obstacle Avoidance Strategy for a 4-Legged Robot by Getting-Over and Striding
 Tomohiro Yamaguchi Saga Univ., Japan
 Keigo Watanabe Saga Univ., Japan
 Kazuo Kiguchi Saga Univ., Japan
 Kiyotaka Izumi Saga Univ., Japan
 Paper ID: 1862

TA9-4
On Stability of Simplified Passive Walker Model and Effect of Feedback Control
 Kentaro Hirata Osaka Prefecture Univ., Japan
 Hideki Kokame Osaka Prefecture Univ., Japan
 Keiji Konishi Future Univ. -Hakodate, Japan
 Paper ID: 1641

TA9-5
Moving Target Tracking with Uncalibrated Robot-Vision System
 Qingjie Zhao Tsinghua Univ., China
 Zengqi Sun Tsinghua Univ., China
 Paper ID: 1478

- TA9-6
Robust Algorithm of Constrained Linear Systems with Parameters Uncertainties
Juan Zhang Beijing Inst. of Tech., China
Jie Chen Beijing Inst. of Tech., China
Georg Bretthauer Forschungszentrum Karlsruhe GmbH, Germany
Paper ID: 1381
- TA9-7
Nonlinear Robust Predictive Mean Control of Bounded Dynamic Stochastic Systems
Yongji Wang Huazhong Univ. of Sci. and Tech., China
Hongfang Zhao Huazhong Univ. of Sci. and Tech., China
Hong Wang UMIST, U.K.
Paper ID: 1306
- TA9-8
Vision Based 3D Model Calibration for Articulated Objects
Jinshi Cui Tsinghua Univ., China
Huabin Tang Tsinghua Univ., China
Zengqi Sun Tsinghua Univ., China
Paper ID: 1590
- TA9-9
Synthesis Based on Extreme Point Results: Stabilization of an Edge
R. Hernandez UNED, Spain
R. Dormido UNED, Spain
S. Ros UNED, Spain
S. Dormido UNED, Spain
Paper ID: 1331
- TA9-10
Robustness Analysis of Nonlinear Systems with Time Delay: a Small Gain Approach
Weibiao Zhou National Univ. of Singapore, Singapore
Shijie Dong Univ. of Western Sydney, Australia
Peter L. Lee Curtin Univ. of Tech., Australia
Paper ID: 1326
- TA9-11
Impacts of Power Electronics Controllers on Power Systems
W. Zhang Nanyang Technological Univ., Singapore
T.T. Lie Nanyang Technological Univ., Singapore
Paper ID: 1758
- TA9-12
Experimental Study of a Robust Semi-Active Suspension System
Nyoman Bangsing Institut Teknologi Bandung, Indonesia
Surya Agustian Institut Teknologi Bandung, Indonesia
- Sularso Institut Teknologi Bandung, Indonesia
- Kusmayanto Kadiman Institut Teknologi Bandung, Indonesia
Komang Bagiasna Institut Teknologi Bandung, Indonesia
Paper ID: 1432
- TA9-13
A Model Predictive Approach to Disturbance Rejection in Idle Speed Control
Chris Manzie Univ. of Melbourne, Australia
Harry Watson Univ. of Melbourne, Australia
Marimuthu Palaniswami Univ. of Melbourne, Australia
Paper ID: 1716
- TA9-14
Motion Control System for 2 Wheels Independently Driven Vehicle
Eiji Kashio Tokyo Univ. of Mercantile Marine, Japan
Feifei Zhang Tokyo Univ. of Mercantile Marine, Japan
Kiyoshi Mshima Tokyo Univ. of Mercantile Marine, Japan
Paper ID: 1614
- TA9-15
Optimal Retail Order Fulfilment Strategies
N. Viswanadham National Univ. of Singapore, Singapore
Viswanathan Vinod Kumar National Univ. of Singapore, Singapore
Roshan Gaonkar National Univ. of Singapore, Singapore
Paper ID: 1983
- TA9-16
A Novel Control-Theoretic Adaptive Streaming Approach for Stored Video
Dejian Ye Tsinghua Univ., China
Zuo Zhang Tsinghua Univ., China
Qiufeng Wu Tsinghua Univ., China
Paper ID: 1610
- TA9-17
On the Application of Control Theory to Quality Management System
Jerome Chang Kao-Yuan Inst. of Tech., Taiwan
Paper ID: 1456
- TA9-18
A Low-Cost Vision Based System for Road Traffic Monitoring, Control and Management
M.Y. Siyal Nanyang Technological Univ., Singapore
B. Barkat Nanyang Technological Univ., Singapore
Paper ID: 1892
- TA9-19
A Design Method of Bilateral Control of Teleoperators - Simultaneous Stabilization Approach-
Kou Yamada Gunma Univ., Japan
Naoki Kudou Gunma Univ., Japan
Noriyuki Iida Gunma Univ., Japan

Paper ID: 1580

TA9-20

H_∞ (infinity)-Robustness Properties Preservation in SISO Systems When Applying SPR Substitutions

G. Fernandez-Anaya Universidad Iberoamericana, Mexico

J.C. Martinez-Garcia PIMAYC, Mexico

V. Kucera Czech Technical Univ. in Prague, Czech Republic

Paper ID: 1037

TA9-21

Optimal Control and Robust Stabilization of Multi-Rate Hybrid Systems

A.M. Azad Univ. of New South Wales, Australia

T. Hesketh Univ. of New South Wales, Australia

Paper ID: 1397

TA9-22

Control of Internet Telerobotics Using Master-Slave Configuration

Riyanto T. Bambang Institut Teknologi Bandung, Indonesia

Antonius Aditya Hartanto Institut Teknologi Bandung, Indonesia

Yoanes Eka B. Sugianto Institut Teknologi Bandung, Indonesia

Paper ID: 1459

TA9-23

Task-Based Optimal Design of a Stewart-Platform Manipulator: a New Rolling Mill

Seung-Hwan Lee Pusan National Univ., Korea

Keum-Shik Hong Pusan National Univ., Korea

Chintae Choi RIST, Korea

Paper ID: 1611

TA9-24

Properties of NbN Coatings Deposited by Closed Field Unbalanced Magnetron Sputtering

N. Cansever Yildiz Technical Univ., Turkey

R.N. Arnell Univ. of Salford, U.K.

P. Kelly Univ. of Salford, U.K.

Paper ID: 1963

Room 307

TM1

Financial Systems

Chair: Univ. of Wisconsin Milwaukee, USA

Richard H. Stockbridge

Co-Chair: Kurt Helmes Humboldt Univ. of Berlin, Germany

13:30

TM1-1

Introduction

Kurt Helmes Humboldt Univ. of Berlin, Germany

Paper ID: 10206

13:50

TM1-2

Pricing Perpetual Russian Options Using Linear Programming

Kurt Helmes Humboldt Univ. of Berlin, Germany

Paper ID: 10204

14:10

TM1-3

Option Pricing for Finite Models with Limits on Hedging

Richard H. Stockbridge Univ. of Wisconsin Milwaukee, USA

Paper ID: 10205

14:30

TM1-4

General Framework of Arbitrage Theory and Credit Modelling

Monique Jeanblanc Universite d'Evry, France

Raphael Douady RiskData, France

Paper ID: 10203

14:50

TM1-5

On optimal investment strategies under model uncertainty

Wolfgang J. Runggaldier Universita di Padova, Italy

Paper ID: 10201

15:10

TM1-6

Minimax Adaptive Control of Stochastic Systems With Unknown Disturbance Distribution

Onesimo Hernandez-CINVESTAV-IPN, Mexico

Erma
Paper ID: 10202

Room 308

TM2

Optimal Control and Optimization III

Chair: Lilei Lu Nanyang Technological Univ., Singapore

Co-Chair: O.V. Abramov Russian Academy of Sci., Russia

13:30

TM2-1

Parallel and Distributed Algorithms for Optimal Parametric Synthesis

O.V. Abramov Russian Academy of Sci., Russia

Y.V. Katueva Russian Academy of Sci., Russia

A.A. Suponya Russian Academy of Sci., Russia

Paper ID: 1264

13:50

TM2-2

A Discrete Method for Time-Optimal Path-Planning of Kinematically Redundant Manipulators

Chia-Ju Wu National Yunlin Univ. of Sci. and Tech., Taiwan

Tsong-Li Lee Nankai College, Taiwan

Guan-Yu Liu Nankai College, Taiwan

Han-Tai Fan Nankai College, Taiwan

Paper ID: 1251

14:10

TM2-3

A New Iterative Algorithm for the Mixed H_2/H_∞ Control Problem with State Feedback

Yasushi Kami Kyushu Inst. of Tech., Japan
Eitaku Nobuyama Kyushu Inst. of Tech., Japan
Paper ID: 1441

14:30 TM2-4
H₂ Controller Design for Networked Control System

Lilei Lu Nanyang Technological Univ., Singapore

Lihua Xie Nanyang Technological Univ., Singapore

Wenjian Cai Nanyang Technological Univ., Singapore

Paper ID: 1473

14:50 TM2-5
Optimal Flow Control in Multirate Multicast Networks

W.H. Wang Univ. of Melbourne, Australia

M. Palaniswami Univ. of Melbourne, Australia

S.H. Low California Inst. of Tech., USA

Paper ID: 1407

15:10 TM2-6
Non-Zero-Sum Linear Quadratic Dynamic Game with Descriptor Systems

Salmah - Gadjah Mada Univ., Indonesia

Bambang S. Gadjah Mada Univ., Indonesia

S.M. Nababan Institut Teknologi Bandung, Indonesia

S. Wahyuni Gadjah Mada Univ., Indonesia

Paper ID: 1339

Room 309

TM3

Identification and Estimation III

Chair: A. Kojima Tokyo Metropolitan Inst. of Technology, Japan

Co-Chair: Jin-Long Lin National Tsinghua Univ., Taiwan

13:30 TM3-1
Bond-Graph Modeling of the Air-Conditioning System

Jin-Long Lin National Tsinghua Univ., Taiwan

T.-J. Yeh National Tsinghua Univ., Taiwan

Paper ID: 1637

13:50 TM3-2
Robust Filtering for Discrete Nonlinear Fractional Transformation Systems

N.T. Hoang Nagoya Univ., Japan

H.D. Tuan Toyota Technological Inst., Japan

P. Apkarian ONERA-CERT, France

S. Hosoe Nagoya Univ., Japan

Paper ID: 1842

14:10 TM3-3
Convergence Properties of Subband Identification

Damian Marelli Univ. of Newcastle, Australia

Minyue Fu Univ. of Newcastle, Australia

Paper ID: 1888

14:30 TM3-4
A Modeling of Refuge Behavior for a Crowd with Multiple Dynamic Characteristics

Yohei Kawashima Tokyo Metropolitan Inst. of Tech., Japan

Shintaro Ishijima Tokyo Metropolitan Inst. of Tech., Japan

Akira Kojima Tokyo Metropolitan Inst. of Tech., Japan

Paper ID: 1631

14:50 TM3-5
Mechanical Failure Reduction of Hot Steel Rolling Mills via Modeling and Control

Kun Zhang Univ. of South Australia, Australia

Jingxin Zhang Deakin Univ., Australia

Saeid Nahavandi Deakin Univ., Australia

Paper ID: 1827

15:10 TM3-6
Consistent Source Detection in Polynomial Systems Driven by Discrete Sources

Jonathan H. Manton Univ. of Melbourne, Australia

Paper ID: 1822

Room 310

TM4

Mechatronics

Chair: Osamu Ono Meiji Univ., Japan

Co-Chair: Guido Herrmann Data Storage Inst., Singapore

13:30 TM4-1
Design of a Dual-Stage-Servo System for a Hard Disc Using a (μ)-Analysis Tool

Guido Herrmann Data Storage Inst., Singapore

Guoxiao Guo Data Storage Inst., Singapore

Paper ID: 1826

13:50 TM4-2
Mechanical Analysis on Unilateral Static External Bone Fixation

Farida I. Muchtadi Institut Teknologi Bandung, Indonesia

Yul Y. Nazaruiddin Institut Teknologi Bandung, Indonesia

John Reinier Institut Teknologi Bandung, Indonesia

Respati S. Dradjat Syaiful Anwar General Hospital, Indonesia

Paper ID: 1813

14:10 TM4-3
A Temperature Sensor Software-Compensation Algorithm for DUV Lithography

Woei Wan Tan National Univ. of Singapore, Singapore

Reginald F.Y. Li National Univ. of Singapore, Singapore

Paper ID: 1848

14:30 TM4-4
Navigation of Autonomous Mobile Robot by Using Ultrasonic Visualization System

Osamu Ono Meiji Univ., Japan
Takashi Arakida Meiji Univ., Japan
Paper ID: 1616

14:50 TM4-5
Sliding Mode Control of Nonlinear Systems with a Soft Switching Strategy in the Boundary Layer

Hong-Ming Chen National Yunlin Univ. of Sci. & Tech., Taiwan

Juhng-Perng Su National Yunlin Univ. of Sci. & Tech., Taiwan

Jyh-Chyang Renn National Yunlin Univ. of Sci. & Tech., Taiwan

Paper ID: 1706

15:10 TM4-6
Periodic Speed Ripples Minimization in PM Synchronous Motors Using Repetitive Learning Variable Structure Control

Weizhe Qian National Univ. of Singapore, Singapore

S.K. Panda National Univ. of Singapore, Singapore

J.X. Xu National Univ. of Singapore, Singapore

Paper ID: 1825

Room 311

TM5

System Theory II

Chair: H. Ichihara Kyushu Inst. of Technology, Japan

Co-Chair: Mohammad Haeri Sharif Univ. of Technology, Iran

13:30 TM5-1
A Modification to Zeroth Order Phase Locked Loop

Mohammad Haeri Sharif Univ. of Tech., Iran
Paper ID: 1302

13:50 TM5-2
Covariance Control for Descriptor Systems with Uncertainties

Q. Wang Northeastern Univ., China

Q.L. Zhang Northeastern Univ., China

W.Q. Liu Curtin Univ. of Tech., Australia

Paper ID: 1377

14:10 TM5-3
Regional Stability and Stabilization for Descriptor Systems

Q. Wang Northeastern Univ., China

Q.L. Zhang Northeastern Univ., China

W.Q. Liu Curtin Univ. of Tech., Australia

Paper ID: 1371

14:30 TM5-4
A Conveyer Belt Model of Discrete-Time Varying Delay

H. Ichihara Kyushu Inst. of Tech., Japan

N. Kumazawa Kagoshima Univ., Japan

N. Abe Meiji Univ., Japan
Paper ID: 1510

14:50 TM5-5
Structural Decomposition of Single-Input and Single-Output Singular Systems

Minghua He National Univ. of Singapore, Singapore

Ben M. Chen National Univ. of Singapore, Singapore

Paper ID: 1270

15:10 TM5-6
Realizable Class of Transfer Function Matrices with Characteristic Polynomial

Toshio Eisaka Kitami Inst. of Tech., Japan

Paper ID: 1342

Room 312

TM6

GA and Evolutionary Computing

Chair: Arthur Tay National Univ. of Singapore, Singapore

Co-Chair: Wen-Jye Shyr National Changhua Univ. of Edu., Taiwan

13:30 TM6-1
Optimal Design via Genetic Algorithms

Wen-Jye Shyr National Changhua Univ. of Edu., Taiwan

Boi-Wei Wang National Kaohsiung Univ. of Applied Sci., Taiwan

Te-Jen Su National Kaohsiung Univ. of Applied Sci., Taiwan

Tze-Li Kang National Changhua Univ. of Edu., Taiwan

Paper ID: 1823

13:50 TM6-2
Genetic Algorithm and Extension Controller Design of Over-Load Prevention System for a Truck Crane

Shao-Chih Sung Tamkang Univ., Taiwan

Jr-Syu Yang Tamkang Univ., Taiwan

Chan-Yun Yang Kuang Wu Inst. of Tech., Taiwan

Paper ID: 1642

14:10 TM6-3
Shared Behavior Control for a Robotic Cane Based on Interactive Technology

Inbo Shim Pusan National Univ., Korea

Joongsun Yoon Pusan National Univ., Korea

Paper ID: 1929

14:30 TM6-4
Searching Probe Set of Yeast Genome: an Implementation of Evolutionary Strategy

Huan Xu National Univ. of Singapore, Singapore

Arthur Tay National Univ. of Singapore, Singapore

Zhao Yang Dong Univ. of Queensland, Australia

Huck Hui Ng Harvard Medical School, USA
Paper ID: 1832

14:50 TM6-5
Evolutionary Computation Approach to Hammerstein Model Identification

Toshiharu Hatanaka Osaka Univ., Japan
Katsuji Uosaki Osaka Univ., Japan
Masazumi Koga COMPAQ Japan Corporation, Japan

Paper ID: 1651

15:10 TM6-6
On-Line Identification of Continuous-Time Nonlinear Systems Using Radial Basis Function Networks and Genetic Algorithm

T. Hachino Kagoshima Univ., Japan
K. Hasuka Kagoshima Univ., Japan
H. Takata Kagoshima Univ., Japan
Paper ID: 1501

Room 313

TM7

Hybrid and Supervisory Systems

Chair: K. Hirata Osaka Univ., Japan
Co-Chair: Univ. of Melbourne, Australia
Jonathan H. Manton

13:30 TM7-1
Strict Quadratic Stability of Logic-Differential Systems

Jonathan H. Manton Univ. of Melbourne, Australia
Efstratios Skafidas Univ. of Melbourne, Australia
Robin J. Evans Univ. of Melbourne, Australia
Paper ID: 1821

13:50 TM7-2
Designing Internet-based Control Systems for Process Plants

S.H. Yang Loughborough Univ., U.K.
X. Chen Loughborough Univ., U.K.
D.W. Edwards Loughborough Univ., U.K.
J.L. Alty Loughborough Univ., U.K.
Paper ID: 1249

14:10 TM7-3
Modeling a cOmplex Hybrid System

Lin Wang Zhejiang Univ., China
Pu Li Technische Universitat Berlin, Germany
Gunter Wozny Technische Universitat Berlin, Germany

Shuqing Wang Zhejiang Univ., China
Paper ID: 1341

14:30 TM7-4
Analysis of Control Systems with Input Constraints Using Piecewise Quadratic Storage Functions

E. Morinaga Osaka Univ., Japan
K. Hirata Osaka Univ., Japan
Y. Ohta Osaka Univ., Japan

Paper ID: 1654

14:50 TM7-5
Hybrid Fuzzy Control of a Pole-Balancing Robot

Y.L. Sun Nanyang Technological Univ., Singapore
M.J. Er Nanyang Technological Univ., Singapore

Paper ID: 1603

15:10 TM7-6
A Web-Based Sequential Controller

Chiaming Yen National Huwei Inst. of Tech., Taiwan
Wu-Jeng Li National Huwei Inst. of Tech., Taiwan

Paper ID: 1267

Room 314

TM8

Advanced Application of Coefficient Diagram Method

Chair: M. Koksal Fatih Univ., Turkey
Co-Chair: N. Komine Tokai Univ., Japan

13:30 TM8-1
Weighting Matrices Selection of Derivative State Constrained Control by CDM

N. Komine Tokai Univ., Japan
K. Shibata Mitsubishi Electric Mechatronics Software Corporation, Japan
T. Benjanarasuth King Mongkut's Inst. of Tech. Ladkrabang, Thailand
J. Ngamwiwit King Mongkut's Inst. of Tech. Ladkrabang, Thailand

Paper ID: 10271

13:50 TM8-2
A New Tension Control Method for Hot Strip Mill Based on CDM

H. Ikeda Mitsubishi Electric Corporation, Japan
N. Kubo Mitsubishi Electric Corporation, Japan
K. Yano Mitsubishi Electric Corporation, Japan
H. Inami Mitsubishi Electric Corporation, Japan
Y. Wakamiya Mitsubishi Electric Corporation, Japan

Paper ID: 10272

14:10 TM8-3
Robust Position Control of a Radar Antenna with the Coefficient Diagram Method

S.E. Hamamci Inonu Univ., Turkey
M. Koksal Fatih Univ., Turkey
Shunji Manabe Independent Researcher, Japan
Paper ID: 10273

14:30 TM8-4
On the Control of Some Nonlinear Systems with the Coefficient Diagram Method

S.E. Hamamci Inonu Univ., Turkey
M. Koksal Fatih Univ., Turkey
Shunji Manabe Independent Researcher, Japan
Paper ID: 10274

14:50 TM8-5
Synchronizing Control of Time-Varying Chaotic Systems

M. Iwase Tokyo Denki Univ., Japan
Y. Suzuki Tokyo Denki Univ., Japan
S. Hatakeyama Tokyo Denki Univ., Japan
Paper ID: 1559

15:10 TM8-6
Measurement System of Walking Distance Using Low-Cost Accelerometers

Seong Yun Cho Kwangwoon Univ., Korea
Chan Gook Park Kwangwoon Univ., Korea
Gyu In Jee Konkuk Univ., Korea
Paper ID: 1864

Room 305

TM9 (Poster) Industrial Systems

TM9-1
Impacts of Supply Quality Management Practices on Quality Performance: a Study in Hong Kong

Alice H.W. Yeung Univ. of Hong Kong, China
Victor H.Y. Lo Univ. of Hong Kong, China
Paper ID: 1803

TM9-2
Preprocessing Scheme for Stable Cascaded GPS/INS Integration System

Tae-Gyoo Lee Agency for Defense Development, Korea
Kwangjin Kim Agency for Defense Development, Korea
Chang-Hae Je Agency for Defense Development, Korea
Heung-Won Park Agency for Defense Development, Korea
Paper ID: 1111

TM9-3
Synchronization Solutions for a Loosely Coupled INS and GPS Navigation System

Y.J. Cui Singapore Technologies Dynamics Pte Ltd, Singapore
S.S. Ge National Univ. of Singapore, Singapore
T. Goh Singapore Technologies Dynamics Pte Ltd, Singapore
W.K. Tan Singapore Technologies Dynamics Pte Ltd, Singapore
E. Sim Singapore Technologies Dynamics Pte Ltd, Singapore

K. Tan Singapore Technologies Dynamics Pte Ltd, Singapore

Paper ID: 1834

TM9-4
Rule Based Control Strategies for Diabetes Mellitus

L. Santoso Univ. of Melbourne, Australia
I.M.Y. Mareels Univ. of Melbourne, Australia
Paper ID: 1599

TM9-5
Control Challenge in Semiconductor Packaging

Han-Xiong Li City Univ. of Hong Kong, China
Paper ID: 1348

TM9-6
Collaborative Integrated Planning for Managing Multiple Generations of Products in Internet-Enabled Supply Chains

Roshan Gaonkar National Univ. of Singapore, Singapore
N. Viswanadham National Univ. of Singapore, Singapore
Paper ID: 1982

TM9-7
A New Method to Realize Temperature Compensation of Pressure Sensor

Quanming Zhao Tianjin Univ., China
Lingling Li Hebei Univ. of Tech., China
Yanmang Su Hebei Univ. of Tech., China
Renjie Li Hebei Univ. of Tech., China
Paper ID: 1925

TM9-8
Neural Network Techniques for Measurement Validation, Monitoring and Automatic Diagnosis of Sensor Faults

Elena Gaura Coventry Univ., U.K.
Michael Kraft Univ. of Southampton, U.K.
Paper ID: 1937

TM9-9
A Neural Network Approach for Sensor Fault Detection and Accommodation

Woei Wan Tan National Univ. of Singapore, Singapore
Jie Zheng National Univ. of Singapore, Singapore
Paper ID: 1796

TM9-10
High-Speed Planes Detection Based on 3-Dimensional Hough Transform in DSP

Osamu Ono Meiji Univ., Japan
Ryotaro Gyoda Meiji Univ., Japan
Paper ID: 1629

TM9-11
The Development Of Battery Performance Automation With LabVIEW

J.H. Horng National Taiwan Ocean Univ., Taiwan
Paper ID: 1472

- TM9-12
Research on Economic Operation Decision Support System in Thermal Power Plant
Huiying Li Northeast Univ., China
Xiaojie Zhou Northeast Univ., China
Tianyou Chai Northeast Univ., China
Paper ID: 1585
- TM9-13
3-DOF Adaptive Attitude Control of a Model Helicopter Through Fuzzy-PID Control Approach
Mun-Soo Park Ajou Univ., Korea
Duck-Gee Park Ajou Univ., Korea
Suk-Kyo Hong Ajou Univ., Korea
Paper ID: 1664
- TM9-14
Closed-loop Automatic Tuning of PID Controller for Nonlinear Systems
K.K. Tan National Univ. of Singapore, Singapore
R. Ferdous National Univ. of Singapore, Singapore
S. Huang National Univ. of Singapore, Singapore
Paper ID: 1723
- TM9-15
Survey of Researches on Two-Degree-of-Freedom PID Controllers
Hidefumi Taguchi Kobe City College of Tech., Japan
Mituhiko Araki Kyoto Univ., Japan
Paper ID: 1838
- TM9-16
A Design of Evolutionary Self-Tuning PID Controllers Based on IMC Tuning Method
M. Katayama Hiroshima Univ., Japan
A. Ikeda Hiroshima Univ., Japan
T. Yamamoto Hiroshima Univ., Japan
Y. Mada Hiroshima Univ., Japan
Paper ID: 1886
- TM9-17
Online Identification of Process Transitions Using Dynamic Programming and Dynamic Time Warping
MingSheng Qian National Univ. of Singapore, Singapore
Rajagopalan Srinivasan National Univ. of Singapore, Singapore
Paper ID: 1879
- TM9-18
Load-Balancing Algorithm Supporting Real Time Mode in Distributed System
V. Kryukov Vladivostok State Univ., Russia
C. Shakhgelyan Vladivostok State Univ., Russia
V. Mayorov Vladivostok State Univ., Russia
Paper ID: 1763
- TM9-19
Computation of Complete Schedules for Execution of Periodic Tasks on a Processor with Preemption
Peter C.Y. Chen National Univ. of Singapore, Singapore
W.M. Wonham Univ. of Toronto, Canada
Paper ID: 1364
- TM9-20
Merged DSP Microcontroller Using Reconfigurable Execution Core
Amiya Kumar Rath Kalinga Inst. of Industrial Tech., India
Pramod Kumar Meher Utkal Univ., India
Paper ID: 1727
- TM9-21
Design of Power System Stabilizer for Multi-Machine System Using Fast Output Sampling Feedback Controller
Rajeev Gupta Indian Inst. of Tech. Bombay, India
B. Bandyopadhyay Indian Inst. of Tech. Bombay, India
A.M. Kulkarni Indian Inst. of Tech. Bombay, India
Paper ID: 1096
- TM9-22
Robust Longitudinal Flight Control Design Using Parameter-Varying Control
Riyanto T. Bambang Institut Teknologi Bandung, Indonesia
H.Y. Sutarto Institut Teknologi Bandung, Indonesia
M. Fadly Institut Teknologi Bandung, Indonesia
Paper ID: 1458
- TM9-23
Computation of Min and Max Transition Times in Automata Representing Discrete-Event-Observed Continuous, Monotone Plants
Heinz A. Preisig Technical Univ. Eindhoven, The Netherlands
Khang Wee Lim National Univ. of Singapore, Singapore
Yunxia Xi National Univ. of Singapore, Singapore
Paper ID: 1658
- TM9-24
The Design of Multi-Agent Fieldbus Measurement and Control System Based on Agent Theory
Bo Yin Ocean Univ. of Qingdao, China
Qingchun Meng Ocean Univ. of Qingdao, China
Xiaodong Zhuang Ocean Univ. of Qingdao, China
Jijun Zhang Ocean Univ. of Qingdao, China
Paper ID: 1644

R.J. Widodo Institut Teknologi Bandung, Indonesia
Harijono A. Tjokronegoro Institut Teknologi Bandung, Indonesia
Tatang Hernas Soerawidjaja Institut Teknologi Bandung, Indonesia

Paper ID: 1638

Kap-Ho Seo KAIST, Korea
Min-Soeng Kim KAIST, Korea
Changmok Oh KAIST, Korea
Ju-Jang Lee KAIST, Korea
Paper ID: 1686

Room 310

Room 309

FA3

Signal Processing

Chair: Universiti Teknologi Malaysia, Malaysia
Zuwairie Ibrahim
Co-Chair: Yutaka Yamamoto Kyoto Univ., Japan

10:00 FA3-1
Optimal FIR Approximation for Discrete-Time IIR Filters
Yutaka Yamamoto Kyoto Univ., Japan
Brian D.O. Anderson Australian National Univ., Australia
Masaaki Nagahara Kyoto Univ., Japan
Yoko Koyanagi Kyoto Univ., Japan
Paper ID: 1231

10:20 FA3-2
Blind Separation of Instantaneous Mixed Gaussian Sources via Parallel Genetic Algorithms
Tongcheng Guo Tsinghua Univ., China
Chundi Mu Tsinghua Univ., China
Paper ID: 1689

10:40 FA3-3
Identification of FIR Systems with Color Noise
G.M. Luo Tsinghua Univ., China
W.H. Kwon Seoul National Univ., Korea
H. Kimura Univ. of Tokyo, Japan
Paper ID: 1277

11:00 FA3-4
Model-Based PCB Inspection Technique Using Wavelet Transform
Zuwairie Ibrahim Universiti Teknologi Malaysia, Malaysia
Syed Abdul Rahman Al-Attas Universiti Teknologi Malaysia, Malaysia
Zulfakar Aspar Universiti Teknologi Malaysia, Malaysia
Paper ID: 1906

11:20 FA3-5
Transmit Pulse Design with Implementation Error and Channel Parameter Uncertainty
B. Vo Univ. of Melbourne, Australia
A. Doucet Univ. of Melbourne, Australia
M. Nikpour Univ. of Melbourne, Australia
Paper ID: 1491

11:40 FA3-6
Automatic Facial Feature Extraction in Color Images Using Color Snake

FA4

Aerospace

Chair: Ick Ho Whang Agency for Defense Development, Korea
Co-Chair: Y. Ochi National Defense Academy, Japan

10:00 FA4-1
Design of a Flight Controller for Hypersonic Flight Experiment Vehicle
Yoshimasa Ochi National Defense Academy, Japan
Kimio Kanai National Defense Academy, Japan
Paper ID: 1805

10:20 FA4-2
Attitude Determination of a Nanosatellite Using a Magnetometer
Hyunsam Myung KAIST, Korea
Hyochoong Bang KAIST, Korea
Choongsuk Oh KAIST, Korea
Min-Jea Tahk KAIST, Korea
Paper ID: 1718

10:40 FA4-3
An Experimental Study on Attitude Control of Spacecraft Using Two Axes Rotational Simulator with a Flexible Arm
Choongsuk Oh KAIST, Korea
Hyunsam Myung KAIST, Korea
Hyochoong Bang KAIST, Korea
Min-Jea Tahk KAIST, Korea
Paper ID: 1663

11:00 FA4-4
Optimal 2-Dimensional Evasive Maneuver for ASM in ASM-CIWS Engagement
Ick Ho Whang Agency for Defense Development, Korea
Paper ID: 1667

11:20 FA4-5
Multiple Vehicle Control Over a Lossy Datalink
Rodney Teo Stanford Univ., USA
Dusan Stipanovic Stanford Univ., USA
Claire J. Tomlin Stanford Univ., USA
Paper ID: 1931

11:40 FA4-6
Non-Ditching Vertical Homing Guidance for Sea Skimming Missiles
Ick Ho Whang Agency for Defense Development, Korea
Paper ID: 1668

Room 311

FA5

System Theory III

Chair: Changyun Wen Nanyang Technological Univ.,
Singapore

Co-Chair: S. I. Niculescu HeuDiaSyC, France

10:00 FA5-1

*On Interference Phenomena in Stability of Linear Systems
with Multiple Delays*

Silviu-Iulian Niculescu HeuDiaSyC, France
Paper ID: 1546

10:20 FA5-2

*Another Set of Newly Generated Schur Interval
Polynomials Based on a Given Schur Interval Polynomial*

Shinichiro Kanai Tokyo Denki Univ., Japan
Naohisa Otsuka Tokyo Denki Univ., Japan
Hiroshi Inaba Tokyo Denki Univ., Japan
Paper ID: 1283

10:40 FA5-3

*Finite-Time Stability of Discrete Time Control Systems
General Results*

Dragutin Lj. Debeljkovic Univ. of Belgrade, Yugoslavia
Paper ID: 1794

11:00 FA5-4

BIBO Stability of a Class of 2-D Nonlinear Systems

Huijin Fan Nanyang Technological Univ.,
Singapore

Changyun Wen Nanyang Technological Univ.,
Singapore

Paper ID: 1256

11:20 FA5-5

*Some Remarks on the Wave Transformation Approach for
Telemanipulators With Time-Varying Distributed Delay*

Silviu-Iulian Niculescu Universite de Technologie de
Compiègne, France

Chaouki T. Abdallah Univ. of New Mexico, USA
Peter Hokayem Univ. of New Mexico, USA

Paper ID: 1523

11:40 FA5-6

*Proportional-Integral Sliding Mode Control for
Mismatched Uncertain Systems*

Yahaya M. Sam Universiti Teknologi Malaysia,
Malaysia

Johari H.S. Osman Universiti Teknologi Malaysia,
Malaysia

Ruddin A. Ghani Kolej Universiti Teknikal
Kebangsaan Malaysia,

Paper ID: 1595

Room 312

FA6

Intelligent and Learning Control

Chair: Tokai Univ., Japan

Masakazu Suzuki

Co-Chair: M. Norrlof

Linkopings Universitet,
Sweden

10:00 FA6-1

*Some New Results on Current Iteration Tracking Error
ILC*

M. Norrlof Linkopings Universitet, Sweden
S. Gunnarsson Linkopings Universitet, Sweden

Paper ID: 1764

10:20 FA6-2

*An Efficient Automated Learning of Qualitative Process
Models*

Nikola Bogunovic Univ. of Zagreb, Croatia
Zeljko Jagnjic Univ. of Osijek, Croatia

Franjo Jovic Univ. of Osijek, Croatia
Paper ID: 1531

10:40 FA6-3

*Assessment of Controller Performance: a Relay Feedback
Approach*

T. Thyagarajan National Taiwan University,
Taiwan

Cheng-Ching Yu National Taiwan University,
Taiwan

Hsiao-Ping Huang National Taiwan University,
Taiwan

Paper ID: 1483

11:00 FA6-4

*On Complexity, Difficulty and Proficiency of Robot
Behaviors in Intelligent Composite Motion Control*

Masakazu Suzuki Tokai Univ., Japan
Paper ID: 1684

11:20 FA6-5

Iteration Varying Filters in Iterative Learning Control

M. Norrlof Linkopings Universitet, Sweden
Paper ID: 1547

11:40 FA6-6

*Analysis on an On-Line Iterative Correction Control Law
for Visual Tracking*

David Liu National Taiwan Univ., Taiwan

Li-Chen Fu National Taiwan Univ., Taiwan

Su-Hau Hsu National Taiwan Univ., Taiwan

Teng-Kai Kuo National Taiwan Univ., Taiwan

Paper ID: 1322

Room 314

FA7

Process and Chemical Systems II

Chair: K. Kanai National Defense Academy, Japan

Co-Chair: Damir Vrancic J. Stefan Inst., Slovenia

10:00 FA7-1

*Digital Redesign Technique for Multi-Loop Continuous-
Time Control Systems and its Application to a Ball-on-
Beam Control System*

K.K. Ro	McGill Univ., Canada	10:20	FA8-2
N. Hori	Univ. of Tsukuba, Japan	<i>Multidimensional Wavelet Networks Based on a Tensor Product Structure</i>	
K. Kanai	National Defense Academy, Japan	Jian Wan	Nanyang Technological Univ., Singapore
Paper ID: 1583			
10:20	FA7-2	Qing Li	Nanyang Technological Univ., Singapore
<i>Improving PID Controller Disturbance Rejection by Means of Magnitude Optimum</i>		Demin Xu	Nanyang Technological Univ., Singapore
Damir Vrancic	J. Stefan Inst., Slovenia	Yuyao He	Nanyang Technological Univ., Singapore
Jus Kocijan	J. Stefan Inst., Slovenia	Paper ID: 1020	
Stanko Strmenik	J. Stefan Inst., Slovenia		
Paper ID: 1747			
10:40	FA7-3	10:40	FA8-3
<i>Robust Control of Thermal MSF Desalination Plants</i>		<i>Active Noise Control Inside 3D Enclosure Using Recurrent Neural Networks</i>	
Abdulla Ismail	UAE Univ.,	Riyanto T. Bambang	Institut Teknologi Bandung, Indonesia
Amal Al-Ansari	UAE Univ.,	Bayu Wardana	Institut Teknologi Bandung, Indonesia
Paper ID: 1774		Paper ID: 1457	
11:00	FA7-4	11:00	FA8-4
<i>H^(infinity) Control for Linear Systems with Multiple Time-Delays and Finite Dimensional Characterizations</i>		<i>Amplitude Dependent Stability Analysis and Design for Discretized Nonlinear Control Systems</i>	
Takehito Azuma	Kanazawa Univ., Japan	Y. Okuyama	Tokushima Bunri Univ., Japan
Kenko Uchida	Waseda Univ., Japan	F. Takemori	Tokushima Bunri Univ., Japan
Masayuki Fujita	Kanazawa Univ., Japan	Paper ID: 1558	
Paper ID: 1856			
11:20	FA7-5	11:20	FA8-5
<i>Tuning the Cascade Control Systems by Means of Magnitude Optimum</i>		<i>Nonlinear Output Feedback Backstepping Design with Uncertain Integrators</i>	
Damir Vrancic	J. Stefan Inst., Slovenia	Teddy M. Cheng	Univ. of New South Wales, Australia
Ivan Ganchev	Technical Univ. Plovdiv, Bulgaria	David J. Clements	Univ. of New South Wales, Australia
Dani Juricic	J. Stefan Inst., Slovenia	Paper ID: 1632	
Paper ID: 1859			
11:40	FA7-6	11:40	FA8-6
<i>Tuning Multivariable Controllers by Using Magnitude Optimum Approach</i>		<i>Fuzzy All Optical Process Control Systems</i>	
Damir Vrancic	J. Stefan Inst., Slovenia	M. Mahmoud	Sheffield Hallam Univ., U.K.
Ivan Ganchev	Technical Univ. Plovdiv, Bulgaria	Paper ID: 1771	
Jukka Lieslehto	Tampere Univ. of Tech., Finland		
Paper ID: 1860			

Room 314

FA8

Nonlinear Control IV

Chair: M. Mahmoud Sheffield Hallam Univ., U.K.
 Co-Chair: Teddy M. Cheng Univ. of New South Wales, Australia

10:00	FA8-1		
<i>The Design and Analysis on Nonlinear Scaling Factors of Fuzzy Controller</i>			
Chaoying Liu	Hebei Univ. of Sci. and Tech., China		
Xueling Song	Hebei Univ. of Sci. and Tech., China		
Jiaomin Liu	Hebei Univ. of Sci. and Tech., China		
Paper ID: 1018			