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Kuang-Yow Lian, National Taipei Univ. of Technology
Der-Cherng Liaw, National Chiao Tung Univ.
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Chun-Liang Lin, National Chung Hsing Univ.
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Yul Yunazwin Nazaruddin, Institut Teknologi Bandung
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Toshiyuki Ohtsuka, Osaka Univ.
Yasuaki Oishi, Nanzan Univ.
Koichi Osuka, Osaka Univ.
Ju H Park, Yeungnam Univ.
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Yu-Ping Tian, Southeast Univ., China
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Shang-Ho Tsai, National Chiao Tung Univ.
Tsing-Iuan Tsay, National Cheng Kung Univ.
Antonio Vicino, Univ. of Siena
Chieh-Chih Wang, National Taiwan Univ.
Guoli Wang, Sun Yat-Sen Univ., China
Fuchun Sun, Tsinghua Univ., China
Jianliang Wang, Nanyang Technological Univ., Singapore

Zhisheng Duan, Beijing Univ., China
Liuping Wang, RMIT Univ., Australia
Qing Guo Wang, National Univ. of Singapore
Wei Wang, Dalian Univ. Technol., China
Wen-June Wang, National Central Univ.
Yuzhen Wang, Shandong Univ., China
Zidong Wang, Brunel Univ., UK
Bing-Fei Wu, National Chiao Tung Univ.
Yuqiang Wu, Qufu Normal Univ., China
Xin Xin, Okayama Prefectural Univ., Japan
Bugong Xu, South China Univ. Technol., China
Shengyuan Xu, Nanjing Univ. Sci. Technol., China
Jian Xin Xu, National Univ. of Singapore
Guanghong Yang, Northeastern Univ.
Jia-Yush Yen, National Taiwan Univ.
Ping-Lang Yen, National Taiwan Univ.
Kuu-Young Young, National Chiao Tung Univ.
Li Yu, Zhejiang Univ. Technol., China
Dong Yue, Huazhong Univ. Sci. Technol., China
Haitao Zhang, Huazhong Univ. Sci. Technol., China
Siu Pang Yung, Univ. of Hong Kong
Guisheng Zhai, Osaka Prefecture Univ., Japan
Cheng-Jin Zhang, Shandong Univ., China
Cishen Zhang, Swinburne Univ., Australia
Weixing Zheng, Univ. Western Sydney, Australia
Xiaoqun Wu, Wuhan Univ., China
Donghua Zhou, Tsinghua Univ., China
Shaosheng Zhou, Hangzhou Dianzi Univ., China
Renquan Lu, Hangzhou Dianzi Univ., China
Hairong Dong, Beijing Jiao Tong Univ., China
Ljubo Vlacic, Griffith Univ., Australia
Kemalettin Erbatur, Sabancı Univ., Turkey
Ibrahim Eksin, Istanbul Technical Univ., Turkey
Feza Kerestecioglu, Has Univ., Yurkey
Hakan Temeltas, Istanbul Tech. Univ., Turkey
Aydan Erkmen, METU, Turkey
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Yorgo Istefanopulos, Isik Univ., Turkey
Yaman Arkun, Koc Univ, Turkey
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Jun Zhang, Sun Yat-Sen Univ., China
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Long Cheng, Chin. Acad. Sci.
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Zhongkui Li, Peking Univ., China
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Ming Liu, Harbin Inst. Technol., China
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Pei Wang, Henan Univ., China
Qingyun Wang, Beihang Univ., China
Zhengxin Wang, Nanjing Univ. Posts Telecom., China
Guanghui Wen, Southeast Univ., China
Ligang Wu, Harbin Inst. Technol., China
Yuanqing Xia, Beijing Inst. Techonol., China
Bin Xian, Tianjin Univ., China
Linying Xiang, Xiamen Univ., China
Min Xiao, Nanjing Xiaozhuang Univ., China
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Keyou You, Tsinghua Univ., China
Hongwei Zhang, Southwest Jiaotong Univ., China
Kaifeng Zhang, Southeast Univ., China
Lixian Zhang, Harbin Inst. Technol., China
Junchan Zhao, Wuhan Textile Univ., China
Bin Zhou, Harbin Inst. Technol., China
Zhiqiang Zuo, Tianjin Univ., China
Madhi Jilili, Sharif Univ. Technol., Iran
Huseyin Demircioglu, Hacettepe Univ., Turkey
Hitay Ozbay, Bilkent Univ., Turkey
Metin Gokasan, Istanbul Tech. Univ., Turkey

Plenary Speakers

Monday, 9:20-10:20AM, June 24, 2013
Room: 30 Agustos Zafer
Title: Synchronization in Flocks with Large Population
Chair: Jinhu Lu

Speaker: Professor Lei Guo (Academy of Mathematics and Systems Science, Chinese Academy of Sciences, China)

Abstract
A fundamental issue in complex systems theory is to understand how locally interacting agents (or particles) leads to global behaviors (or structures) of the systems. Such problems arise naturally from diverse fields ranging from material and life sciences to social and engineering systems, and have attracted much research attention in recent years. In this lecture, we will focus on the synchronization problems of two basic classes of non-equillibrium multi-agent systems (or flocks) described respectively by the geometric distance and the topological distance. By working in a stochastic framework and by overcoming the widely recognized theoretical difficulty---- establishing some kind of dynamical connectivity needed for guaranteeing synchronization of the flocks, we are able to provide a rigorous and fairly complete theory for synchronization of flocks with large population. The main theorems are established based on analyses of the nonlinear dynamical equations involved and of the asymptotical properties of the spectrum of random geometric graphs. Furthermore, we will show how the global behaviors of the flocks may be intervened by using the “soft control” idea, without changing the existing interaction rules of the agents.

Biography
Professor Lei Guo received his B.S. degree in mathematics from Shandong University in 1982, and Ph.D. degree in control theory from the Chinese Academy of Sciences (CAS) in 1987. He was a postdoctoral fellow at the Australian National University (1987-1989). Since 1992, he has been a Professor of the Institute of Systems Science at CAS. He has been the President of the Academy of Mathematics and Systems Science, CAS (2003-2012), and is currently the Director of the National Center for Mathematics and Interdisciplinary Sciences, CAS.

Dr. Guo was elected Fellow of the IEEE in 1998, Member of the Chinese Academy of Sciences in 2001, Fellow of the Academy of Sciences for the Developing World (TWAS) in 2002, Foreign Member of the Royal Swedish Academy of Engineering Sciences in 2007, and Fellow of the International Federation of Automatic Control (IFAC) in 2007 “for fundamental contributions to the theory of adaptive control and estimation of stochastic systems, and to the understanding of the maximum capability of feedback”. He was also the recipient of the 1993 IFAC World Congress Young Author Prize "for solving a long standing problem in

control theory concerning convergence and convergence rate for the least-squares–based self-tuning regulators". He was a plenary speaker at the IFAC World Congress in 1999, an Invited speaker at the International Congress of Mathematicians (ICM) in 2002, and currently an IEEE CSS Distinguished Lecturer (2012-), among others.

He has served as a Council Member of IFAC (2005-2011), Associate Editor of SIAM J. Control and Optimization (1991-1993) and Systems and Control Letters (2003-2010), General Co-Chair of the 48th IEEE Conference on Decision and Control (2009), and Vice-President of the Chinese Mathematical Society. Currently, he serves as the President of the China Society for Industrial and Applied Mathematics (CSIAM), the Congress Director of the 8th International Congress on Industrial and Applied Mathematics (ICIAM'2015), a Vice-President of the Chinese Association of Automation, and a member of editorial boards of a number of academic journals in mathematics, systems and control.

He has worked on problems in stochastic systems including adaptive control, system identification, and adaptive signal processing. His current research interests include the maximum capability of feedback, multi-agent systems, game-based control systems, filtering and control of nonlinear systems, and quantum control systems, among others.

Tuesday, 10:40-11:40AM, June 25, 2013
Room: 30 Agustos Zafer

Title: Multi-Agent Networked Systems with Adversarial Elements

Chair: Okyay Kaynak

Speaker: Professor Tamer Basar (Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, USA)

Abstract

The recent emergence of multi-agent networks has brought about several non-traditional and non-standard requirements on strategic decision-making, thus challenging the governing assumptions of traditional control and game theory. Some of these requirements stem from factors such as: (i) limitations on memory, (ii) limitations on computation and communication capabilities, (iii) heterogeneity of decision makers (machines versus humans), (iv) heterogeneity and sporadic failure of channels that connect the information sources (sensors) to decision units (strategic agents), (v) both temporal and spatial limitations on the exchanges between different decision units and the actions taken by the agents, (vi) operation being conducted in a hostile environment where some of the disturbances are controlled by adversarial agents, (vii) lack of cooperation among multiple decision units, and (viii) lack of a common objective shared by multiple control stations. These all lead to substantial degradation in performance and loss in efficiency unless appropriate mechanisms are put in place. The talk will identify the underlying challenges, particularly those that are brought about by the adversarial nature of the environment. One specific problem that will be addressed is distributed averaging and consensus formation in the presence of an adversary with limited actions. Another problem that will be discussed is that of connectivity maintenance in vehicular networks in the presence of mobile jammers, where the problem is formulated as a multiplayer pursuit-evasion game. The talk will conclude with a discussion of some other selected problems in this general area.

Biography

Professor Tamer Basar was born in Istanbul, Turkey. He received the B.S.E.E. degree from Robert College in 1969, and the M.S., M.Phil, and Ph.D. degrees in engineering and applied science from Yale University in 1970, 1971 and 1972, respectively. After holding positions at Harvard University and Marmara Research Institute, he joined the University of Illinois at Urbana-Champaign (UIUC) in 1981, where he currently holds the academic positions of Swanlund Endowed Chair, Center for Advanced Study Professor of Electrical and Computer Engineering, Professor at the Coordinated Science Laboratory, Professor at the Information Trust Institute, and Affiliate Professor at the Department of Mechanical Science and Engineering. He spent sabbatical years at Twente University of Technology (the Netherlands; 1978-79), and INRIA (France; 1987-88, 1994-95).

Dr. Basar has published extensively in systems, control, communications, and dynamic games, including 4 books, 4 edited volumes, over 230 journal articles and book chapters, and over 350 conference publications. He is currently the Editor-in-Chief of Automatica, the Editor of the Birkhäuser Series on Systems & Control, the Editor of the Birkhäuser Series on Static & Dynamic Game Theory: Foundations and Applications, the Managing Editor of the Annals of the International Society of Dynamic Games (ISDG), an Editor of Springer Briefs: Control, Automations and Robotics, and member of editorial and advisory boards of several international journals in control, games, networks, and applied mathematics. His current research interests include stochastic teams and games; routing, pricing, and congestion control in communication networks; control over wired and wireless networks; sensor networks; formation in

adversarial environments; mobile and distributed computing; risk-sensitive estimation and control; mean-field game theory; game-theoretic approaches to security in computer networks, including intrusion detection and response; and cyber-physical systems.

Tamer Basar has received several awards and recognitions over the years, among which are the Medal of Science of Turkey (1993); Distinguished Member Award (1993), Axelby Outstanding Paper Award (1995), and Bode Lecture Prize (2004) of the IEEE Control Systems Society (CSS); Tau Beta Pi Drucker Eminent Faculty Award of UIUC (2004); Quazza Medal (2005) and Outstanding Service Award (2005) of the International Federation of Automatic Control (IFAC); Bellman Control Heritage Award (2006) of the American Automatic Control Council (AACC); honorary doctorates (Doctor Honoris Causa) from Dogus University (Istanbul; 2007), National Academy of Sciences of Azerbaijan (2011), and Bogazici University (Istanbul; 2012); honorary professorship from Northeastern University (Shenyang; 2008); and Isaacs Award of ISDG (2010). He is a member of the US National Academy of Engineering, a member of the European Academy of Sciences, a Fellow of IEEE, a Fellow of SIAM, a Fellow of IFAC, and a current elected member of IFAC Council. He was the president of IEEE CSS (2000), the founding president of ISDG (1990-1994), and the president of AACC (2010-2011).

Tuesday, 11:40-12:40AM, June 25, 2013
Room: 30 Agustos Zafer

Title: Four Millennia of Irrigation Water Management: A Systems Engineer's Perspective

Chair: Xinghuo Yu

Professor Iven Mareels (Department of Electrical and Electronic Engineering, The University of Melbourne, Melbourne, Australia)

Abstract

One of the great world challenges is to double the world's food production over the next 40 years. A goal the world must realise without using significantly more water, land or fertiliser: a food productivity revolution of a magnitude never realised before in human history.

It is our thesis that systems engineering principles can (and should) play a major role in addressing this food security challenge.

In this lecture, we briefly introduce the present food security challenge and in particular focus on the water productivity aspects.

Next we review the history of irrigation, starting in the fertile crescent where the first urban civilisations settled backed by irrigation based agriculture. It is here, as early as 1800BC, that the Sumerians recorded the water management practices that first underpinned, but later destroyed, their society. Since then the irrigated land area has increased 400-fold, and the world population has grown by a factor of 200.

The "irrigation management" problem of delivering water, using gravity as the driving force, through a (large scale) irrigation channel network to meet farmer requirements may be captured as a receding horizon predictive control problem. A decentralised approximate solution which scales well is presented. This solution has been implemented in a large scale irrigation renewal project in Australia comprising about 6,000km of main canal, over 18,000 in-channel regulating structures, and about 20,000 onto farm outlets. This district typically allocates 3,000 Gl per annum. Results from this implementation will be presented.

Presently research and development is shifting from the channel automation to the smaller scale of on-farm automation and the larger scale of river automation. On farm the goal is to increase (economic) water productivity. On the river scale we want to meet environmental objectives.

We conclude with describing some of the important remaining challenges in addressing water resource management on its geographically relevant scale: an entire water catchment area.

Biography

Professor Iven Mareels is the Dean of the School of Engineering, the University of Melbourne, a position

he took on in June 2007. He obtained the (ir) Masters of Electromechanical Engineering from Gent University Belgium in 1982 and the PhD in Systems Engineering from the Australian National University, Canberra, Australia in 1987.

Prior to commencing as a Professor of Electrical Engineering at the University of Melbourne in 1996, he held appointments at the Australian National University (1990-1996), the University of Newcastle (1988-1990) and the University of Gent (1986-1988), as well as various visiting appointments at the University of Twente, The Netherlands; National University of Singapore; University of California, both at Santa Barbara and San Diego; and Valencia University of Technology, Valencia, Spain. He is honorary Professor at Zheijang University, China; National University of Defence Science and Technology, China; and Shanghai Jiao Tong University, China.

He has received several awards in recognition of his research and teaching. He was a recipient of a 2008 Clunies Ross Award, Academy of Technological Sciences and Engineering for his work on Smart Irrigation Systems. In 2007 he received the inaugural Vice-Chancellor's Knowledge Transfer Excellence award from the University of Melbourne, for his work in large scale irrigation systems with Rubicon Systems Australia. In 2005, he was named IEEE CSS Distinguished Lecturer, and in 1994 received the Vice-Chancellor's Award for Excellence in Teaching from the Australian National University.

He is Fellow of the Academy of Technological Sciences and Engineering, Australia, a Fellow of the Institute of Electrical and Electronics Engineers (USA), a member of the Society for Industrial and Applied Mathematics, a Fellow of the Institute of Engineers Australia. He is a Member of the Royal Flemish Belgian Academy of Sciences and Humanities. He is registered as a Corporate Professional Engineer and he is a member of the Engineering Executives chapter of Engineers Australia. He is a founding member of the Asian Control Association, and a member of the organising committee for the Mathematical Theory in Networks and Systems conference. Over the period Jan 2003-Dec 2005 he was a member of the Board of Governors of the Control Systems Society IEEE. He was the Chair of the National Committee for Automation, Control and Instrumentation (Australia 2005-2009). He is the Chair of the Technical Board of the International Federation of Automatic Control (and ex-officio Vice-President) for 2008-2014. He is a member of the Steering Committee of the Mathematical Theory in Networks and Systems group.

He is a Member of the Board of the Bionic Ear Institute (since 1998), a Member of the Board of SPIRE (since 2002), a Member of the Board of Bionic Vision Australia (since 2009) and a Member of the Scientific Advisory Committee for the Melbourne Neuropsychiatry Centre (since 2009) and a Member of the Steering Committee for the Centre for Neural Engineering (since 2009) as well as a Member of the Steering Committee for the Melbourne based IBM Research Centre, an a member of the Advisory Boards for The Institute for Broadband Enabled Society and the Melbourne Materials Institute.

He has extensive experience in consulting for both industry and government. He has strong interests in education and has taught a broad range of subjects in both mechanical and electrical engineering curricula. He was one of the main developers (1990-1996) of the Bachelor of Engineering at the Australian National University and one of the architects (2006-…) of the 3+2 Master of Engineering education at Melbourne.

His research interests are in adaptive and learning systems, nonlinear control and modelling. At present his research focuses on modelling and controlling of large scale systems, both engineered as well as natural systems, such as large scale water networks, smart grids and epilepsy.

Iven Mareels has published 5 books, in excess of 120 journal publications and 230 conference publications. He holds a suite of 23 international patents in the field of irrigation system management. He has supervised to completion more than 30 PhD students, 10 MPhil students and is currently supervising 3 PhD students and 2 MPhil students.

Lecture

Monday, June 24th, 2013

MoA1 **System Theory**
Room: Inonu
Time: Monday, June 24, 2013, 10:40 - 12:40
Chair: James Lam, *The University of Hong Kong, Hong Kong*
Co-Chair: Mathukumalli Vi-dyasagar, *University of Texas at Dallas, USA*

10:40
MoA1.1 **A Study on the Spectrum of Monodromy Operator for A Time-Delay System**
Jung Hoon Kim[1], Tomomichi Hagiwara[1], Kentaro Hirata[2]
[1]Kyoto University, Japan; [2]Nara Institute of Science and Technology, Japan

11:00
MoA1.2 **On Near-Controllability of A Class of Three-Dimensional Discrete-Time Bilinear Systems**
Lin Tie, Yan Lin
Beijing University of Aeronautics and Astronautics, China

11:20
MoA1.3 **H-Infinity Performance Analysis with Transients for Singular Systems**
Zhiguang Feng[1], James Lam[1], Shengyuan Xu[2], Shaosheng Zhou[3]
[1]The University of Hong Kong, Hong Kong; [2]Nanjing University of Science and Technology, China; *[3]Hangzhou dianzi University, China*

11:40
MoA1.4 **All Solutions and Pole Assignments for the Regular Triangular Decoupling Problem**
Dongmei Shen, Musheng Wei
Shanghai Normal University, China

12:00
MoA1.5 **On the Computation of Mixing Coefficients Between Discrete-Valued Random Variables**
Mehmet Eren Ahsen, Mathukumalli Vidyasagar
University of Texas at Dallas, United States of America

12:20
MoA1.6 **A Riesz Basis Approach to Exponential Stability in Thermoelasticity of Type III**
Jing Wang, Jun-Min Wang
Beijing Institute of Technology, China

Lecture

Monday, June 24th, 2013

MoA2 **Aerospace (I)**
Room: Malazgirt 1
Time: Monday, June 24, 2013, 10:40 - 12:40
Chair: Zengqiang Chen, *Nankai University, China*
Co-Chair: Vangelis Petratos, *University of Patras, Greece*

10:40
MoA2.1 **Sliding Mode Controller Design for Spacecraft with Manipulator Systems**
Sung-Mo Kang, Yun-Tae Kim, Hyo-Sung Ahn
Gwangju Institute of Science and Technology, South Korea

11:00
MoA2.2 **Graphical Description of Autopilot Robustness to Aerodynamic Uncertainties**
Mingwei Sun[1], Shengzhi Du[2], Zengqiang Chen[1]
[1]Nankai University, China; *[2]University of South Africa, South Africa*

11:20
MoA2.3 **Estimation of Debris Hazard Areas due to a Space Vehicle Breakup at High Altitudes**
Mahmut Reyhanoglu[1], Juan Alvarado[1], Avishy Carmi[2]
[1]Embry-Riddle Aeronautical University, USA; [2]Nanyang Technological University, Singapore

11:40
MoA2.4 **Bezier Approximation Based Inverse Dynamic Guidance for Entry Glide Trajectory**
Tawfiqur Rahman, Hao Zhou, Wanchun Chen
Beihang University, China

12:00
MoA2.5 **Adaptive Robust Fault-Tolerant Attitude Control of Spacecraft with Finite-Time Convergence**
Qiang Shen, Danwei Wang, Senqiang Zhu, Eng Kee Poh, Tianqi Liu
Nanyang Technological University, Singapore

12:20
MoA2.6 **Control of the Relative Movement of Hydraulically Driven Linear Moving Parts**
Jarissa Maselyne[1], Robin De Keyser[2]
[1]Katholieke Universiteit Leuven, Belgium; [2]Ghent University, Belgium

Lecture

Monday, June 24th, 2013

MoA3 **Best Paper Award**
Room: Malazgirt 2
Time: Monday, June 24, 2013, 10:40 - 12:40
Chair: Changyun Wen, *Nanyang Technological University, Singapore*
Co-Chairs: Daniel W. C. Ho, *City University of Hong Kong, Hong Kong*
Zhisheng Duan, *Peking University, China*

10:40
MoA3.1 **Stabilization of Multi-Agent Systems via Distributed Difference Feedback Control**
Yuping Tian[1], Di Xin[1], Ouya Tian[2]
[1]*Southeast University, China*; [2]*The Hong Kong University of Science and Technology, Hong Kong*

11:00
MoA3.2 **Controllability and Stabilizability of Higher-Order Nonholonomic Systems**
Jaime Rubio Hervas, Mahmut Reyhanoglu
Embry-Riddle Aeronautical University, USA

11:20
MoA3.3 **Synthesis Method of Gene Regulatory Networks Having Desired Expression-Pattern Transition Sequences**
Yoshihiro Mori, Yasuaki Kuroe
Kyoto Institute of Technology, Japan

11:40
MoA3.4 **A Step Forward to Pinning Control of Complex Networks: Finding An Optimal Vertex to Control**
Wenwu Yu[1], Jinhu Lu[2], Xinghuo Yu[3], Guanrong Chen[4]
[1]*Southeast University, China;* [2]*Chinese Academy of Sciences, China*;
[3]*RMIT University, Australia*; [4]*City University of Hong Kong, Hong Kong*

12:00
MoA3.5 **Sampling Rate Tracking Control of Networked Control Systems Based on Cognitive Knowledge of Packet Disordering**
Jinna Li[1], Li-Feng Wei[2], Daqing Zhang[3], Chao Liu[4], Haibin Yu[1], Qingling Zhang[4]
[1]*Shenyang Institute of Automation, Chinese Academy of Sciences, China;* [2]*Shenyang Institution of Chemistry and Technology, China;* [3]*University of Science and Technology Liaoning, China;* [4]*Northeastern University, China*

Lecture

Monday, June 24th, 2013

MoA4 **Complex Systems and Networks (Ⅰ)**
Room: Kocatepe
Time: Monday, June 24, 2013, 10:40 - 12:40
Chair: Long Wang, *Peking University, China*
Co-Chair: Yufan Zheng, *Shanghai University, China*

10:40
MoA4.1 **Modeling of Guide Disk Speed of Rotary Piercer Based on PCA-ELM**
Dong Xiao[1], Jichun Wang[2], Zhizhong Mao[1], Shaohua Shi[3]
[1]Northeast University, China; [2]Liaoning University of Technology, China; [2]Institute of Automation, China

11:00
MoA4.2 **Coordinated Control of A Four-Area Power System under Structural Perturbation**
Xuebo Chen, Chen Ma
Liaoning University of Science and Technology, China

11:20
MoA4.3 **Distributed State Estimation for Lur'e Systems in Sensor Networks with Impulsive Effects and Intermittent Measurements**
Xiaomei Zhang[1], Lei Yan[1], Yufan Zheng[2]
[1]Nantong University, China; [2]Shanghai University, China

11:40
MoA4.4 **High-Order Consensus in High-Order Multi-Agent Systems**
Yuping Tian, Ya Zhang
Southeast University, China

12:00
MoA4.5 **Evolutionary Game Dynamics of Multi-agent Cooperation Driven by Self-Learning**
Jinming Du, Bin Wu, Long Wang
Peking University, China

12:20
MoA4.6 **The Influence of Degree Mixing Patterns on Synchronization Paths**
Mingyang Zhou[1], Shimin Cai[2], Zhao Zhuo[1], Zhong-Qian Fu[1]
[1]Univercity of Science and Technology of China, China; [2]University of Electronic Science and Technology of China, China

Lecture

Monday, June 24th, 2013

MoA5 **System Theory and Applications**
Room: Fevzi Cakmak
Time: Monday, June 24, 2013, 10:40 - 12:40
Chair: Xiang Chen, *University of Windsor, Canada*
Co-Chair: Guang-Ren Duan, *Harbin Institute of Technology, China*

10:40
MoA5.1 **Stability Analysis of Social Foraging Swarm with General Nonlinear Attraction and Repulsion Forces and Interaction Time Delays**
Weiyun Pan, Yufan Zheng
Shanghai University, China

11:00
MoA5.2 **Stochastic Stability Conditions for A Class of Neutral Markovian Jump Systems**
Xinghua Liu, Hongsheng Xi
University of Science and Technology of China, China

11:20
MoA5.3 **Quantized State Feedback Stabilization with Signal-to-Noise Ratio Constraints**
Yu Feng[1], Xiang Chen[2], Guoxiang Gu[3]
[1]Zhejiang University of Technology, China; [2]University of Windsor, Canada; [3]Louisiana State University, USA

11:40
MoA5.4 **A Spline-Based Technique for Optimal Set Point Regulation through Pseudo-Inversion of Nonminimum Phase Linear Systems**
Valentina Orsini, Raffaele Romagnoli, Leopoldo Jetto
Polytechnical University of Marche, Italy

12:00
MoA5.5 **Solution to Second-order Nonhomogeneous Generalized Sylvester Equations**
Guang-Ren Duan
Harbin Institute of Technology, China

12:20
MoA5.6 **On A Type of Second-Order Generalized Sylvester Equations**
Guang-Ren Duan
Harbin Institute of Technology, China

Lecture

Monday, June 24th, 2013

MoA6 **Nonlinear Control (I)**
Room: Barbaros A
Time: Monday, June 24, 2013, 10:40 - 12:40
Chair: Jun Zhao, *Northeastern University, China*
Co-Chair: Xiangdong Liu, *Beijing Institute of Technology, China*

10:40
MoA6.1 **A New Method Based on the Polytopic Linear Differential Inclusion for the Nonlinear Filter**
Bing Liu, Zhen Chen, Xiangdong Liu, Fan Yang, Jie Geng
Beijing Institute of Technology, China

11:00
MoA6.2 **The Active Disturbance Rejection Control for Nonlinear Systems Using Time-Varying-Gain**
Bao-Zhu Guo[1], Zhiliang Zhao[2], Cui-Zhen Yao[3]
[1]Academy of Mathematics and System Sciences, Academia Sinica, China; [2]University of Science and Technology of China, China; [2]Beijing Institute of Technology, China

11:20
MoA6.3 **Tracking Control for Piezo-Actuated Stage using Sliding Mode Controller with Observer-based Hysteresis Compensation**
Taufiq Muhammadi[1], Wookyong Kwon[1], Duckman Lee[2], Sangchul Won[1]
[1]Pohang University of Science and Technology, South Korea; [2]Pohang Iron and Steel Co., South Korea

11:40
MoA6.4 **Input-to-State Stability for Switched Nonlinear Time-Delay Systems**
Wang Yue-E[1], Xi-Ming Sun[2], Wei Wang[2], Jun Zhao[1], Zili Zhan[3]
[1]Northeastern University, China; [2]Dalian University of Technology, China; [3]Dalian Seasky Automation Co., China

12:00
MoA6.5 **Passivity-Based Observer Design and Robust Output Feedback Control for Nonlinear Uncertain Systems**
Wei Liu[1], Zhiming Wang[1], Guoliang Chen[1], Laihua Sheng[2]
[1]East China Normal University, China; [2]Del Mar College, USA

12:20
MoA6.6 **Model-based Fault Detection and Diagnosis Optimization for Process Control Rig**
Ribhan Zafira Abdul Rah[1], Rubiyah Yusof[2], Fatimah Sham Ismall[2]
[1]Universitiy Putra Malaysia, Malaysia; [2]Universiti Teknologi Malaysia, Malaysia

Lecture

Monday, June 24th, 2013

MoA7 **PID Control**
Room: 30 Agustos Zafer
Time: Monday, June 24, 2013, 10:40 - 12:40
Chair: Jianda Han, *Shenyang Institute of Automation, China*
Co-Chair: Masami Saeki, *Hiroshima University, Japan*

10:40
MoA7.1 **Model Free Analysis and Tuning of PID Controller**
Zhiqiang Zhu, Kun Liu, Yuqing He, Juntong Qi, Jianda Han
Shenyang Institute of Automation, China

11:00
MoA7.2 **Tracking Performance and Disturbance Rejection of Pneumatic Actuator System**
Syed Najib Syed Salim[1], Mohd Fuaad Rahmat[2], Ahmad Athif Mohd Faudzi[2], Zool Ismail[2], Noorhazirah Sunar[2], Sharatul Izah Samsudin[1]
[1]Universiti Teknikal Malaysia Melaka, Malaysia; [2]Universiti Teknologi Malaysi, Malaysia

11:20
MoA7.3 **Rendering of Unfalsified PID Gain Sets for Parameter Space Control Design**
Masami Saeki
Hiroshima University, Japan

11:40
MoA7.4 **Dominant Three Pole Placement in PID Control Loop with Delay**
Pavel Zitek, Jaromir Fiser, Tomas Vyhlidal
Czech Technical University in Prague, Czech Republic

12:00
MoA7.5 **A Method for Performance Improvement of PID Control by Dual-Input Describing Function (DIDF) Method**
YeonWook Choe
Pukyong National University, South Korea

12:20
MoA7.6 **High Precision Control of a Walking Piezoelectric Motor in Bending Mode**
Zhenishbek Zhakypov, Edin Golubovic, Tarik Uzunovic, Asif Sabanovic
Sabanci University, Turkey

Lecture

Monday, June 24th, 2013

MoB1 **New Developments in Distributed and Decentralized Control**
Room: Inonu
Time: Monday, June 24, 2013, 14:00 - 16:00
Chair: Zhong-Ping Jiang, *Polytechnic Institute of New York University, USA*
Co-Chair: Jie Chen, *Beijing Institute of Technology, China*

14:00
MoB1.1 **Event-Triggered Control of Multi-Agent Systems with Suboptimal Triggering**
Yuan Fan[1], Gang Feng[2]
[1]Anhui University, China; [2]City University of Hong Kong, Hong Kong

14:20
MoB1.2 **Vector Control Lyapunov Functions as a Tool for Decentralized and Distributed Control**
Zhong-Ping Jiang[1], Karafyllis Iasson[2]
[1]Polytechnic Institute of New York University, USA; [2]Technical University of Crete, Greece

14:40
MoB1.3 **Containment Control of Discrete-Time Multi-Agent Systems Based on Delayed Neighbors' Information**
Shuai Liu[1], Lihua Xie[1], Huanshui Zhang[2]
[1]Nanyang Technological University, Singapore; [2]Shandong University, China

15:00
MoB1.4 **Adaptive Flocking Control of Multiple Nonholonomic Mobile Robots with Limited Communication Ranges**
Wang Wei[1], Changyun Wen[2], Jiangshuai Huang[2]
[1]Tsinghua University, China; [2]Nanyang Technological University, Singapore

15:20
MoB1.5 **Rendezvous of Nonholonomic Multiple Unicycles with Connectivity Maintenance**
Yutian Mao, Hao Fang, Lihua Dou, Jie Chen
Beijing Institute of Technology, China

15:40
MoB1.6 **Consensus Conditions of Continuous-Time Multi-Agent Systems with Relative- State-Dependent Measurement Noises and Matrix-Valued Intensity Functions**
Tao Li[1], Fuke Wu[2], Ji-Feng Zhang[1]
[1]Chinese Academy of Sciences, China; [2]Huazhong University of Science and Technology, China

Lecture

Monday, June 24th, 2013

MoB2 **Adaptive Control and Tuning (I)**
Room: Malazgirt 1
Time: Monday, June 24, 2013, 14:00 - 16:00
Chair: Chih Ying Chen, *National Tsing Hua University, Taiwan*
Co-Chair: Bin Jiang, *Nanjing University of Aeronautics and Astronautics, China*

14:00
MoB2.1 **Improvement on Adaptive Forward Prediction Controller Using A Direct-Compensation Technique**
Wei De Hxiao, Jia-Ying Tu, Chih Ying Chen
National Tsing Hua University, Taiwan

14:20
MoB2.2 **Adaptive Control Using Multiple Parallel Dynamic Neural Networks**
Chao Jia, Xiaoli Li, Dexin Liu, Dawei Ding
University of Science and Technology Beijing, China

14:40
MoB2.3 **A Data-Driven Methodology for Solving the Control Strategy of Descriptor Systems**
Daqing Zhang[1], Mengmeng Li[1], Jinna Li[2]
[1]University of Science and Technology Liaoning, China; [2]Shenyang Institute of Automation, Chinese Academy of Sciences, China

15:00
MoB2.4 **FRIT and RLS-Based Online Controller Tuning and Its Experimental Validation**
Yuji Wakasa, Ryo Azakami, Kanya Tanaka, Shota Nakashima
Yamaguchi University, Japan

15:20
MoB2.5 **A Lyapunov Method Based Multiple-Model Adaptive Actuator Failure Compensation Scheme for Control of Near-Space Vehicles**
Chang Tan[1], Gang Tao[2], Xuelian Yao[1], Bin Jiang[1]
[1]Nanjing University of Aeronautics and Astronautics, China; [2]University of Virginia, USA

15:40
MoB2.6 **Distributed Adaptive Output Agreement in A Class of Multi-Agent Systems**
Veysel Gazi
İstanbul Kemerburgaz University, Turkey

Lecture

Monday, June 24th, 2013

MoB3 **Discrete Event Systems**
Room: Malazgirt 2
Time: Monday, June 24, 2013, 14:00 - 16:00
Chair: Qing-Shan Jia, *Tsinghua University, China*
Co-Chair: Eugenia Minca, *Valahia University of Targoviste, Romania*

14:00
MoB3.1 **Controlling Two Asynchronous Sequential Machines with One Corrective Controller**
Jung Min Yang[1], Seong Woo Kwak[2]
[1]Catholic University of Daegu, South Korea; [2]Keimyung University, South Korea

14:20
MoB3.2 **Model Matching of Input/State Asynchronous Sequential Machines Using a One-Step Corrective Controller**
Jung Min Yang
Catholic University of Daegu, South Korea

14:40
MoB3.3 **Policy Iteration for Parameterized Markov Decision Processes and Its Application**
Li Xia, Qing-Shan Jia
Tsinghua University, China

15:00
MoB3.4 **A Theoretical Approach of the Generalized Hybrid Model Based Control of Repetitive Processes**
Eugenia Minca[1, 2], Adrian Filipescu[2], Alina Voda[2, 3]
[1]Valahia University of Targoviste, Romania; [2]University "Dunarea de Jos" of Galati, Romania; [3]Grenoble University Joseph Fourier, Romania

15:20
MoB3.5 **A Discrete-Event Traffic Simulation Model for Multilane-Multiple Intersection**
Azura Che Soh[1], Rubiyah Yusof[2], Mohammad Hamiruce Merhaban[1]
[1]Universiti Putra Malaysia, Malaysia; [2]Universiti Teknologi Malaysia, Malaysia

15:40
MoB3.6 **A Self-Aligning Underwater Navigation System Based on Fusion of Multiple Sensors Including DVL and IMU**
Prashanth Krishnamurthy[1, 2], Farshad Khorrami[1, 2]
[1]FarCo Technologies, Inc., USA; [2]Polytechnic Institute of NYU, USA

Lecture

Monday, June 24th, 2013

MoB4 **Collective Dynamics in Complex Networks and Multi-agent Systems**
Room: Kocatepe
Time: Monday, June 24, 2013, 14:00 - 16:00
Chair: Wenwu Yu, *Southeast University, China*
Co-Chair: Housheng Su, *Huazhong University of Science and Technology, China*

14:00
MoB4.1 **Dynamical Average Consensus in Networked Linear Multi-Agent Systems with Communication Delays**
Jianqiang Hu[1], Jinling Liang[1], Fangbin Sun[1], Ping Li[2]
[1]Southeast University, China; [2]The University of Hong Kong, Hong Kong

14:20
MoB4.2 **Second-Order Leader-Following Consensus of Multi-Agent Systems with Nonlinear Dynamics and Time Delay via Periodically Intermittent**
Xiaoling Wang[1], Bo Liu[1], Housheng Su[2], Xiaofan Wang[3]
[1]North China University of Technology, China; [2]Huazhong University of Science and Technology, China; [3]Shanghai Jiaotong University, China

14:40
MoB4.3 **Event-Trigged Control for Discrete-time Multi-agent Networks**
Lulu Li[1], Daniel Ho[1], Yuanyuan Zou[2], Chi Huang[3], Jianquan Lu[4]
[1]City University of Hong Kong, Hong Kong; [2]East China University of Science and Technology, China; [3]Taiyuan University of Technology, China; [4]Southeast University, China

15:00
MoB4.4 **Fuzzy Sampled Controller Design for Consensus of Multi-agent Networks with Varying Connections**
Wenjun Xiong[1], Wenwu Yu[2], Jinhu Lu[3], Xinghuo Yu[4]
[1]Southwest Petroleum University, China; [2]Southeast University, China; [3]Chinese Academy of Sciences, China; [4]RMIT University, Australia

15:20
MoB4.5 **Consensus Control of Switching Directed Networks with General Linear Node Dynamics**
Guanghui Wen[1], Wenwu Yu[1], Jinde Cao[1], Guoqiang Hu[2], Guanrong Chen[3]
[1]Southeast University, China; [2]Nanyang Technological University, Singapore; [3]City University of Hong Kong, Hong Kong

15:40
MoB4.6 **Cluster Consensus of Boolean Multi-Agent Systems**
Fangfei Li[1], Yao Chen[1], Jinhu Lu[1], David J. Hill[2]
[1]Chinese Academy of Sciences, China; [2]Australian National University, Australia

Lecture

Monday, June 24th, 2013

MoB5 **Robotics and Motion Control (I)**
Room: Fevzi Cakmak
Time: Monday, June 24, 2013, 14:00 - 16:00
Chair: Yun-Hui Liu, *The Chinese University of Hong Kong, Hong Kong*
Co-Chair: Xinjing Huang, *Tianjin University, China*

14:00
MoB5.1 **Obstacle Avoidance for Redundant Manipulator without Information of the Joint angles**
Young Jun Yoo[1], Ki Jang Oh[2], Yong Jun Choi[2], Sangchul Won[1]
[1]POSTECH, South Korea; [2]Pohang Iron and Steel Co., South Korea

14:20
MoB5.2 **Adaptation-and-Collision Detection Scheme for Safe Physical Human-Robot Interation**
Chang Nho Cho, Young-Loul Kim, Jae-Bok Song
Korea University, South Korea

14:40
MoB5.3 **Nonholonomic Control of Distance-based Cyclic Polygon Formation**
Hyo-Sung Ahn, Byung-Hun Lee, Seung-ju Lee, Kwang-Kyo Oh, Myoung-Chul Park
Gwangju Institute of Science and Technology (GIST), South Korea

15:00
MoB5.4 **Formation Control of Multiple Robots Using Constrained Motion Formulation**
Yun-Hui Liu
The Chinese University of Hong Kong, Hong Kong

15:20
MoB5.5 **A Control System Based On Data Exchange Using Ethernet And CANBUS for Deep Water AUV**
Xinjing Huang, Yibo Li, Shijiu Jin
Tianjin University, China

15:40
MoB5.6 **State Estimation Subject to Random Network Delays without Time Stamping**
Yuanhua Yang[1], Minyue Fu[2], Huanshui Zhang[1]
[1]ShanDong University, China; *[2]University of Newcastle, Australia*

Lecture

Monday, June 24th, 2013

MoB6 **Energy Technology (I)**
Room: Barbaros A
Time: Monday, June 24, 2013, 14:00 - 16:00
Chair: Saad Mekhilef, *University of Malaya, Malaysia*
Co-Chair: Ching-Tsan Chiang, *Chien Hsin University of Science and Technology, Taiwan*

14:00
MoB6.1 **Novel Voltage Control of 18 Level Multilevel Inverter**
Saad Mekhilef
University of Malaya, Malaysia

14:20
MoB6.2 **Control The Photovoltaic Grid-Connected System Using Fuzzy Logic and Backstepping Approach**
Nguyen Gia Minh Thao, YKenko Uchida
Waseda University, Japan

14:40
MoB6.3 **Extremely Short-Term Wind Speed Prediction Based on RSCMAC**
Ching-Tsan Chiang
Chien Hsin University of Science and Technology, Taiwan

15:00
MoB6.4 **A New PID Auto-Tuning Strategy with Operational Optimization for MCFC Systems**
Yujin Cheon[1], Donghyun Lee[1], Su Whan Sung[2], In-Beum Lee[1]
[1]POSTECH, South Korea; [2]Kyungpook National University, South Korea

15:20
MoB6.5 **Digital AFC Control of a Three-Phase Three-Wire Unity-Power-Factor PWM Rectifier**
Marcos Orellana, Robert Griño
Universitat Politecnica de Cataluna (UPC), Spain

Lecture

Monday, June 24th, 2013

MoB7 **Nonlinear and Robust Control in Coordination of Multi-agent Systems**
Room: 30 Agustos Zafer
Time: Monday, June 24, 2013, 14:00 - 16:00
Chair: Xiaohua Xia, *University of Pretoria, South Africa*
Co-Chair: Yuping Tian, *Southeast University, China*

14:00
MoB7.1 **Adaptive Consensus of Multi-agent Systems with Unknown Nonlinear Dynamics**
Hui Yu[1], Xiaohua Xia[2]
[1]China Three Gorges University, China; [2]University of Pretoria, South Africa

14:20
MoB7.2 **Quantized-Data Consensus of Second-Order Multi-Agent Systems with Directed Topology**
Chao Wang, Weiwei Mao, Xiaobo Li, Weisheng Chen, Jing Li
Xidian University, China

14:40
MoB7.3 **Distributed Circumnavigation by Unicycles with Cyclic Repelling Strategies**
Ronghao Zheng[1], Zhiyun Lin[2], Minyue Fu[3], Dong Sun[1]
[1]City University of Hong Kong, Hong Kong; [2]Zhejiang University, China; [3]The University of Newcastle, Australia

15:00
MoB7.4 **Coordinated Adaptive Control for Formation Flying Vehicles with a Time-Varying Orbital Velocity**
Yang-Yang Chen, Yuping Tian
Southeast University, China

15:20
MoB7.5 **H_infinity Consensus Tracking in Sensor Networks with Time-Varying Sensing Period**
Ya Zhang, Yuping Tian
Southeast University, China

15:40
MoB7.6 **Bearing Angle Measurement Based Cooperative Pursuit-Evasion Game in Non-convex Environments**
Di Guo, Gangfeng Yan, Zhiyun Lin
Zhejiang University, China

Lecture

Monday, June 24th, 2013

MoC1 **Robotics and Motion Control (II)**
Room: Inonu
Time: Monday, June 24, 2013, 16:20 - 18:20
Chair: Hao Liu, *Tsinghua University, China*
Co-Chair: Evrim Onur Ari, *ASELSAN Inc., Turkey*

16:20
MoC1.1 **Minimum Energy Trajectory Planning Method for Robot Manipulator Mounted on Flexible Base**
Akira Abe
Asahikawa National College of Technology, Japan

16:40
MoC1.2 **A Method for Decentralized Formation Building for Unicycle-like Mobile Robots**
Andrey Savkin[1], Chao Wang[1], Ahmad Baranzadeh[1], Zhiyu Xi[1], Hung Nguyen[2]
[1]University of New South Wales, Australia; [2]University of Technology, Sydney, Australia

17:00
MoC1.3 **Investigation of Interactions between Mechanical and Electrical Components of a Motion Platform**
Evrim Onur Ari[1], Erol Kocaoglan[2]
ASELSAN Inc., Turkey; [2]METU, Turkey

17:20
MoC1.4 **The Construction method of GIS for Autonomous Vehicles**
Meiling Wang, Yong Yu, Qizhen Wang, Yi Yang, Tong Liu
Beijing institute of technology, China

17:40
MoC1.5 **Control for Quadruped Robots in Trotting on Horizontal and Slanted Surfaces**
Jeong Hoon Lee, Jong Hyeon Park
Hanyang University, South Korea

18:00
MoC1.6 **Velocity Estimation and Control of 3-DOF Helicopter based on Optical Flow**
Lianhua Zhang, Hao Liu, Zongying Shi, Yisheng Zhong
Tsinghua University, China

Lecture

Monday, June 24th, 2013

MoC2 **Optimal Control and Optimization (I)**
Room: Malazgirt 1
Time: Monday, June 24, 2013, 16:20 - 18:20
Chair: Kenji Fujimoto, *Kyoto University, Japan*
Co-Chair: Michael Z. Q. Chen, *The University of Hong Kong, Hong Kong*

16:20
MoC2.1 **Approximate Solutions to the Hamilton-Jacobi Equations for Generating Functions: the General Cost Function Case**
Zhiwei Hao[1], Kenji Fujimoto[2], Yoshikazu Hayakawa[1]
[1]Nagoya University, Japan; [2]Kyoto University, Japan

16:40
MoC2.2 **On a trolley-like problem in the presence of a nonlinear friction and a bounded fuel expenditure**
Ivan Samylovskiy
Lomonosov Moscow State Uiversity, Russia

17:00
MoC2.3 **CRS and PS-Optimised PID Controller for Nonlinear, Electrohydraulic Suspension Systems**
Jimoh Pedro, Akintunde Olurotimi Dahunsi, Montaz Ali, Muhammed Dangor
University of the Witwatesrand, South Africa

17:20
MoC2.4 **Realizability of n-Port Resistive Networks with 2n Terminals**
Michael Z. Q. Chen[1], Kai Wang[2], Minghui Yin[2], Chanying Li[3], Zhiqiang Zuo[4], Guanrong Chen[5]
[1]The University of Hong Kong, Hong Kong; [2]Nanjing University of Science and Technology, China; [3]Academy of Mathematics and Systems Science, CAS, China; [4]Tianjin University, China; [5]City University of Hong Kong, Hong Kong

17:40
MoC2.5 **Numerical Solution for a Class of pursuit-evasion Problem in Low Earth Orbit**
Songtao Sun, Qiuhua Zhang
Harbin Institute of Technology, China

18:00
MoC2.6 **Non-fragile Fuzzy Control Design for Nonlinear Time-Delay Systems**
Baharak Makki[1], Bahador Makki[2], Hamid Reza Karimi[1]
[1]University of Agder, Norway; [2]University of Bremen, Germany

Lecture

Monday, June 24th, 2013

MoC3 **Estimation, Identification, and Stochastic Systems**
Room: Malazgirt 2
Time: Monday, June 24, 2013, 16:20 - 18:00
Chair: Xiangfeng Wang, *Nanjing Univertisy, China*
Co-Chair: Željko Jurić, *University of Sarajevo, Bosnia and Herzegovina*

16:20
MoC3.1 **Dual Estimation of Attitude and Parameters Considering Vibration based on GPS and IMU**
Qi Xin[1], ZhongKe Shi[1], Zhu Hongyu[2]
[1]Northwestern Polytechnical University, China; [2]North General Electronics Group Co., Ltd, China

16:40
MoC3.2 **A new clustering technique for the identification of PWARX hybrid models**
Zeineb Lassoued, Kamel Abderrahim
University of Gabes, Tunisia

17:00
MoC3.3 **VB-AQKF-STF: A Novel Linear State Estimator for Stochastic Quantized Measurements Systems**
Quanbo Ge[1], Chenglin Wen[1], Xiangfeng Wang[2], Xingfa Shen[1]
[1]Hangzhou Dianzi University, China; [2]Nanjing University, China

17:20
MoC3.4 **A Frequency-based Method for Complete Identification of Some Types of Wiener-type Plants Based on Relay Feedback**
Selma Hanjalić, Željko Jurić, Hamza Šehović, Branislava Peruničić
University of Sarajevo, Bosnia and Herzegovina

17:40
MoC3.5 **Wavelet Network based Online Sequential Extreme Learning Machine for Dynamic System Modeling**
Dhiadeen Salih, Samsul Bahari Mohd Noor, Mohammad Hamiruce Merhaban, Raja Kamil
University Putra Malaysia, Malaysia

18:00
MoC3.6 **Performance Analysis of MPC Based on Structures Subject to No-Model Input/Output Combinations**
Leandro Massaro, Alain Potts, Claudio Garcia
University of Sao Paulo, Brazil

Lecture

Monday, June 24th, 2013

MoC4 **Shimemura Young Author Award**
Room: Kocatepe
Time: Monday, June 24, 2013, 16:20 - 18:20
Chair: Changyun Wen, *Nanyang Technological University, Singapore*
Co-Chair: Daniel W. C. Ho, *City University of Hong Kong, Hong Kong*
Co-Chair: Zhisheng Duan, *Peking University, China*

16:20
MoC4.1 **Robust adaptive dynamic programming for optimal nonlinear control design**
Yu Jiang, Zhong-Ping Jiang
Polytechnic Institute of New York University, USA

16:40
MoC4.2 **On Modeling of Tall Linear Systems with Multirate Outputs**
Mohsen Zamani[1], Brian D. O. Anderson[1], Elisabeth Felsenstein[2], Manfred Deistler[2]
[1]Australian National University, Australia; [2]Institute for Mathematics in Economics, Australia

17:00
MoC4.3 **Output Feedback Receding Horizon Control for Spatiotemporal Dynamic Systems**
Tomoaki Hashimoto[1], Yu Takiguchi[2], Toshiyuki Ohtsuka[1]
[1]Osaka University, Japan; [2]HORIBA Advanced Techno Corporation, Japan

17:20
MoC4.4 **A Sub-principal Component of Fault Detection (PCFD) Modeling Method and Its Application to Online Fault Diagnosis**
Chunhui Zhao, Li Wenqing, Youxian Sun
Zhejiang University, China

Lecture

Monday, June 24th, 2013

MoC5 **Robust Control (I)**
Room: Fevzi Cakmak
Time: Monday, June 24, 2013, 16:20 - 18:20
Chair: Jie Chen, *City University of Hong Kong, Hong Kong*
Co-Chair: Huijun Gao, *Harbin Institute of Technology, China*

16:20
MoC5.1 **Stabilization of Uncertain Discrete Time-Delayed Systems via Delta Operator Approach**
Huijun Gao[1], Xiaochen Xie[1], Shen Yin[1], Okyay Kaynak[2]
[1]Harbin Institute of Technology, China; [2]Bogazici University, Turkey

16:40
MoC5.2 **Consensus over Directed Graph: Output Feedback and Topological Constraints**
Tian Qi[1], Li Qiu[2], Jie Chen[3]
[1]South China University of Technology, China; [2]Hong Kong University of Science and Technology, Hong Kong; [3]City University of Hong Kong, Hong Kong

17:00
MoC5.3 **Minimizing the memory of a system**
Dominikus Noll, Ngoc Minh Dao
University of Toulouse, France

17:20
MoC5.4 **A Finite-time Generalized H_2 Gain Measure and Its Performance Criterion**
Fenghua He, Wang Long, Jiawei Wang, Yu Yao, Denggao Ji, Weishan Chen
Harbin Institute of Technology, China

17:40
MoC5.5 **Static LPV Feedforward Controller Synthesis for Linear Parameter Varying Systems**
Yusuf Altun, Kayhan Gulez, Tarik Veli Mumcu
Yildiz Technical University, Turkey

Lecture

Monday, June 24th, 2013

MoC6 **Navigation, Guidance and Control**
Room: Barbaros A
Time: Monday, June 24, 2013, 16:20 - 18:20
Chair: Zhihong Deng, *Beijing Institute of Technology, China*
Co-Chair: Bo Wang, *Beijing Institute of Technology, China*

16:20
MoC6.1 **On-Line Self-Calibration for Inertial Platform System with a Single Totally Free Axis**
Lu Feng, Bo Wang, Zhihong Deng, Shunting Wang, Qizhen Wang
Beijing Institute of Technology, China

16:40
MoC6.2 **Rapid Alignment Method of INS with Large Initial Azimuth Error under Uncertain Flexure Disturbances**
Xin Liu, Bo Wang, Zhihong Deng, Shunting Wang, Hua Liu
Beijing Institute of Technology

17:00
MoC6.3 **Modeling and Analysis of Stray Light Impact on Coarse Sun Sensor**
Xiaopeng Liu[1], Zhenyan Zhao[1], Yuanqing Xia[1], Xi-Ming Sun[2]
[1]China Academy of Space Technology, China; [2]Dalian University of Technology, China

17:20
MoC6.4 **Moving Base Disturbance Suppression Method of Rotary INS Based on Rotation Angular Rate**
Yuan Zhou, Zhihong Deng, Bo Wang, Mengyin Fu, Shunting Wang, Xuan Xiao
Beijing Institute of Technology, China

17:40
MoC6.5 **On Initial Alignment Methods for Manned Lunar Ascent Module**
Qingzhe Wang[2], Ping Wang[2], Linli Guo[2], Zhihong Deng[1]
[1]Beijing Institute of Technology, China; [2]China Academy of Space Technology, China

18:00
MoC6.6 **Implementation of Micro-inertial Measurement/GPS Combinatorial Attitude Measurement System**
Xiaorong Shen, Yueming Wang, Rongsheng Dong
Beijing University of Aeronautics and Astronautics, China

Lecture

Monday, June 24th, 2013

MoC7 **Nonlinear Control (II)**
Room: 30 Agustos Zafer
Time: Monday, June 24, 2013, 16:20 - 18:20
Chair: Sergej Celikovsky, *Institute of Information Theory and Automation of the ASCR, Czech Republic*
Co-Chair: Zhiyong Geng, *Peking University, China*

16:20
MoC7.1 **Hyperstability Analysis of Switched Systems Subject to Integral Popovian Constraints**
M. De la Sen[1], Santiago Alonso-Quesada[1], Asier Ibeas[2]
[1]University of the Basque Country, UPV/EHU, Spain; [2]Autonomous University of Barcelona, Spain

16:40
MoC7.2 **Calculation of the least L_1 measure for switched linear systems via similarity transformation**
Meili Lin, Zhendong Sun
South China University of Technology, China

17:00
MoC7.3 **Neural Aided Discrete PID active Controller for Non-Linear Hysteretic Base-Isolation building**
Subasri Ramaiah[1], Natarajan Annadasanpalayam Mathiayan[2], Suresh Sundaram[3], Jianliang Wang[3]
[1]Kongu Engineering College, India; [2]Bannari Amman Institute of Technology, India; *[3]Nayang Technological University, Singapore*

17:20
MoC7.4 **Passivity-based Finite-time Attitude Control Problem**
Shuochen Liu, Junyong Sun, Zhiyong Geng
Peking University, China

17:40
MoC7.5 **Virtual constraints for the underactuated walking design: comparison of two approaches**
Milan Anderle[1,2], Sergej Celikovsky[1,2], Haroldo Ibarra[2]
[1]Institute of Information Theory and Automation of the ASCR, Czech Republic; [2] Czech Technical University in Prague, Czech Republic

Lecture

Tuesday, June 25th, 2013

TuA1 **Adaptive Control and Tuning (II)**
Room: Inonu
Time: Tuesday, June 25, 2013, 8:40 - 10:20
Chair: Iman Fadakar, *University of Waterloo, Canada*
Co-Chair: Ahmet Cezayirli, *Forevo Digital Design Ltd, Turkey*

8:40
TuA1.1 **Robust Adaptive Attitude Synchronization of Rigid Body Networks with Unknown Inertias**
Iman Fadakar, Baris Fidan, Jan Huissoon
University of Waterloo, Canada

9:00
TuA1.2 **Neural – Adaptive Control for Electro Hydraulic Servo System**
Zohreh Alzahra Sanai Dashti[1], Milad Gholami[1], Mahdi` Aliyari Shoorehdeli[2], Mohammad Teshnehlab[2]
[1]Islamic Azad University, Iran; [2]K.N. Toosi University of Technology, Iran

9:20
TuA1.3 **A Combined Backstepping and Wavelet Neural Network Control Approach for Mechanical System**
Chiung-Chou Liao[1], Chiu-Hsiung Chen[2], Ya-Fu Peng[1], Sung-Chi Wu[1]
[1]Chien Hsin University of Science and Technology, Taiwan; [2]Chung-Shan Institute of Science and Technology, Taiwan

9:40
TuA1.4 **A New Iterative Online Dynamic Identification Method of Robots from only Force/Torque Data**
Maxime Gautier[1,3], Anthony Jubien[2], Alexandre Janot[2]
[1]Institute /Research Institute of Communications and Cybernetics of Nantes, France ; [2]ONERA (The French Aerospace Lab), France; [3]L'UNAM (L'University Nates Angers le Mans), France

10:00
TuA1.5 **A New Technique in Multi-Model Adaptive Control: Sequential Parameter Discrimination and Hybrid Parameter Vector**
Ahmet Cezayirli
Forevo Digital Design Ltd., Turkey

Lecture

Tuesday, June 25th, 2013

TuA2 **Power Systems**
Room: Malazgirt 1
Time: Tuesday, June 25, 2013, 8:40 - 10:20
Chair: Yutaka Tsubota, *Waseda University, Japan*
Co-Chair: Syed Ahmed Raza, *Prince Mohammad Bin Fahd University, Saudi Arabia*

8:40
TuA2.1 **Reference Governor for Output Smoothing of Renewable Energy Generation**
Yutaka Tsubota[1], Genki Baba[1], Kenko Uchida[1], Toru Jintsugawa[2], Yosuke Nakanishi[2]
[1]Waseda University, Japan; [2]Fuji Electric Co., Japan

9:00
TuA2.2 **Maximum Power Point Tracking of Directly Driven PV-RO Systems**
Khaled Alshehri, Moustafa Elshafei, Anwar Khalil Sheikh
King Fahd University of Petroleum and Minerals, Saudi Arabia

9:20
TuA2.3 **Graph Partitioning of Power Network for Emergency Voltage Control**
Hasan Mehrjerdi[1], Serge Lefebvre[1], Dalal Asber[1], Maarouf Saad[2]
[1]Hydro-Quebec's Research Institute, Canada; [2]Quebec University, Canada

9:40
TuA2.4 **Smart Pitch Control Strategy for Doubly Fed Wind Generation System Using Adaptive Neural Networks**
Syed Ahmed Raza, Noureddine Harid
Prince Mohammad Bin Fahd University, Saudi Arabia

10:00
TuA2.5 **Multivariable Input-Output Linearization Sliding Mode Control of DFIG Based Wind Energy Conversion System**
Akbar Tohidi, Ali Shamsaddinlou, Ali Khaki Sedigh
K.N.Toosi University of Technology, Iran

Lecture

Tuesday, June 25th, 2013

TuA3 **Optimal Control and Optimization (II)**
Room: Malazgirt 2
Time: Tuesday, June 25, 2013, 8:40 - 10:20
Chair: Ying Tan, *University of Melbourne, Australia*
Co-Chair: Yaoyu Li, *National University of Defense Technology University, China*

8:40
TuA3.1 **On-line Schedule Model for Reusable Equipment Maintenance and Support Resource in Wartime**
Quan Jia, Yaoyu Li
National University of Defense Technology University, China

9:00
TuA3.2 **Developing a New Image Scanning Method Using Atomic Force Microscopy**
Habibullah Habibullah, Hemanshu Pota, Ian Petersen
University of New South Wales, Australia

9:20
TuA3.3 **Adaptive Optimal Control Algorithm for Maturing Energy Management Strategy in Fuel-Cell/Li-ion-Capacitor Hybrid Electric Vehicles**
Wei-Song Lin, Yu-Chun Huang, Chen-Hong Zheng, Chao-Ming Lee
National Taiwan University, Taiwan

9:40
TuA3.4 **On Sampled-Data Extremum Seeking Control via Stochastic Approximation Methods**
Sei Zhen Khong, Ying Tan, Dragan Nesic, Chris Manzie
University of Melbourne, Australia

10:00
TuA3.5 **On the Effect of Adding Frequency-Response-Constrained Input Channels on the Achievable Performance of Discrete-Time Control Systems**
Ignacio Latorre, Eduardo Silva, E. Salgado Mario
Universidad Tecnica Federico Santa Maria, Chile

Lecture

Tuesday, June 25th, 2013

TuA4 **Predictive Control**
Room: Kocatepe
Time: Tuesday, June 25, 2013, 8:40 - 10:20
Chair: Yugeng Xi, *Shanghai Jiaotong University, China*
Co-Chair: Hongye Su, *Zhejiang University, China*

8:40
TuA4.1 **Experience-Based Identification and Model Predictive Control for A Methanol Recovery Distillation Column**
Bingqiang Huang, Yong Gu, Hongye Su
Zhejiang University, China

9:00
TuA4.2 **Stabilization of Linear Discrete-time Periodic Systems with Uncertain Period**
Jianbo Lu, Dewei Li, Yugeng Xi
Shanghai Jiaotong University,China

9:20
TuA4.3 **Improved Future Model Prediction and Robust MPC Design for LPV Systems with Bounded Rates of Parameter Variations**
Pengyuan Zheng, Dewei Li, Yugeng Xi
Shanghai Jiaotong University, China

9:40
TuA4.4 **Feasible Distributed MPC Scheme for Network Systems Based on an Inexact Dual Gradient Method**
Ion Necoara, Andrei Valentin Nedelc, Dragos Nicolae Clipici
Politehnica University of Bucharest, Romania

10:00
TuA4.5 **Data-Based Modeling of Vehicle Collision by LPV-ARMAX Model Approach**
Qiugang Lu, Witold Pawlus, Hamid Reza Karimi, Kjell Gunnar Robbersmyr
University of Agder, Norway

Lecture

Tuesday, June 25th, 2013

TuA5 **Linear Control (I)**
Room: Fevzi Cakmak
Time: Tuesday, June 25, 2013, 8:40 - 10:20
Chair: Chih Ying Chen, *National Tsing Hua University, Taiwan*
Co-Chair: Mehmet Itik, *Karadeniz Technical University, Turkey*

8:40
TuA5.1 **Preliminary Feasibility Studies of Real-Time Substructuring Control Strategies**
Chih Ying Chen, Jiaying Tu, Youchuan Chen, Weide Xiao
National Tsing Hua University, Taiwan

9:00
TuA5.2 **Design of Optimal Disturbance Cancellation Controllers for Sinusoidal Output Disturbances via Loop Transfer Recovery**
Tadashi Ishihara[1], HaiJiao Guo[2]
[1]Fukushima University, Japan; [2]Tohoku Gakuin University, Japan

9:20
TuA5.3 **Repetitive Control of An Artificial Muscle Actuator**
Mehmet Itik
Karadeniz Technical University, Turkey

9:40
TuA5.4 **On the Stabilization of An Irrigation Channel with a Cascade of 2 Pools: A Linearized Case**
Dong-Xia Zhao, Jun-Min Wang
Beijing Institute of Technology, China

10:00
TuA5.5 **The Parameterization of All Stabilizing Two-Degree-of-Freedom Simple Multi-Period Repetitive Controllers with Specified Frequency Characteristic**
Tatsuya Sakanushi, Yun Zhao, Jie Hu, Satoshi Tohnai, Kou Yamada
Gunma University, Japan

Lecture

Tuesday, June 25th 2013

TuA6 **Best Application Paper Award**
Room: Barbaros A
Time: Tuesday, June 25, 2013, 8:40 - 10:00
Chair: Changyun Wen, *Nanyang Technological University, Singapore*
Co-Chair: Daniel W. C. Ho, *City University of Hong Kong, Hong Kong*
Co-Chair: Zhisheng Duan, *Peking University, China*

8:40
TuA6.1 **Optimized State Feedback Regulation of 3DOF Helicopter System via Extremum Seeking**
Rini Akmeliawati[1], Safanah Raafat[2]
[1]International Islamic University Malaysia, Malaysia; [2]University of Technology UOT, Iraq

9:00
TuA6.2 **Constant Velocity Control of a Miniature Pantograph with Image Based Trajectory Generation**
Eray A. Baran, Edin Golubovic, Tarik E. Kurt, Asif Sabanovic
Sabanci University, Turkey

9:20
TuA6.3 **Feasible Approach to Control the Operation of Implantable Rotary Blood Pumps for Heart Failure Patients**
Mohsen Bakouri[1], Andrey Savkin[1], Abdul-Hakeem AlOmari[2], Robert Salamonsen[3], Einly Lim[4], Nigel Lovell[1]
[1]University of New South Wales, Australia; [2]University of Dammam, Saudi Arabia; [3]Monash University, Australia; [4]The University of Malaya, Malaysia

9:40
TuA6.4 **State of Charge Management for Plug in Hybrid Electric Vehicles with Uncertain Distance to Recharge**
Chris Manzie[1], Prakash Dewangan[2], Gilles Corde[2], Olivier Grondin[2], Antonio Sciarretta[2]
[1]University of Melbourne, Australia; [2]IFP Energies Nouvelles, France

Poster

Tuesday, June 25th, 2013

Post-A
Time: Tuesday, June 25, 2013, 08:40 - 10:20
Room: Poster Area
Chair: Adel Ahmadi, *University of Melbourne, Australia*

Post-A.1 **An Efficient Method for Finite Time Stability Calculation of Continuous Time Delay Systems**
I. Buzurovic[1], D. Lj. Debeljkovic[2], A.M. Jovanovic[2]
[1]Harvard University, USA; [2]University of Belgrade, Serbia

Post-A.2 **Stabilization for Polytopic Uncertain Switched Linear Systems with Constant Input**
Takuya Soga, Naohisa Otsuka, Genki Nakayama, Akihiro Tojo
Tokyo Denki University, Japan

Post-A.3 **Improved Delphi Method with Weighted Factor and its Application**
Wen Ji, Jianhui Wang, Xiaoke Fang, Shusheng Gu
Northeastern University, China

Post-A.4 **A Note on Representation of Nonlinear Time-Varying Delay-Differential Equations as Time-Delay Feedback Systems**
Tatsuya Yamazaki, Tomomichi Hagiwara
Kyoto University, Japan

Post-A.5 **An Weighted Error Controller for A Class of Distributed Parameter Systems**
Nirvana Popescu[1], Decebal Popescu[1], Mircea Ivanescu[2]
[1]University Politehnica, Romania; [2]University of Craiova, Romania

Post-A.6 **A Stability Criterion for Fractional-Order Systems with α -order in frequency domain: The 0< α <2 case**
Zhe Gao, Xiaozhong Liao, Bo Shan, Hong Huang
Beijing Institute of Technology, China

Post-A.7 **A New Algorithm for Decomposition Problem of Binary Fuzzy Relations**
Hongbiao Fan, Jun-e Feng, Lequn Zhang, Hongli Lv
Shangdong University, China;

Post-A.8 **Multiresolution Wavenet PID Control for Global Regulation of Robots**
F.A. Díaz-López[1], L.E. Ramos Velasco[2], O.A. Domínguez Ramírez[3], V. Parra-Vega[4]
[1]Higher Technological Institute of Huichapan Hidalgo, Mexico; [2]Polytechnic University of Pachuca, Mexico; [3]Hidalgo State University, Mexico; [4]Research Center for Advanced Studies (Cinvestav), Mexico

Post-A.9 **Backstepping Control of Polymerization Reactor**
Pinakpani Biswas[1], Amar Nath Samanta[2]

[1]*Raw Materials & Coke making Group, R&D, Tata Steel Ltd., India;* [2]*Indian Institute of Technology Kharagpur, India*

Post-A.10 **Computation of Parametric Convergence Bound and Parametric Convergence Margin for Volterra series Expansion**

Zhenlong Xiao, Xingjian Jing, Li Cheng
Hong Kong Polytechnic University, Hong Kong

Post-A.11 **Backstepping Position Control of Two-Mass Systems with Unknown Backlash**

Mirhamed Mola, Alireza Khayatian, Maryam Dehghani
Shiraz University, Iran

Post-A.12 **Observer-Based Fuzzy Control Design for Discrete-Time T-S Fuzzy Bilinear Stochastic Systems with infinite-distributed delays**

Jiangrong Li[1], Junmin Li[2], Yu Li[1]
[1]*Yanan University, China;* [2]*Xidian University, China*

Post-A.13 **Wide Area Equipment Protection System Based on Substation Panoramic Information**

Jungang Li, Chen Li, Yuanxin Zhang, Aimin Zhang, Hang Zhang, Yingsan Geng
Xi'an Jiaotong University, China

Post-A.14 **Finite Time Stability Control Based on Higher-Order Sliding Mode for TORA System**

Jie Yang, Qinglin Wang, Yuan Li
Beijing Institute of Technology, China

Post-A.15 **Analysis and Modeling of A Control System Based on Digital Dynamic Pulse Frequency Modulation for Objects with Transport Delay**

Bekmurza H. Aitchanov[1], Olimzhon A. Baimuratov[1], Vladimir V. Nikulin[2]
[1]*K.I.Satpaev Kazakh National Technical University, Kazakhstan;* [2]*State University of New York, USA*

Post-A.16 **Flatness Control Strategy for the Air Subsystem of A Hydrogen Fuel Cell System**

Ramon Da Fonseca[1], Eric Bideaux[1], Mathias Gerard[2], Bruno Jeanneret[3], Ali Sari[1], Matthieu Desbois-Renaudin[2], Didier Buzon[2]
[1]*Ampere Laboratory, France;* [2]*CEA, France;* [3]*IFSTTAR, France*

Post-A.17 **New Input-Output Pairing Based on Eigenvalue Contribution Measures**

Adel Ahmadi, Mohammad Aldeen
University of Melbourne, Australia

Post-A.18 **An LMI Framework to Design Robust MPC for a class of Nonlinear Uncertain Systems**

V. Ghaffari[1], S. Vahid Naghavi[1], A. Akbar Safavi[1], Masoud Shafiee[2]
[1]*Shiraz University, Iran;* [2]*Amir kabir University of technology, Iran*

Post-A.19 **Model Predictive Controller Performance Monitoring Based on Impulse Response Identification**

Zhong Zhao; Feng Song; Hailiang Yang
Beijing University of Chemical Technology, China

Post-A.20 **Study of Multiple Model Predictive Control On a pH Neutralization Plant**
Ali shamsaddinlou[1], Alireza Fatehi[1], Ali Khaki Sedigh[1], Mohammad Mahdi Karimi[2]
[1]K.N.Toosi University of Technology, Iran; [2]Training University, Iran

Post-A.21 **Predictive Control of Large Steam Turbines**
Mojtaba Kordestani[1], Majid S. Khoshro[2], Alireza Mirzaee[1]
[1]Shiraz University, Iran; [2]Iran Power Plant Project Management Company, Iran

Post-A.22 **A Dynamical Search Space Harmony Search for Unconstrained Optimization Problems**
Jing Wang[1], Wei Jiang[1], Liulin Cao[1], Qibing Jin[1], Wang Wei[2]
[1]Beijing University of Chemical Technology, China; [2]Hebei Energy College of Vocation and Technology, China

Post-A.23 **Control of Omini-Directional Mobile Vehicle for Obstacle Avoidance Using Potential Function Method**
Giang Hoang, Hak Kyeong Kim, Sang Bong Kim
Pukyong National University, South Korea

Post-A.24 **Sliding-Mode Observer Design for Sensorless Vector Control of AC Induction Motor**
Phuc Thinh Doan, Thanh Luan Bui, Hak Kyeong Kim, Sang Bong Kim
Pukyong National University, South Korea

Post-A.25 **Trajectory Tracking Controller Design for AGV Using Laser Sensor Based Positioning System**
Phuc Thinh Doan, Thanh Luan Bui, Hak Kyeong Kim, Sang Bong Kim
Pukyong National University, South Korea

Post-A.26 **Control of Resonant Modes of a Smart Structure Using OMPC**
M. S. Rana, H. R. Pota, I. R. Petersen, Habibullah
The University of New South Wales, Australia

Post-A.27 **Stability Analysis of Dynamic Quantized Systems with Time-varying Delay**
Mu Li[1], Lihua Dou[1], Haoyuan Sun[2], Jian Sun[1]
[1]Beijing Institute of Technology, China; [2]Jilin University, China

Post-A.28 **Instability of Uncertain Large-Scale Networks**
Masaki Inoue[1], Jun-ichi Imura[2], Kenji Kashima[3], Kazuyuki Aihara[4]
[1]Japan Science and Technology Agency, Japan; [2]Tokyo Institute of Technology, Japan; [3]Osaka University, Japan; [4]The University of Tokyo, Japan

Post-A.29 **Finite-Time Consensus Tracking of Multiple Coupled Harmonic Oscillations via Bounded Control**
Haibo Du[1], Yigang He[2], Yingying Cheng[1]
[1]Southeast University, China; [2]Hefei University of Technology, China

Post-A.30 **A Novel Apparatus for Motion Control Experiments**
Manh-Tuan Ha; Chul-Goo Kang
Konkuk University, South korea

Post-A.31 **Vibration Suppression of Size-Dependent Modified Couple stress Timoshenko**

Micro-Beams
Ramin Vatankhah[1], Ali Najafi[2], Hassan Salarieh[1], Aria Alasty[1]
[1]Sharif University of Technology, Iran; [2]Islamic Azad University, Iran

Post-A.32 **Time Delay Sensitivity Analysis in A Wireless Network Control System Using LMI Approach**
Mohammad Mahdi Delbari, M. Taghi Hamidi Beheshti, Amin Ramezani, Sadjaad Ozgoli
Tarbiat Modares University, Iran

Post-A.33 **Data Loss and Delay Distribution of Wireless Sensor Networks**
Tian Zheng[1], Abdelkader El Kamel[1], Shaoping Wang[2]
[1]Ecole Centrale de Lille, France; [2]Beihang University, China

Post-A.34 **Satellite Map based Quantitative Analysis for 3D World Modeling of Urban Environment**
Hyun Chul Roh, Taek Jun Oh, Yungeun Choe, Myung Jin Chung
KAIST, South Korea

Post-A.35 **A Linearization Reference Node Selection Strategy for Accurate Multilateration Localization in Wireless Sensor Networks**
Quanrui Wei, Jiuqiang Han, Jun Liu
Xi'an Jiaotong University, China

Post-A.36 **An New Strategy for Online Evaluation of Analog Circuit Performance Based Adaptive Least Squares Support Vector Regression with Double Kernel RBF Tuning**
Xing Huo[1], Aihua Zhang[1], Pengda Qin[2]
[1]Bohai University, China; [2]Beijing University of Posts and Telecommunications, China

Post-A.37 **Study on the Operating Mode of SNS in EC Environment of China**
Xiufeng Li
Shandong Normal University, China

Post-A.38 **Automotive Infotainment Power Management Solution by Modeling, Analysis and Control of 42V/14V DC-DC Automotive Interleaved Buck Converter**
Anila Thyagarajan, Raja Prabu, G. Uma
B.S. Abdur Rahman University, India

Post-A.39 **Gradient Based Iterative Identification for Discrete-Time Delay Systems**
Saïda Bedoui, Majda Ltaief, Kamel Abderrahim
University of Gabes, Tunisia

Post-A.40 **Depth and Normal Vector Identification of An Unknown Slope From A UAV Using A Single Camera**
Zhichao Liu, Jianliang Wang, Eng Kee Poh, Suresh Sundaram
Nanyang Technological University, Singapore

Post-A.41 **Robust Unscented Kalman Filter via l_1 Regression and Design Method of Its Parameters**

Yasuaki Kaneda[1], Yasuharu Irizuki[2], Masaki Yamakita[1]
[1]Tokyo Institute of Technology, Japan; [2]Tokyo Metropolitan Industrial Technology Research Institute, Japan

Post-A.42 **Takagi-Sugeno Fuzzy Observer and Extended-Kalman Filter for Adaptive Payload Estimation**

Selami Beyhan[1], Zsófia Lendek[2], Musa Alcı[3], Robert Babuška[4]
[1]Pamukkale University Turkey; [2]Technical University of Cluj-Napoca, Romania; [3]Ege University,Turkey; [4]Delft University of Technology, The Netherlands

Post-A.43 **Unscented Kalman Filter for An Orientation Module of A Quadrotor Mathematical Model**

Jaroław Gośliński, Wojciech Giernacki, Stanislaw Gardecki
Poznań University of Technology, Poland

Post-A.44 **Parameter Identification of Bacterial Growth Bioprocesses using Particle Swarm Optimization**

Sendrescu Dorin, Monica Roman
University of Craiova, Romania

Post-A.45 **Estimation of Time Delayed System with Complex Order Based Integrator**

M. Shahiri[1], A. Ranjbar[1], M. Karami[1], R. Ghaderi[2]
[1]Babol Univ. of Technology, Iran; [2]Shahid Beheshti University, Iran

Post-A.46 **Optimization via Characteristic Functions of Cones**

Jimmie Lawson
Louisiana State University, USA

Post-A.47 **An Augmented Neural Network Algorithm for Solving Singular Convex Optimization with Nonnegative Variables**

Rendong Ge, Lijun Liu
Dalian Nationnalites university, China

Lecture

Tuesday, June 25th, 2013

TuB1 **Complex Systems and Networks (Ⅱ)**
Room: Inonu
Time: Tuesday, June 25, 2013, 14:00 - 16:00
Chair: Hai-Tao Zhang, *Huazhong University of Science and Technology, China*
Co-Chair: Jianbin Qiu, *Harbin Institute of Technology, China*

14:00
TuB1.1 **A Decentralized Control Algorithm Based on the DC Power Flow Model for Avoiding Cascaded Failures in Power Networks**
Saleh Al-Takrouri, Andrey V. Savkin, Vassilios G. Agelidis
The University of New South Wales, Australia

14:20
TuB1.2 **Static Output Feedback Adaptive Integral Sliding Control for Interconnected Nonlinear Systems**
Eshag Larbah, Ron Patton
University of Hull, UK

14:40
TuB1.3 **Position Feedback Pinning Control for Nonlinear Multi-agent Systems**
Ming-Can Fan[1], Zhiyong Chen[2], Hai-Tao Zhang[1]
[1]Huazhong University of Science and Technology, China; [2]University of Newcastle, Australia

15:00
TuB1.4 **Setpoints Compensation in Industrial Processes via Multirate Output Feedback Control**
Shen Yin[1], Fangzhou Liu[1], Huijun Gao[1], Jianbin Qiu[1], Tianyou Chai[2], Jialu Fan[2], Hamid Reza Karimi[3]
[1]Harbin Institute of Technology, China; [2]Northeastern University, China; [3]University of Agder, Norway

15:20
TuB1.5 **Distributed Tracking for Networked Euler-Lagrange Systems Using Only Relative Position Measurements**
Qingkai Yang, Hao Fang, Yutian Mao, Jie Huang, Jian Sun
Beijing Institute of Technology, China

15:40
TuB1.6 **Necessary and Sufficient Condition of Consensus for Affine Multi-Agent Cooperative Systems under Time-Varying Directed Networks**
Jidong Jin[1, 2], Yufan Zheng [1, 3]
[1] Shanghai University, China; [2]Capital University of Economics and Business, China; [3]The University of Melbourne, Australia

Lecture

Tuesday, June 25th, 2013

TuB2 **Advances in Nonlinear Control and Applications**
Room: Malazgirt 1
Time: Tuesday, June 25, 2013, 14:00 - 16:00
Chair: Zongli Lin, *University of Virginia, USA*
Co-Chair: Zhong-Ping Jiang, *Polytechnic Institute of New York University, USA*

14:00
TuB2.1 **Multistability of A Class of Biological Systems**
Yuanlong Li[1], Zongli Lin[2]
[1]Shanghai Jiao Tong University, China; [2]University of Virginia, USA

14:20
TuB2.2 **Adaptive Output Regulation for General Output Feedback Nonlinear Systems with Integral ISS Inverse Dynamics**
Dabo Xu[1], Jie Huang[2], Zhong-Ping Jiang[3]
[1]Nanjing University of Science and Technology, China; [2]The Chinese University of Hong Kong, Hong Kong; [3]Polytechnic Institute of New York University, USA

14:40
TuB2.3 **Neuroadaptive Robust Control of Automatic Train Operation Subject to Actuator Saturation**
Shigen Gao[1], Hairong Dong[1], Bin Ning[1], Yao Chen[1], Guanrong Chen[2], Qingwen Liang[3]
[1]Beijing Jiaotong University, China; [2]City University of Hong Kong, Hong Kong, [3]China Communications Construction Company Limited, China

15:00
TuB2.4 **Distributed Control of Angle-constrained Circular Formations using Bearing-only Measurements**
Shiyu Zhao, Feng Lin, Kemao Peng, Ben M. Chen, Tong H. Lee
National University of Singapore, *Singapore*

15:20
TuB2.5 **A New Distributed Localization Method for Sensor Networks**
Yingfei Diao[1], Zhiyun Lin[2], Minyue Fu[3], Huanshui Zhang[1]
[1]Shandong University, China; [2]Zhejiang University, China; [3]University of Newcastle, Australia

15:40
TuB2.6 **On Networked Non-Cooperative Games -- A Semi-Tensor Product Approach**
Daizhan Cheng[1], Fenghua He[2], TingtingXu[1]
[1]Chinese Academy of Sciences, China; [2]Harbin Institute of Technology, China

Lecture

Tuesday, June 25th, 2013

TuB3 **Identification and Estimation (I)**
Room: Malazgirt 2
Time: Tuesday, June 25, 2013, 14:00 - 16:00
Chair: Selim Solmaz, *Gediz University*
Co-Chair: Erwei Bai, *University of Iowa*

14:00
TuB3.1 **Improving Quadrotor Three Axes Stabilization Results Using Empirical Results and System Identification**
Övünç Elbir, Anıl Ufuk Batmaz, Coşku Kasnakoğlu
TOBB University of Economics and Technology, Turkey

14:20
TuB3.2 **State Estimation in Discrete-Time Nonlinear Stochastic Systems Subject to Random Data Loss**
S.M.Mahdi Alavi[1], Mehrdad Saif[1], Bahram Shafai[2]
[1]University of Windsor, Canada; [2]Northeastern University, USA

14:40
TuB3.3 **Effectiveness of The DIDIM Method with Respect to The Usual CLOE Method. Application to The Dynamic Parameters Identification of An Industrial Robot**
Anthony Jubien[1], Maxime Gautier[2], Alexandre Janot[1]
[1]ONERA The French Aerospace Lab, France; [2]IRCCyN Institute /Research Institute of Communications and Cybernetics, France

15:00
TuB3.4 **A Novel Method for Indirect Estimation of Tire Pressure**
Selim Solmaz
Gediz University, Turkey

15:20
TuB3.5 **A Unified Framework for State Estimation of Nonlinear Stochastic Systems with Unknown Inputs**
Chien-Shu Hsieh
Ta Hwa University of Science and Technology, Taiwan

15:40
TuB3.6 **A Local Information Criterion for Order Identification of Nonlinear ARX Systems**
Wenxiao Zhao[1], Han-Fu Chen[1], Er-Wei Bai[2], Kang Li[3]
[1]Chinese Academy of Sciences, China; [2]University of Iowa, USA; [3]Queen's University, UK

Lecture

Tuesday, June 25th, 2013

TuB4 **Robotics and Motion Control (Ⅲ)**
Room: Kocatepe
Time: Tuesday, June 25, 2013, 14:00 - 16:00
Chair: Samet Guler, *University of Waterloo, Canada*
Co-Chair: Xiaoli Li, *Donghua University, China*

14:00
TuB4.1 **Adaptive Control of a Three-Agent Surveillance Swarm with Constant Speed Constraint**
Samet GÜLER, Nasrettin KÖKSAL, Barış FİDAN
University of Waterloo, Canada

14:20
TuB4.2 **A New Approach to Map Joining for Depth-Augmented Visual SLAM**
Chien-Hung Liu, Kai-Tai Song
National Chiao Tung University, Taiwan

14:40
TuB4.3 **Singularity-Free Adaptive Control for Uncertain Omnidirectional Mobile Robots**
Jeng-Tze Huang, Tran Van Hung
Chinese Culture University, Taiwan

15:00
TuB4.4 **Connectivity Control on Lie Groups**
Aykut C. Satici, Mark W. Spong
University of Texas at Dallas, USA

15:20
TuB4.5 **Energy Consumption Optimization for Mobile Robots in Three-dimension Motion Using Predictive Control**
Mostafa I. Yacoub[1], Dan S. Necsulescu[1], Jurek Z. Sasiadek[2]
[1]University of Ottawa, Canada; [2]Carleton University, Canada

15:40
TuB4.6 **Cooperative Coverage of Mobile Robots with Distributed Estimation and Control of Connectivity**
Xiaoli Li, Shuguang Zhao, Haiqin Xu
Donghua University, China

Lecture

Tuesday, June 25th, 2013

TuB5 **Optimization and Communication in Smart Grid**
Room: Fevzi Cakmak
Time: Tuesday, June 25, 2013, 14:00 - 15:40
Chair: Jiming Chen, *Zhejiang University, China*
Co-Chair: Guoqiang Hu, *Nanyang Technological University, Singapore*

14:00
TuB5.1 **Cooperative Electricity Consumption Scheduling and Pricing for Future Residential Smart Grid**
Guohua Jiang[1], Li Yu[1], Yuan Wu[1], WenZhan Song[2]
[1]Zhejiang University of Technology, China; [2]Georgia State University, USA

14:20
TuB5.2 **Pricing-based Resource Allocation with Security Requirements for OFDM Networks in Real-Time Electricity Market**
Yue Zhang, Bo Yang, Cailian Chen, Xinping Guan
Shanghai Jiao Tong University, China

14:40
TuB5.3 **Energy Consumption Scheduling in Smart Grid: A Non-Cooperative Game Approach**
Kai Ma[1], Guoqiang Hu[1], Costas J. Spanos[2]
[1]Nanyang Technological University, Singapore; [2]University of California, USA

15:00
TuB5.4 **Optimal Residential Load Scheduling in Smart Grid: A Comprehensive Approach**
Bo Chai, Zaiyue Yang, Jiming Chen
Zhejiang University, China

Lecture

Tuesday, June 25th, 2013

TuB6 **Nonlinear Control（Ⅲ）**
Room: Barbaros A
Time: Tuesday, June 25, 2013, 14:00 - 15:40
Chair: Ussama Ali, *Mohammad Ali Jinnah University, Pakistan*
Co-Chair: Ilker Tanyer, *Izmir Institute of Technology, Turkey*

14:00
TuB6.1 **Robust Adaptive Control of Nonlinear Systems with Unknown State Delay**
Alper Bayrak[1], Enver Tatlicioglu[1], Baris Bidikli[1], Erkan Zergeroglu[2]
[1]Izmir Institute of Technology, Turkey; [2]Gebze Institute of Technology, Turkey

14:20
TuB6.2 **Lateral Control of UAVs: Trajectory Tracking via Higher-Order Sliding Modes**
Syed Ussama Ali, M. Zamurad Shah, Raza Samar, Aamer Iqbal Bhatti
Mohammad Ali Jinnah University, Pakistan

14:40
TuB6.3 **Sliding Mode Based Direct Torque Control of Three-Level Inverter Fed Induction Motor Using Switching Vector Table**
Tanvir Ahammad, Abdul R. Beig, Khalifa H. Al Hosani
The Petroleum Institute, United Arab Emirates

15:00
TuB6.4 **A Robust Dynamic Inversion Technique for Asymptotic Tracking Control of an Aircraft**
İlker Tanyer[1], Enver Tatlicioglu[1], Erkan Zergeroglu[2]
[1]Izmir Institute of Technology, Turkey; [2]Gebze Institute of Technology, Turkey

15:20
TuB6.5 **Numerical Analysis of a Reparable Multi-State Device**
Houbao Xu[1], Weiwei Hu[2]
[1]Beijing Institute of Technology, China; [2]University of Southern California, USA

Lecture

Tuesday, June 25th, 2013

TuC1 **Automotive Control**
Room: Inonu
Time: Tuesday, June 25, 2013, 16:20 - 18:20
Chair: Samuel John, *University of Science and Technology, Namibia*
Co-Chair: Ping Shi, *University of Shanghai for Science and Technology, China*

16:20
TuC1.1 **Automotive longitudinal speed pattern generation with acceleration constraints aiming at mild merging using model predictive control method**
Wenjing Cao[1], Masakazu Mukai[1], Taketoshi Kawabe[1], Hikaru Nishira[2], Noriaki Fujiki[2]
[1]Kyushu University, Japan; [2]Nissan Motor Co., Ltd., Japan

16:40
TuC1.2 **A Comparative Study of Two Control Schemes for Anti-Lock Braking Systems**
Samuel John[1], Jimoh O. Pedro[2]
[1]University of Science and Technology, Namibia; [2]University of the Witwatersrand, South Africa

17:00
TuC1.3 **Compound Control for Intelligent Artificial Leg Based on Fuzzy-CMAC**
Hongliu Yu, Jinhua Yi, Ping Shi
University of Shanghai for Science and Technology, China

17:20
TuC1.4 **A Cascade Controller Structure using an internal PID controller for a Hybrid Piezo-Hydraulic Actuator in Camless Internal Combustion Engines**
Paolo Mercorelli[1], Nils Werner[2]
[1]Leuphana University of Lueneburg, Germany; [2]Ostfalia University of Applied Sciences, Germany

17:40
TuC1.5 **The Development of Electromechanical Valve Actuator and the Comparison with the Camshaft Driven System**
Zeliha Kamis Kocabicak, Elif Erzan Topcu, İbrahim Yuksel
Uludağ University, Turkey

Lecture

Tuesday, June 25th, 2013

TuC2 **Transportation Systems**
Room: Malazgirt 1
Time: Tuesday, June 25, 2013, 16:20 - 18:20
Chair: Paolo Mercorelli, *Leuphana University of Lueneburg, Germany*
Co-Chair: Xiaoqing Lu, *Peking University, China*

16:20
TuC2.1 **Optimal Controller Design for a Railway Vehicle Suspension System Using Particle Swarm Optimization**
Hazlina Selamat[1], Siti Duranni Arang Bilong[2]
[1]Universiti Teknologi Malaysia, Malaysia; [2]Universiti Tun Hussein Onn Malaysia, Malaysia

16:40
TuC2.2 **Velocity Planning to Optimize Traction Losses in a City-Bus Equipped with Permanent Magnet Three-Phase Synchronous Motors**
Paolo Mercorelli
The Leuphana University of Lueneburg, Germany

17:00
TuC2.3 **Stability Analysis of Symmetrical Two-Route Traffic Flow with Feedback Information Delay**
Yuki Iguchi, Kazuma Sekiguchi, Mitsuji Sampei
Tokyo Institute of Technology, Japan

17:20
TuC2.4 **Traffic Scenes Invariant Vehicle Detection**
Yan Liu[1, 2, 3], Xiaoqing Lu[1], Jianbo Xu[2]
[1]Peking University, China; [2]State Key Laboratory of Digital Publishing Technology, China; [3]Postdoctoral Workstation of the Zhongguancun Haidian Science Park, China

Lecture

Tuesday, June 25th, 2013

TuC3 **AI and Expert Systems**
Room: Malazgirt 2
Time: Tuesday, June 25, 2013, 16:20 - 18:20
Chair: Hyun Seung Son, *Yonsei University, South Korea*
Co-Chair: Bingqiang Huang, *Zhejiang University, China*

16:20
TuC3.1 **Online ANFIS Controller Based on RBF Identification and PSO**
Ali Moltajaei Farid[1], S. Masoud Barakati[1], Navid Seifipour[1], Navid Tayebi[2]
[1]University of Sistan and Baluchestan, Iran; [2]Yildiz Technical University, Turkey

16:40
TuC3.2 **The Study on Tracking Algorithm for the Underwater Target: Applying to Noise Limited Bi-Static Sonar Model**
Hyun Seung Son[1], Jin Bae Park[1], Young Hoon Joo[2]
[1]Yonsei University, South Korea; [2]Kunsan National University, South Korea

17:00
TuC3.3 **Mining At Most Top-K% Mixed-drove Spatio-temporal Co-occurrence Patterns**
Zhanquan Wang[1], Xuanhuang Peng[1], Chunhua Gu[1], Bingqiang Huang[2]
[1]East China University of Science and Technology, China; [2]Zhejiang University, China

17:20
TuC3.4 **Using General Sound Descriptors For Early Autism Detection**
Seyyed Hamid R. Ebrahimi Motlagh[1], Hadi Moradi[1], Hamidreza Pouretemad[2]
[1]University of Tehran, Iran; [2]Shahid Beheshti University, Iran

Lecture

Tuesday, June 25th, 2013

TuC4 **Command Generation and Filtering for Control of Flexible Systems**
Room: Kocatepe
Time: Tuesday, June 25, 2013, 2013, 16:20 - 18:20
Chair: Joshua Vaughan, *University of Louisiana at Lafayette, USA*
Co-Chair: Kelvin Chen-Chih Peng, *Georgia Institute of Technology, USA*

16:20
TuC4.1 **Low-Oscillation Command Switch-Times for Relay-Driven Cranes with Asymmetrical Acceleration and Deceleration**
Kelvin Chen-Chih Peng, William Singhose
Georgia Institute of Technology, USA

16:40
TuC4.2 **Oscillation Suppressing for an Energy Efficient Bridge Crane Using Input Shaping**
Youmin Hu[1], Joshua Vaughan[2], William Singhose[3], Bo Wu[1]
[1]Huazhong University of Sci. & Tech, China; [2]University of Louisiana at Lafayette, USA; [3]Georgia Institute of Technology, USA

17:00
TuC4.3 **Experimental Testing of Liquid Slosh Suppressionin a Suspended Container with CompoundPendulum Dynamics**
Ali AlSaibie, William Singhose
Georgia Institute of Technology, USA

17:20
TuC4.4 **Spectral Features of ZVD Shapers with Lumped and Distributed Delays**
Tomas Vyhlidal, Vladimir Kucera, Martin Hromcik
Czech Technical University in Prague, Czech Republic

17:40
TuC4.5 **Modeling and Control of Rocking in Cable-Riding Systems**
Joshua Vaughan
University of Louisiana at Lafayette, USA

Lecture

Tuesday, June 25th, 2013

TuC5 **Robust Control (Ⅱ)**
Room: Fevzi Cakmak
Time: Tuesday, June 25, 2013, 16:20 - 18:20
Chair: Ian R. Petersen, *UNSW, Australia*
Co-Chair: Hao Liu, *Tsinghua University, China*

16:20
TuC5.1 **Real-Time Implementation of A Robust Hierarchical Controller for A Laboratory Helicopter**
Hao Liu, Geng Lu, Yisheng Zhong
Tsinghua University, China

16:40
TuC5.2 **Robust Stability Analysis of An Optical Parametric Amplifier Quantum System**
Ian R. Petersen
University of New South Wales at the Australian Defence Force Academy, Australia

17:00
TuC5.3 **On Smith Predictor-Based Controller Design for Systems with Integral Action and Time Delay**
Uğur Taşdelen, Hitay Özbay
Bilkent University, Turkey

17:20
TuC5.4 **Nonlinear Inventory Control with Discrete Sliding Modes in Systems with Multiple Delayed Supply Options**
Przemyslaw Ignaciuk
Lodz University of Technology, Poland

17:40
TuC5.5 **Multivariable PID Controllers for Dynamic Process**
Mashitah Che Razali[1], Norhaliza Abdul Wahab[1], Pedro Balaguer[2], Mohd Fuaad Rahmat[1], Sharatul Izah Samsudin[3]
[1]Universiti Teknologi Malaysia, Malaysia; [2]Universitat Jaume I de Castello, Spain; [3]University Teknikal Malaysia Melaka, Malaysia

Lecture

Tuesday, June 25th, 2013

TuC6 **Robotics and Motion Control (Ⅳ)**
Room: Barbaros A
Time: Tuesday, June 25, 2013, 16:20 - 18:20
Chair: Rahib Abiyev, *Near East University, Turkey*
Co-Chair: Alexandra-IuliaStinean, *Politehnica University of Timisoara, Romania*

16:20
TuC6.1 **Robot Aided Passive Rehabilitation using Nonlinear Control Techniques**
Mohammad Habibur Rahman[1], Philippe S. Archambault[1], Maarouf Saad[2], C. Ochoa-Luna[2], S.B. Ferrer[2]
[1]McGill University, and Center for Interdisciplinary Research in Rehabilitation (CRIR), Canada; [2]École de Technologie Supérieure (ETS), Canada

16:40
TuC6.2 **Modeling and Control of An Electric Drive System with Continuously Variable Reference, Moment of Inertia and Load Disturbance**
Alexandra-Iulia Stinean[1], Stefan Preitl[1], Radu-Emil Precup[1], Claudia-Adina Dragos[1], Mircea-Bogdan Radac[1], Emil M. Petriu[2]
[1]Politehnica University of Timisoara, Romania; [2]University of Ottawa, Canada

17:00
TuC6.3 **Intelligent Systems Based Solutions for the Kinematics Problem of the Industrial Robot Arms**
Emre Sariyildiz[1], Kemal Ucak[2], Kouhei Ohnishi[1], Gulay Oke[2], Hakan Temeltas[2]
[1]Keio University, Japan; [2]Istanbul Technical University, Turkey

17:20
TuC6.4 **Leader-Follower Formation Control of Nonholonomic Wheeled Mobile Robots using only Position Measurements**
Hasan A Poonawala, Aykut C Satici, Mark W Spong
University of Texas at Dallas, USA

17:40
TuC6.5 **Control of Soccer Robots Using Behaviour Trees**
Rahib H. Abiyev, Nurullah Akkaya, Ersin Aytac
Near East University, Turkey

18:00
TuC6.6 **A Non-Communicating Multi-Robot System with Switchable Formations**
Ahmet Cezayirli[1], Feza Kerestecioğlu[2]
[1]Forevo Digital Design Ltd., Turkey; [2]Kadir Has University, Turkey

Poster

Tuesday, June 25th, 2013

Post-B
Time: Tuesday, June 25, 2013, 14:00 - 16:00
Room: Poster Area
Chair: Jiuqiang Han, *Xi'an Jiaotong University, China*

Post-B.1 **Optimized Real-Time Soft Analyzer for Chemical Process Using Artificial Intelligence**
Mohammad Mahdi Karimi[1], Alireza Fatehi[2], Reza Ebrahimpour[1], Ali Shamsaddinlou[2]
[1]Training University,Iran; [2]K. N. Toosi University of Technology, Iran

Post-B.2 **Combined RGBD-Inertial based State Estimation for MAV in GPS-denied Indoor Environments**
Dachuan Li[1], Qing Li[1], Nong Cheng[1], Qinfan Wu[1], Jingyan Song[1], Liangwen Tang[2]
[1]Tsinghua University, China; [2]Flight Automatic Control Research Institute, China

Post-B.3 **An Effective Computational Method for Human Splice Sites Identification**
Jiuqiang Han, Ying Cui, Jun Liu, Xinman Zhang
Xi'an Jiaotong University, China

Post-B.4 **An Effective SNR Gene Prediction Algorithm Based on Merge of Nucleotide Segments (MNS)**
Jiuqiang Han, Yucheng Ma, Jun Liu, Rong Bao, Ji-guang Zheng
Xi'an Jiaotong University, China

Post-B.5 **A Control Design Method for Unknown Systems Using Frequency Domain Data**
Sofiane Khadraoui[1], Hazem Nounou[1], Mohamed Nounou[1], Aniruddha Datta[2], Shankar P. Bhattacharyya[2]
[1]Texas A&M University at Qatar, Qatar; [2]Texas A&M University, USA

Post-B.6 **Full and Partial Parametrizations of Stabilizing Controllers with Two-Stage Compensator Designs**
Kazuyoshi Mori
The University of Aizu, Japan

Post-B.7 **On Design of Multi-rate Sampled-Data Output Feedback by Maximizing RSR**
Xiayu Li[1], Huiliang Jin[1], Qingchang Zhong[2]
[1]Shanghai Jiao Tong University, China; [2]University of Liverpool, UK

Post-B.8 **Flexible Beam Robust H_∞ Loop Shaping Controller Design Using Particle Swarm Optimization**
Roja Eini
Noushirvani University of Technology, Iran

Post-B.9 **Communication Disturbance Observer Approach to Control of Integral Plant with Time Delay**
Mümin Tolga Emirler[1, 2], Bilin Aksun Güvenç[2], Levent Güvenç[2]
[1]Istanbul Technical University, Turkey; [2]Okan University, Turkey

Post-B.10 **GA-based Sliding Mode Controller for Yaw Stability Improvement**
Norhazimi Hamzah[1], Yahaya Md Sam[2], Hazlina Selamat[2], M Khairi Aripin[3]
[1]Universiti Teknologi MARA, Malaysia; [2]Universiti Teknologi Malaysia, Malysia; [3] UTeM, Malaysia

Post-B.11 **System Identification and Robust Controller Design for the Autopilot of An Unmanned Helicopter**
Ahmad Safaee[1], Hamid D. Taghirad[2]
[1]Shahid Rajaee University, Iran; [2]K. N. Toosi University of Technology, Iran

Post-B.12 **A New Image Denosing Method Based on Wavelet Transforms**
Shuqing Jiao
The Armed Police Force Engineering University, China

Post-B.13 **Cooperative Area Reconnaissance for Multi-UAV in Dynamic Environment**
Jie Chen, Wenzhong Zha, Zhihong Peng, Jian Zhang
Beijing Institute of Technology, China

Post-B.14 **Neural Network Based Terminal Iterative Learning Control for Tracking Run-Varying Reference Point**
Tianqi Liu[1], Danwei Wang[1], Ronghu Chi[2], Qiang Shen[1]
[1]Nanyang Technological University, Singapore; [2]Qingdao University of Science & Technology, China

Post-B.15 **Control Algorithm of a Smart Grid Device for Optimal Radial Feeder Load Reconfiguration**
D.V. Nicolae, J.A. Jordaan
Tshwane University of Technology, South Africa

Post-B.16 **Image Classification with Bag-of-Words Model Based on Improved SIFT Algorithm**
Huilin Gao, Lihua Dou, Wenjie Chen, Jian Sun
Beijing Institute of Technology, China

Post-B.17 **RBF Neural Network Controller Based on OLSSVR**
Kemal Ucak, Gulay Oke
Istanbul Technical University, Turkey

Post-B.18 **Omni-Directional Spherical Mobile System Control**
Chih-Hui Chiu[1], Ya-Fu Peng[2]
[1]Yuan-Ze University, Taiwan; [2]Chien Hsin University of Science and Technology, Taiwan

Post-B.19 **Iterative Learning Control Method for Permanent Magnet Synchronous Liner Motor based on Vector Control**
Rongmin Cao, Heshuai Jia
Beijing Information Science & Technology of University, China

Post-B.20 **Fault Diagnosis based on Wavelet-Entropy Feature Extraction and Information Fusion**
MohammadReza Vazifeh, Farzaneh Abbasi

Wuhan University of Technology, China

Post-B.21 **Temperature Measurement Control Problem of Vibrational Viscometers Considering Heat Generation and Heat Transfer Effect of Oscillators**
Ali Akpek, Chongho Youn, Toshiharu Kagawa
Tokyo Institute of Technology, Japan

Post-B.22 **A New Approach Based on Boundary Analysis of Reconstructed Phase Space for Fault Diagnosis**
Ilhan Aydin, Mehmet KARAKÖSE, Erhan Akin
Firat University, Turkey

Post-B.23 **Exact-estimator-based Terminal Sliding Mode Control System Design**
Jeng-Dao Lee[1], Suiyang Khoo[2], Jia-Qi Lu[1]
[1]National Formosa University, Taiwan; [2]Deakin University, Australia

Post-B.24 **An Algorithm of Decentralized Encircling Coverage and Termination of a Moving Deformable Region by Mobile Robotic Sensor/Actuator Networks**
Andrey V. Savkin[1], Zhiyu Xi[1], Hung T. Nguyen[2]
[1]The University of New South Wales, Australia; [2]University of Technology, Australia

Post-B.25 **Locating WiFi Access Points in Indoor Environments using Non-monotonic Signal Propagation Model**
Saeed Varzandian, Hasan Zakeri, Sadjaad Ozgoli
Tarbiat Modares University, Iran

Post-B.26 **A Sensory Data Tracking Approach to Bipedal Gait Compensation Control on Slope Surfaces**
Chiao-Min Wu, Kai-Tai Song
National Chiao Tung University, Taiwan

Post-B.27 **Optimization Based Algorithm for Correction of Systematic Odometry Errors of Mobile Robot**
Senka Krivić, Aida Mrzić, Jasmin Velagić, Nedim Osmić
University of Sarajevo, Bosnia and Herzegovina

Post-B.28 **FA System Integration using Robotic Intelligent componets**
Young-Ho Choi, Jung-Woo Lee, Sung-Jo Yun, Jin-Ho Suh, Sung-Ho Hong, Jong-Deuk Lee
Korea Institute of Robot and Convergence, South Korea

Post-B.29 **Detection and Control of a Wheeled Mobile Robot Based on Magnetic Navigation**
Guan Sun, Dan Feng, Youtong Zhang, Dongdong Weng
Beijing Institute of Technology, China

Post-B.30 **Time-Varying Formation Control for Nonholonomic Wheeled Mobile Robots via Synchronization**
Ibrahim M.H. Sanhoury, Shamsudin H.M. Amin, Abdel Rashid Husain
Universiti Teknologi Malaysia, Malaysia

Post-B.31 **Localization of an Autonomous Underwater Vehicle Using a Decentralized**

Fusion Architecture
Moslem Karimi[1], Mohammad Bozorg[1], Alireza Khayatian[2]
[1]Yazd University, Iran; [2]Shiraz University, Iran

Post-B.32 **Stereo Vision Based Robots: Fast and Robust Obstacle Detection Method**
Masoud Samadi, Mohd Fauzi Othman, Shamsudin H. M. Amin
Universiti Teknologi Malaysia, Malaysia

Post-B.33 **Divergence-based Odor Source Declaration**
Gonçalo Cabrita, Lino Marques
University of Coimbra, Portugal

Post-B.34 **Combating the Effects of Delay in Periodic-Review Perishable Inventory Systems**
Przemyslaw Ignaciuk
Lodz University of Technology, Poland

Post-B.35 **Malicious Data Injection Attack Against Power System State Estimation Based on Orthogonal Matching Pursuit**
Chao Zhang, Aimin Zhang, Zhigang Ren, Yuanxin Zhang, Yingsan Geng
Xi'an Jiaotong University, China

Post-B.36 **Development of Power Add on Drive Wheelchair and Its Evaluation**
Yoon Heo, Eung-Pyo Hong, Mu-Seong Mun
Korea Orthopedics & Rehabilitation Engineering Center, South Korea

Post-B.37 **Manual Control of Inverted Pendulum with Different Input from Joystick**
Jianning Hua[1], Yujie Cui[1], Pu Shi[1], Fangping Yang[2], Xuezhu Wang[2]
[1]Northeastern University at Qinhuangdao, China; [2]Shenyang Institute of Automation, Chinese Academy of Sciences, China

Post-B.38 **Modeling Overtaking Behavior in Virtual Reality Traffic Simulation System**
Yue Yu[1], Abdelkader El Kamel[1], Guanghong Gong[2]
[1]Ecole Centrale de Lille, France; [2]Beihang University, China

Post-B.39 **Infinite horizon MPC applied to an industrial FCC converter**
Márcio A. F. Martins, Darci Odloak
University of São Paulo, Brazil

Post-B.40 **Duopolistic dynamics in markets with competitive advertising and churn**
Amit Bhaya, Eugenius Kaszkurewicz
Federal University of Rio de Janeiro, Brazil

Post-B.41 **A Measurement Based Approach to Mechanical Systems**
Navid Mohsenizadeh[1], Hazem Nounou[2], Mohamed Nounou[2], Aniruddha Datta[1], Shankar P. Bhattacharyya[1]
[1]Texas A&M University, USA; [2]Texas A&M University at Qatar, Qatar

Post-B.42 **Sensor/Actuator System for Internet Delays and Packet Losses**
Miguel Diaz-Cacho, Emma Delgado, Pablo Falcon, Antonio Barreiro
University of Vigo, Spain

Post-B.43 **Faults Diagnosis of Induction Machine by Using Feed-Forward Neural Networks and Genetic Algorithms**

M. Hasni[1], S. Hamdani [1], Z.M. Taibi[2], O. Touhami[2], R. Ibtiouen[2], A. Rezzoug[3]
[1]Université des Sciences et de la Technologie H. Boumediene, Algiers; [2]ENPolytechnique d'Alger, Alger; [3]Université Henry Poincaré, Vandoeuvre-lès-NancyFrance

Post-B.44 **Adaptive TSKCMAC-Identification-Based Intelligent Backstepping Control for Nonlinear Chaotic Systems**

Ya-Fu Peng[1], Chih-Hui Chiu[2], Hsing-Yueh Cho[1], Hsin-Min Wen[1]
[1]Chien Hsin University of Science and Technology, Taiwan; [2]Yuan-Ze University, Taiwan

Post-B.45 **Adaptive Sliding Mode Control Strategy Design for DSP-based Maglev Driving and Control System**

Rou-Yong Duan[1], Jeng-Dao Lee[2], Ming-Jui Wu[2]
[1]Hungkuang University, Taiwan; [2]National Formosa University, Taiwan

Post-B.46 **Cognitive Radio Networks for Smart Grid Communications**

Fang Liu, Jinkuan Wang, Yinghua Han, Peng Han
Northeastern University, China

Post-B.47 **A Model Predictive Control of Transparent Bilateral Teleoperation Systems Under Uncertain Communication Time-Delay**

Seyyed Vahid Ghoushkhanehee, Alireza AlfiShahrood
Shahrood University of Technology, Iran

Post-B.48 **Sliding-Mode Control of a Wheeled Vehicle Using Neural Network Estimator**

Anugrah Pamosoaji[1], Pham Thuong Cat[2], Keum-Shik Hong[1]
[1]Pusan National University, South Korea; [2]Institute of Information Technology, Vietnam

Lecture

Wednesday, June 26th, 2013

WeA1 **Data-driven Control System Design and Analysis**
Room: Inonu
Time: Wednesday, June 26, 2013, 8:40 - 10:20
Chair: Shaoyuan Li, *Shanghai Jiao Tong University, China*
Co-Chair: Zhongsheng Hou, *Beijing Jiaotong University, China*

8:40
WeA1.1 **A New Method of Direct Data-driven Predictive Controller Design**
Hua Yang[1], Shaoyuan Li[2]
[1]Ocean University of China, China; [2]Shanghai Jiao Tong University, China

9:00
WeA1.2 **Data-driven Based Predictive Controller Design for Vapor Compression Refrigeration Cycle System**
Xiaohong Yin[1], Shaoyuan Li[1], Jing Wu[1], Ning Li[1], Wenjian Cai[2], Kang Li[3]
[1]Shanghai Jiao Tong University, China; [2]Nanyang Technological University, Singapore; [3]Queen's University, UK

9:20
WeA1.3 **An Iterative Predictive Learning Control Approach With Application to Train Trajectory Tracking**
Heqing Sun, Zhongsheng Hou
Beijing Jiaotong University, China

9:40
WeA1.4 **Neural Network based Model Predictive Control Performance Monitoring-Data -driven Approach**
Lu Wang[1], Ning Li[1], Shaoyuan Li[1], Kang Li[2]
[1]Shanghai Jiao Tong University, China; [2]Queen's University, UK

10:00
WeA1.5 **Data-driven Water Supply System Modeling**
Yuan Zhang[1], Jing Wu[1], Ning Li[1], Shaoyuan Li[1], Kang Li[2]
[1]Shanghai Jiao Tong University, China; [2]Queen's University, UK

Lecture

Wednesday, June 26th, 2013

WeA2 **Linear Control (Ⅱ)**
Room: Malazgirt 1
Time: Wednesday, June 26, 2013, 8:40 - 10:20
Chair: Md. Sohel Rana, *University of New South Wales, Australia*
Co-Chair: Alejandro Maass, *Universidad Tecnica Federico Santa Maria, Chile*

8:40
WeA2.1 **Performance Limitations in the Control of LTI Plants over Fading Channels**
Alejandro I. Maass, Eduardo I. Silva
Universidad Técnica Federico Santa María, Chile

9:00
WeA2.2 **Explicit Conditions for Stabilization over Noisy Channels Subject to SNR Constraints**
Francisco J. Vargas[1], Eduardo I. Silva[1], Jie Chen[2]
[1]Universidad Técnica Federico Santa María, Chile; [2]City University of Hong Kong, Hong Kong

9:20
WeA2.3 **Performance Evaluation of Non-Minimum Phase Linear Control Systems with Fractional Order Partial Pole-Zero Cancellation**
Nazli Khalili Zadeh Mahani[1], Ali Khaki Sedigh[2], Farshad Merrikh Bayat[3]
[1]Islamic Azad University South Tehran Branch, Iran; [2]K.N.Toosi University of Technology, Iran; [3]University of Zanjan, Iran

9:40
WeA2.4 **Leader-Following Consensus Control for Markovian Switching Multi-agent Systems with Interval Time-Varying Delays**
MyeongJin Park[1], OhMin Kwon[1], Ju Hyun Park[2], Sang Moon Lee[3], Eun Jong Cha[1], Tae Hee Lee[2]
[1]Chungbuk National University, South Korea; [2]Yeungnam University, South Korea; [3]Daegu University, South Korea

10:00
WeA2.5 **Constructing Hyperchaotic Systems with Multiple Positive Lyapunov Exponents**
Chaowen Shen[1], Simin Yu[1], Jinhu Lu[2], Guanrong Chen[3]
[1]Guangdong University of Technology, China; [2]Chinese Academy of Sciences, China; [3]City University of Hong Kong, Hong Kong

Lecture

Wednesday, June 26th, 2013

WeA3 **Aerospace (Ⅱ)**
Room: Malazgirt 2
Time: Wednesday, June 26, 2013, 8:40 - 10:20
Chair: Wei Shi, *Shanghai Jiao Tong University, China*
Co-Chair: Drago Matko, *University of Ljubljana, Slovenia*

8:40
WeA3.1 **Self-Tuning Dynamic Matrix Control of Two-Axis Autopilot For Small Aeroplanes**
Drago Matko[1], Tine Tomažič[2], Matija Arh[1], Igor Škrjanc[1]
[1]University of Ljubljana, Slovenia; [2]Pipistrel d.o.o., Slovenia

9:00
WeA3.2 **Pitch/Yaw Momentum Position Control of Roll Momentum Biased Satellite System**
Kyung-Hyun Oh, Hae-Yeong Gwon
Dong-A University, South Korea

9:20
WeA3.3 **A Guidance Strategy for Multi-player Pursuit and Evasion Game in Maneuvering Target Interception**
Ting-Kuo Wang, Li-Chen Fu
National Taiwan University, Taiwan

9:40
WeA3.4 **A Pseudospectral Approach to Ascent Trajectory Optimization for Hypersonic Air-Breathing Vehicles**
Wei Shi, Zhongliang Jing, Yongsheng Yang, Hui Ge
Shanghai Jiao Tong University, China

10:00
WeA3.5 **The Effect of Measurement for Time Synchronization Error in the Tightly Coupled GPS/INS Integration**
Cheol-Kwan Yang, Duk-Sun Shim
Chung-Ang University, South Korea

Lecture

Wednesday, June 26th, 2013

WeA4 **Human-Machine Systems**
Room: Kocatepe
Time: Wednesday, June 26, 2013, 8:40 - 10:20
Chair: Ozkan Cigdem, *KU Leuven, Belgium*
Co-Chair: Yunjin Gu, *KAIST, South Korea*

8:40
WeA4.1 **Caterpillar Mechanism for A Portable Haptic Interface of Endoscopy Simulation**
Yunjin Gu, Doo Yong Lee
KAIST, South Korea

9:00
WeA4.2 **Design of A Haptic Interface for Simulation of Needle Intervention**
Seung Gyu Kang, Doo Yong Lee
KAIST, South Korea

9:20
WeA4.3 **Hands Tracking with Self-occlusion Handling in Cluttered Environment**
Bor-jeng Chen[1], Cheng-Ming Huang[2], An-Sheng Liu[1], Ting-En Tseng[1], Li-Chen Fu[1]
[1]National Taiwan University, Taiwan; [2]National Taipei University of Technology, Taiwan

9:40
WeA4.4 **Development of Power Assist System with Motion Estimation Using Model Predictive Control**
Takahiko Mori, Yuya Tanaka
Gifu National College of Technology, Japan

10:00
WeA4.5 **Classical and Subsequence Dynamic Time Warping for Recognition of Rigid Body Motion Trajectories**
Ozkan Cigdem, Tinne De Laet, Joris De Schutter
KU Leuven, Belgium

Lecture

Wednesday, June 26th, 2013

WeA5 **Complex Systems and Networks (Ⅲ)**
Room: Fevzi Cakmak
Time: Wednesday, June 26, 2013, 8:40 - 10:20
Chair: Jinde Cao, *Southeast University, China*
Co-Chair: Min Meng, *Shandong University, China*

8:40
WeA5.1 **An Algebraic Approach to Hierarchical LQR Synthesis for Large-Scale Dynamical Systems**
Daisuke Tsubakino[1], Taiki Yoshioka[2], Shinji Hara[2]
[1]Hokkaido University, Japan; [2]University of Tokyo, Japan

9:00
WeA5.2 **Controllability of Higher Order Switched Boolean Control Networks**
Lequn Zhang, Jun-e Feng, Min Meng
Shandong University, China

9:20
WeA5.3 **State Estimation for Genetic Regulatory Networks with Time-varying Delay Using Stochastic Sampled-data**
Tae Hee Lee[1], MyeongJin Park[2], OhMin Kwon[2], Ju Hyun Park[1],Sang Moon Lee[3]
[1]Yeungnam University, South Korea; [2]Chungbuk National University, South Korea; [3]Daegu University, South Korea

9:40
WeA5.4 **Consensus of Fractional-order Linear Systems**
Chao Song[1, 2], Jinde Cao[1]
[1]Southeast University, China; [2]Nanjing Institute of Technology, China

Lecture

Wednesday, June 26th, 2013

WeA6 **Mechatronics (I)**
Room: Barbaros A
Time: Wednesday, June 26, 2013, 8:40 - 10:20
Chair: David Lindr, *Technical University of Liberec, Czech Republic*
Co-Chair: Yang Chifu, *Harbin Institute of Technology, China*

8:40
WeA6.1 **Micro Defect Detection in Solar Cell Wafer Based on Hybrid Illumination and Near-Infrared Optics**
Gyung-bum Ki
Korea National University of Transportation, South Korea

9:00
WeA6.2 **Feedback Control Method Based on Direct Servomechanism Speed Sensing and Processing to Reduce Residual Vibration**
David Lindr, Pavel Rydlo
Technical University of Liberec, Czech Republic

9:20
WeA6.3 **Force Observer-Based Control for a Rehabilitation Hand Exoskeleton System**
Nirvana Popescu[1], Decebal Popescu[1], Mircea Ivanescu[2], Dorin Popescu[2], Cristian Vladu[2], Ileana Vladu[2]
[1]University Politehnica Bucharest, Romania; [2]University of Craiova, Romania

9:40
WeA6.4 **UMAY1: A Modular Humanoid Platform for Education and Rehabilitation of Children with Autism Spectrum Disorders**
Pinar Boyraz,Bora Yigit,Okan Bicer
Istanbul Technical University, Turkey

10:00
WeA6.5 **Nonlinear Modal Space Decoupled Control of Flight Simulator Motion System**
CF Yang, Zhiyong Qu, Li Xiang, JW Han
Harbin Institute of Technology, China

Lecture

Wednesday, June 26th, 2013

WeA7 **Robust Control (Ⅲ)**
Room: Barbaros B
Time: Wednesday, June 26, 2013, 8:40 - 10:20
Chair: Yusuke Watanabe, *Nanzan University, Japan*
Co-Chair: Renan Pereira, *InstitutoTecnologico de Aeronautica, Brazil*

8:40
WeA7.1 **LMI Based Model Order Reduction Considering the Minimum Phase Characteristic of the System**
Gholamreza Khademi, Haniyeh Mohammadi, Maryam Dehghani
Shiraz University, Iran

9:00
WeA7.2 **Robust LQ Control with Adaptive Law for MIMO Descriptor System**
Yusuke Watanabe, Naruya Katsurayama, Isao Takami, Gan Chen
Nanzan University, Japan

9:20
WeA7.3 **H_∞ Loop Shaping for Positioning Control System with Nonlinear Friction**
Yuki Sugiyama[1], Masakazu Nairo[2], Gan Chen[2], Isao Takami[2]
[1]Mitsubishi Heavy Industries Ltd., Japan; [2]Nanzan University, Japan

9:40
WeA7.4 **Design and Application of Gain-Scheduling Control for A Hover: Parametric H_∞ Loop Shaping Approach**
Renan Pereira, Karl Heinz Kienitz
InstitutoTecnologico de Aeronautica, Brazil

10:00
WeA7.5 **Improved Results on Frequency Weighted Optimal Hankel Norm Model Reductionm**
Deepak Kumar[1], S. K. Nagar[2]
[1]M. N. National Institute of Technology Allahabad, India; [2]IIT (BHU) Varanasi, India

Lecture

Wednesday, June 26th, 2013

WeB1 **Complex Mechatronic Systems**
Room: Inonu
Time: Wednesday, June 26, 2013, 10:40 - 12:20
Chair: Erdal Kayacan, *University of Leuven, Belgium*
Co-Chair: Peter Vrancx, *Vrije Universiteit Brussel, Belgium*
Wouter Saeys, *University of Leuven, Belgium*

10:40
WeB1.1 **Model-Free and Model-Based Time-Optimal Control of A Badminton Robot**
Melody Liu[1], Bruno Depraetere[2], Greg Pinte[2], Ivo Grondman[1], Robert Babuska[1]
[1]Delft University of Technology, the Netherlands; [2]Flanders' Mechatronics Technology Centre, Belgium

11:00
WeB1.2 **Implementation of a Fractional PD Controller Tuned by Genetic Algorithm for A Steward Platform**
Yu Zhong, Abhishek Dutta, Cosmin Copot, Clara Mihaela Ionescu. Robin De Keyser
Ghent University, Belgium

11:20
WeB1.3 **Stabilizing Multiple Sliding Surface Control of Quad-rotor Rotorcraft**
Nikola Shakev[1], Andon Topalov[1], Kostadin Shiev[1], Okyay Kaynak[2]
[1]Technical University of Sofia, Bulgaria; [2]Bogazici University, Turkey

11:40
WeB1.4 **Model-Free Learning of Wire Winding Control**
Abdel Rodriguez[1], Peter Vrancx[1], Ann Nowe[1], Erik Hostens[2]
[1]Vrije Universiteit Brussel, Belgium; [2]Flanders' Mechatronics Technology Centre, Belgium

12:00
WeB1.5 **On On-Line Sampled-data Optimal Learning for Dynamic Systems with Uncertainties**
Shou-Han Zhou[1], Ying Tan[1], Denny Oetomo[1], Christopher Freeman[2], Iven Mareels[1]
[1]University of Melbourne, Australia; [2]University of Southampton, UK

Lecture

Wednesday, June 26th, 2013

WeB2 **Robotics and Motion Control (Ⅴ)**
Room: Malazgirt 1
Time: Wednesday, June 26, 2013, 10:40 - 12:40
Chair: Min Tan, *Chinese Academy of Sciences, China*
Co-Chair: Selim Ozel, *Sabanci University, Turkey*

10:40
WeB2.1 **Humanoid Robot Orientation Stabilization by Shoulder Joint Motion During Locomotion**
Selim Ozel, Sefik Emre Eskimez, Kemalettin Erbatur
Sabanci University, Turkey

11:00
WeB2.2 **Shop-floor Controller Based on RT-Middleware Technology**
FerencTajti[1, 2], GezaSzayer[1], Bence Kovac[1], Peter Korondi[1]
[1]Budapest University of Technology and Economics, Hungary; [2]MTA-ELTE Comparative Ethological Research Group, Hungary

11:20
WeB2.3 **Adaptive Unstructured Road Detection Using Close Range Stereo Vision**
Kadri Bugra Ozutemiz, Akif Hacinecipoglu, Bugra Koku, Erhan Ilhan Konukseven
Middle East Technical University, Turkey

11:40
WeB2.4 **A Trajectory Prediction Algorithm Based on Fuzzy Rectification for Spinning Ball**
RenYanqing, Zaojun Fang, De Xu, Min Tan
Institute of Automation, Chinese Academy of Sciences, China

12:00
WeB2.5 **VF-RRT: Introducing Optimization into Randomized Motion Planning**
Inyoung Ko, Beobkyoon Kim, Frank Chongwoo Park
Seoul National University, South Korea

12:20
WeB2.6 **Experimental External Force Estimation Using a Non-Linear Observer for 6 axes Flexible-Joint Industrial Manipulators**
Jinna Qin, François Leonard, Gabriel Abba
National Engineering College of Metz, France

Lecture

Wednesday, June 26th, 2013

WeB3 **Energy Technology (Ⅱ)**
Room: Malazgirt 2
Time: Wednesday, June 26, 2013, 10:40 - 12:00
Chair: Qijun Chen, *Tongji University, China*
Co-Chair: Hadi Kanaan, *Saint-Joseph University, Lebanon*

10:40
WeB3.1 **Control of Solid Oxide Fuel Cells: An Overview**
Marvin Leung[1], Gunhyung Park[1], Verica Radisavljevic-Gajic[2]
[1]Rutgers University, USA; [2] Villanova University, USA

11:00
WeB3.2 **Modeling, Control and Simulation of DFIG for Maximum Power Point Tracking**
Mahammad Sleiman[1, 2], Bachir Khedjar[3], Abdelhamid Hamadi[3], Kamal Al-Haddad[3], Hadi Y. Kanaan[2]
[1]Lebanese University, Lebanon; [2]Saint-Joseph University, Lebanon; [3]Ecole de Technologie Superieure, Canada

11:20
WeB3.3 **Energy Transfer Modeling of Thermoacoustic Engines with Boundary Resonant Control**
Boe-Shong Hong, Chia-Yu Chou, Tsu-Yu Lin
National Chung Cheng University, Taiwan

11:40
WeB3.4 **Prediction of Building Lighting Energy Consumption Based on Support Vector Regression**
Dandan Liu[1, 2], Qijun Chen[1]
[1]Tongji University, China; [2]Shanghai University of Electric Power, China

12:00
WeB3.5 **Open-Loop Nash Equilibrium Problem in Polynomial Stochastic Differential Games with Incomplete Information**
Manuel Jimenez-Lizarraga, Michael Basin, Celeste Rodriguez, Pablo Rodriguez-Ramirez
Autonomous University of Nuevo Leon, Mexico

Lecture

Wednesday, June 26th, 2013

WeB4 **Recent Advances in Switched and Discontinuous Systems**
Room: Kocatepe
Time: Wednesday, June 26, 2013, 10:40 - 13:00
Chair: Michael Basin, *Autonomous University of Nuevo Leon, Mexico*
Co-Chair: Peng Shi, *Victoria University, Australia*

10:40
WeB4.1 **Input-Output Finite-Time Stability of Positive Switched Linear Systems with State Delays**
Shipei Huang[1], Hamid Reza Karimi[2], Zhengrong Xiang[1]
[1]Nanjing University of Science and Technology, China; [2]University of Agder, Norway

11:00
WeB4.2 **A Super-Twisting Algorithm for Systems of Relative Degree More Than One**
Michael Basin, Pablo Rodriguez-Ramirez
Autonomous University of Nuevo Leon, Mexico

11:20
WeB4.3 **Mean-Square Filtering Problem for Stochastic Polynomial Systems with Gaussian and Poisson Noises**
Michael Basin, Pablo Rodriguez-Ramirez
Autonomous University of Nuevo Leon, Mexico

11:40
WeB4.4 **H_∞ Controller Design for the Synchronization of a Hyper-Chaotic System**
Hamid Reza Karimi[1], Peng Shi[2, 3], Bo Wang[4,5]
[1]University of Agder, Norway ;[2]The University of Adelaide, Australia; [3]Victoria University, Australia; [4]Xinhua University, China; [5]University electronic Science and Technology of China, China

12:00
WeB4.5 **Chaos Synchronization for a Class of Chaotic Systems via H_∞ Control Technique**
Peng Shi[1,2], Hamid Reza Karimi[3], Bo Wang[4,5]
[1]The University of Adelaide, Australia; [2] Victoria University, Australia; [3]University of Agder, Norway; [4]Xinhua University, China; [5]University electronic Science and Technology of China, China

12:20
WeB4.6 **Central Energy-to-Peak Filter Design for Linear Systems**
Michael Basin, Manuel Serna, Pedro Ivan Lopez-Hernandez
Autonomous University of Nuevo Leon, Mexico

Lecture

Wednesday, June 26th, 2013

WeB5 **Fault Detection (Ⅰ)**
Room: Fevzi Cakmak
Time: Wednesday, June 26, 2013, 10:40 - 12:20
Chair: Fouzi Harrou, *Texas A&M University at Qatar, Qatar*
Co-Chair: Mourad Hashi, *University of Sciences and Technology Houari Boumedience, Algeria*

10:40
WeB5.1 **A Fault-Tolerant Control Scheme for a Hovering Underwater Vehicle subject to Region Function Formulation**
Zool Ismail[1], Ahmad Athif Mohd Faudzi[1], Matthew Dunnigan[2]
[1]Universitiy teknologi Malaysia, Malaysia; [2]Heriot-Watt University, UK

11:00
WeB5.2 **Adaptive Kernel Principal Component Analysis for Nonlinear Dynamic Process Monitoring**
Chakour Chouaib, Harkat Mohamed-Faouzi, Djeghaba Messaoud
Badji Mokhtar Annaba University, Algeria

11:20
WeB5.3 **A Statistical Fault Detection Strategy using PCA Based EWMA Control Schemes**
Fouzi Harrou, Mohamed Nounou, Hazem Nounou
Texas A&M University at Qatar, Qatar

11:40
WeB5.4 **Approximation of a Thermal Diffusive Interface Fractional-Order System – Part 1: Application to A Semi-Infinite Plan**
Roy Abi Zeid Daou[1], Fady Christophy[1, 2], Riad Assaf[1, 2], Xavier Moreau[2]
[1]Lebanese German University, Lebanon; [2]University of Bordeaux I, France

12:00
WeB5.5 **Approximation of A Thermal Diffusive Interface Fractional-Order System – Part 2: Application to A Finite Plane**
Fady Christophy[1, 2], Roy Abi Zeid Daou[1], Riad Assaf[1, 2], Xavier Moreau[2]
[1]Lebanese German University, Lebanon; [2]University of Bordeaux I, France

Lecture

Wednesday, June 26th, 2013

WeB6 **Identification and Estimation (II)**
Room: Barbaros A
Time: Wednesday, June 26, 2013, 10:40 - 12:40
Chair: Huanshui Zhang, *Shandong University, China*
Co-Chair: Iyad Hashlamon, *Sabanci University, Turkey*

10:40
WeB6.1 **Robust Smoothing for Discrete-Time Uncertain Nonlinear Systems**
Abhijit Kallapur, Ian Petersen
University of New South Wales, Australia

11:00
WeB6.2 **Low-Complexity MISO Models of T1DM Glucose Metabolism**
Marzia Cescon[1], Rolf Johansson[1], Eric Renard[2]
[1]Lund University, Sweden; [2]University Hospital and University of Montpellier, France

11:20
WeB6.3 **Simple Virtual Slip Force Sensor for Walking Biped Robots**
Iyad Hashlamon, Kemalettin Erbatur
Sabanci University, Turkey

11:40
WeB6.4 **Robust State Estimation via the Descriptor Kalman Filtering Method**
Chien-Shu Hsieh
Ta Hwa University of Science and Technology, Taiwan

12:00
WeB6.6 **Modeling and Identification of the Yaw Dynamics of an Autonomous Tractor**
Erkan Kayacan, Erdal Kayacan, Herman Ramon, Wouter Saeys
University of Leuven (KU Leuven), Belgium

Lecture

Wednesday, June 26th, 2013

WeB7 **Multivariable Control**
Room: Barbaros B
Time: Wednesday, June 26, 2013, 10:40 - 11:40
Chair: Magdi S. Mahmoud, *King Fahd University of Petroleum and Minerals, Saudi Arabia*
Co-Chair: Khadija Dehri, *University of Gabes, Tunisia*

10:40
WeB7.1 **System Stabilization by Unsymmetrical Saturated State Feedback Control**
Mohamed Benhayoun[1], Abdellah Benzaouia[1], Fouad mesquine[1], Ahmed EL Hajjaji[2]
[1]University Cadi Ayyad, Morocco; [2]Universite de Picardie, France

11:00
WeB7.2 **Rejection of Sinusoidal Disturbances with Time Varying Frequency for Discrete Multivariable Systems: Adaptive Control with Q-Parametrization**
Dehri Khadija, Ltaief Majda, Nouri Ahmed Said
University of Gabes, Tunisia

11:20
WeB7.3 **New Results for Feedback Control of Discrete Systems with Time Scales**
Magdi S. Mahmoud
King Fahd University of Petroleum and Minerals, Saudi Arabia

Lecture

Wednesday, June 26th, 2013

WeC1 **Intelligent and Learning Control**
Room: Inonu
Time: Wednesday, June 26, 2013, 14:00 - 15:40
Chair: Tansu Alpcan, *University of Melbourne, Australia*
Co-Chair: Bin Xu, *Northwestern Polytechnical University, China*

14:00
WeC1.1 **Artificial Intelligent Control for Indoor Lighting Basing on Person Number in Classroom**
Yifei Chen, Qian Sun
China Agricultural University, China

14:20
WeC1.2 **Adaptive Discrete-time Control with Dual Neural Networks for HFV via Back-stepping**
Jianxin Ren, Xingmei Zhao, Bin Xu
Northwestern Polytechnical University, China

14:40
WeC1.3 **Learning and Information for Dual Control**
Tansu Alpcan, Iman Shames, Michael Cantoni, Girish Nair
University of Melbourne, Australia

15:00
WeC1.4 **Design and Evaluation of Motion Path for Specific Muscle Strengthening Using Neural Network**
Kenta Itokazu, Takanori Miyoshi, Kazuhiko Terashima
Toyohashi University of Technology, Japan

Lecture

Wednesday, June 26th, 2013

WeC2 **Robotics and Motion Control（Ⅵ）**
Room: Malazgirt 1
Time: Wednesday, June 26, 2013, 14:00 - 15:40
Chair: Veysel Gazi, *Istanbul Kemerburgaz University, Turkey*
Co-Chair: Samet Guler, *University of Waterloo, Canada*

14:00
WeC2.1 **Humanoid Robot Navigation and Obstacle Avoidance in Unknown Environments**
Griswald Brooks, Prashanth Krishnamurthy, Farshad Khorrami
Polytechnic Institute of NYU, USA

14:20
WeC2.2 **Influence of Frictions on Gait optimization of a Biped Robot with an Anthropomorphic Knee**
Mathieu Hobon[1], Nafissa Lakbakbi Elyaaqoubi[2], Gabriel Abba[2]
[1]Arts Et Metiers Paristech, France; [2] National Engineering College of Metz, France

14:40
WeC2.3 **Mathematical Model of Group Robots**
Teturo Itami
Hiroshima International University, Japan

15:00
WeC2.4 **Using Bearing-sensitive Infrared Sensor Arrays in Motion Localization for Human-following Robots**
Yuebin Yang; Guodong Feng; Shaoxian Wang; Xuemei Guo; Guoli Wang
Sun Yat-sen University, China

15:20
WeC2.5 **Indirect Adaptive Formation Control with Nonlinear Dynamics and Parametric Uncertainty**
Samet Guler[1], Nasrettin Koksal[1], Baris Fidan[1], Veysel Gazi[2]
[1]University of Waterloo, Canada; [2]Istanbul Kemerburgaz University, Turkey

Lecture

Wednesday, June 26th, 2013

WeC3 **Nonlinear Control（Ⅳ）**
Room: Malazgirt 2
Time: Wednesday, June 26, 2013, 14:00 - 15:20
Chair: Jacob Hammer, *University of Florida, USA*
Co-Chair: Lin Tie, *Beihang University, China*

14:00
WeC3.1 **Robust Passivity-Based Surge Control of Compressors via Feedback Linearization**
Gholamreza Sari[1], Ouassima Akhrif[2], Lahcen Saydy[1]
[1]Polytechnique Montreal, Canada; [2]Ecole de Technologie Superieure, Canada

14:20
WeC3.2 **Modeling of Parrot Ardrone and passivity-based reset control**
Pablo Falcon, Antonio Barreiro, Miguel D. Cacho
Universidade de Vigo, Spain

14:40
WeC3.3 **A Simple Approach to Nonlinear State Feedback Design**
Jacob Hammer
University of Florida, USA

15:00
WeC3.4 **On Stabilization of Continuous-time and Discrete-time Symmetric Bilinear Systems by Constant Controls**
Lin Tie
Beihang University (Beijing University of Aeronautics and Astronautics), China

Lecture

Wednesday, June 26th, 2013

WeC4 **Fault Detection（Ⅱ）**
Room: Kocatepe
Time: Wednesday, June 26, 2013, 14:00 - 15:20
Chair: Z.W. Zhong, *Nanyang Technological University, Singapore*
Co-Chair: Iyad Hashlamon, *Sabanci University, Turkey*

14:00
WeC4.1 **Correlation Analysis of Cutting Force and Acoustic Emission Signals for Tool Condition Monitoring**
Z.W. Zhong[1], J.H. Zhou[1, 2], Ye Nyi Win[1]
[1]Nanyang Technological University, Singapore; [2]Singapore Institute of Manufacturing Technology, Singapore

14:20
WeC4.2 **A Ground Reaction Force Sensor Fault Detection and Recovery Method based on Virtual Force Sensors for Walking Biped Robots**
Iyad Hashlamon, Kemalettin Erbatu
Sabanci University, Turkey

14:40
WeC4.3 **Multiple Fault Diagnosis Using Mathematical Models**
Lotfi Mhamdi[1], Hedi Dhouibi[1], Noureddine Liouane[1], Simeu-Abazi.Z[2]
[1]ENIM, Tunisie; [2]G-SCOP, France

15:00
WeC4.4 **Fault Tolerant Synchronization for a Class of Uncertain Chaotic Systems versus External Disturbances using Fuzzy Sliding Mode Control**
Faezeh Farivar
Islamic Azad University, Iran

Lecture

Wednesday, June 26th, 2013

WeC5 **Mechatronics (II)**
Room: Fevzi Cakmak
Time: Wednesday, June 26, 2013, 14:00 - 15:40
Chair: Zhengtao Ding, *The University of Manchester, UK*
Co-Chair: Merve Acer, *Istanbul Technical University, Turkey*

14:00
WeC5.1 **Control of Omni-directional gaits for Six Legged Robot**
Woo-Young Jeong[1], Bong-Huan Jun[2], Hak Kyeong Kim[1], Sang Bong Kim[1]
[1]*Pukyong National University, South Korea;* [2]*KORDI/MOERI, South Korea*

14:20
WeC5.2 **Double Resonant Controller for Fast Atomic Force Microscopy**
Sajal Das , Hemanshu Pota, Ian Petersen
University of New South Wales at Australian Defence Force Academy, Canberra

14:40
WeC5.3 **Study on the Pressure Feedforward Control of Electro-Hydraulic Load System**
Biao Zhang, Yanliang Dong
Harbin Institute of Technology, China

15:00
WeC5.4 **Micro Position Control of a Designed 3-PRR Compliant Mechanism Using Experimental Models**
Merve Acer[1], Asif Sabanovic[2]
[1]*Istanbul Technical University, Turkey;* [2]*Sabanci University, Turkey*

15:20
WeC5.5 **Consensus Control of a Class of Nonlinear Systems**
Zhengtao Ding
The University of Manchester, UK

Lecture

Wednesday, June 26th, 2013

WeC6 **Fuzzy Logic Systems and Applications**
Room: Barbaros A
Time: Wednesday, June 26, 2013, 14:00 - 15:40
Chair: Erdal Kayacan, *University of Leuven, Belgium*
Co-Chair: Mojtaba Ahmadieh, *Semnan University, Semnan, Iran*

14:00
WeC5.1 **Image Processing Based Defuzzification Method for Type-2 Fuzzy Systems**
Mehmet Karaköse, Semiha Makinist
Firat University, Turkey

14:20
WeC6.2 **Sliding Mode Online Learning Algorithm for Type-2 Fuzzy CMAC Networks**
Sevil Ahmed[1], Kostadin Shiev[1], Andon V. Topalov[1], Nikola Shakev[1], Okyay Kaynak[2]
[1]Technical University of Sofia, Plovdiv campus, Bulgaria; [2]Bogazici University, Turkey

14:40
WeC6.3 **Type-2 Fuzzy Based Quadrotor Control Approach**
İsmail İlhan[1], Mehmet Karaköse[2]
[1]MuşAlparslan University, Turkey; [2]Firat University, Turkey

15:00
WeC6.4 **Sliding Mode Type-2 Fuzzy Control of Robotic Arm Using Ellipsoidal Membership Functions**
Mojtaba Ahmadieh Khanesar[1], Erdal Kayacan[2], Okyay Kaynak[3], Wouter Saeys[2]
[1]Semnan University, Iran; [2]University of Leuven, Belgium; [3]Bogazici University, Turkey

Lecture

Wednesday, June 26th, 2013

WeC7 **Process and Chemical Systems**
Room: Barbaros B
Time: Wednesday, June 26, 2013, 14:00 - 15:40
Chair: Koichi Fujiwara, *Kyoto University, Japan*
Co-Chair: Xiaoting Li, *Beijing Institute of Technology, China*

14:00
WeC7.1 **Efficient Input Variable Selection for Calibration Model Design**
Koichi Fujiwara, Manabu Kano
Kyoto University, Japan

14:20
WeC7.2 **Optimal Control of Crystallization of Alpha-Lactose Monohydrate**
Amira Rachah, Dominikus Noll
University of Toulouse, France

14:40
WeC7.3 **A Novel ASM2 and SVM Compensation Method for the Effluent Quality Prediction Model of A^2O Process**
Xiaoting Li[1], Feng Pan[1], Xiaofeng Lian[2], Miao Yu[1]
[1]*Beijing Institute of Technology, China;* [2]*Beijing technology and business university, China*

15:00
WeC7.4 **Modeling and Control for the Tube Blank Heating Quality of Seamless Tube**
Dong Xiao[1]; Shaohua Shi[1]; Jichun Wang[2]; Zhizhong Mao[1]
[1]*Northeastern University, China;* [2]*Liaoning University of Technology, China*

15:20
WeC7.5 **Multi-Scale Predictive Modeling for Achromic Power in a Lithopone Calcination Process Based on EMD**
Jing Yao; Qiliang Du
[1]*Guangzhou University, China;* [2]*South China University of Technology, China*

Lecture

Wednesday, June 26th, 2013

WeD1 **Mechatronics（Ⅲ）**
Room: Inonu
Time: Wednesday, June 26, 2013, 16:20 - 18:20
Chair: Seul Jung, *Chungnam National University, South Korea*
Co-Chair: Harun Yetkin, *Ohio State University, USA*

16:20
WeD1.1 **A Simulation Study of GPS/INS Integration for Use in ACC/CACC and HAD**
Ilker Altay[1], Bilin Aksun Guvenc[2], Levent Guvenc[2]
[1]Istanbul Technical University, Turkey; [2]Istanbul Okan University, Turkey

16:40
WeD1.2 **Stabilizing Control of An Autonomous Bicycle**
Harun Yetkin, Umit Ozguner
The Ohio State University, USA

17:00
WeD1.3 **Multi-Variable Double Resonant Controller for Fast Image Scanning of Atomic Force Microscope**
Sajal. K. Das, Hemanshu R. Pota, Ian R. Petersen
The *University of New South Wales at ADFA, Australia*

17:20
WeD1.4 **A Novel Robust MPC Based Aircraft Auto-Throttle for Performing 4D Contract Flights**
Vangelis Petratos[1], Dimitrios Dimogianopoulos[2], Fotis Kopsaftopoulos[1], Spilios Fassois[1]
[1]University of Patras, Greece; [2]Technological Education Institute of Piraeus, Greece

17:40
WeD1.5 **Fuzzy Control for Balancing of a Two-Wheel Transpoatation Robotic Vehicle: Experimetal Studies**
Hyunwook Kim[1], Seul Jung[2]
[1]LIG Nex1, South Korea; [2]Chungnam National University, South Korea

18:00
WeD1.6 **Compensation for Long Arm Payload by a Non Model-Based Disturbance Observer**
Yeonggeol Bae, Seul Jung
Chungnam National University, South Korea

Lecture

Wednesday, June 26th, 2013

WeD2 **Industrial Control Systems**
Room: Malazgirt 1
Time: Wednesday, June 26, 2013, 16:20 - 18:20
Chair: Poogyeon Park, *Pohang University of Science and Technology, South Korea*
Co-Chair: Ya-Hsuan Wang, *National Chiao Tung University, Taiwan*

16:20
WeD2.1 **Investigating the Security Control of A Water System: An Overview**
Yu-Lun Huang, Ya-Hsuan Wang
National Chiao Tung University, Taiwan

16:40
WeD2.2 **LPV Controller Design with Multiple Parameters for the Nonlinear RTAC System**
Nam Kyu Kwon, Bum Yong Park, Poogyeon Park
Pohang University of Science and Technology, South Korea

17:00
WeD2.3 **A Mechanism for Surgical Tool Manipulation**
Basem Fayez Yousef, Farah M.T. Aiash
United Arab Emirates University, UAE

Lecture

Wednesday, June 26th, 2013

WeD3 **Hybrid and Supervisory Systems**
Room: Malazgirt 2
Time: Wednesday, June 26, 2013, 16:20 - 17:20
Chair: Rong-Jong Wai, *Yuan Ze University, Taiwan*
Co-Chair: Jih-Gau Juang, *National Taiwan Ocean University, Taiwan*

16:20
WeD3.1 **Design of Intelligent Optimal Energy Management System for Hybrid Power Sources**
Rong-Jong Wai, Shih-Jie Jhung
Yuan Ze University, Taiwan

16:40
WeD3.2 **Application of Intelligent Systems and DSP to Landing Controller Design**
Cheng-Yen Yu, Jih-Gau Juang
National Taiwan Ocean University, Taiwan

17:00
WeD3.3 **Nonlinear Model Predictive Control of An Uninhabited Surface Vehicle**
Robert Sutton, Sanjay K Sharma
Plymouth University, UK

Lecture

Wednesday, June 26th, 2013

WeD4 **Manufacturing Systems**
Room: Kocatepe
Time: Wednesday, June 26, 2013, 16:20 - 18:20
Chair: Hongsheng Xia, *Jinan University, China*
Co-Chair: Hiroyasu Shigemori, *JFE Steel Corporation, Japan*

16:20

WeD4.1 **Analysis on Marketing Capabilities of IT Listed Company in China：An Empirical Study Based on Stochastic Frontier Method**
Gelin Chen[1,2], Hongsheng Xia[1]
[1]Jinan University, China; [2]Guangdong Colege of Industry and Commerce, China

17:00

WeD4.2 **Baseband Design and Software-Defined-Radio Implementation for LTE Femtocell**
Dung-Rung Hsieh, De-Jhen Huang, Jen-Yuan Hsu, Chieh-Yu Kao, Ming-Che Lin, Chun-Nan Liu, Pangan Ting
ICL/Industrial Technology Research Institute, Taiwan

17:20

WeD4.3 **Mechanical Property Control System for Cold Rolled Steel Sheet through Locally Weighted Regression Model**
Hiroyasu Shigemori
JFE Steel Corporation, Japan

17:40

WeD4.4 **Control Strategies for Removing Nitrogen Compounds in Wastewater Treatment Plants**
Henry Rafael Concepcion[1], DarkoVrecko[2], Montse Meneses[1], Ramon Vilanova[1]
[1]University at Autonoma of Barcelona, Spain; [2]Jožef Stefan Institute, Slovenia

Lecture

Wednesday, June 26th, 2013

WeD5 **Fuzzy Neural Systems**
Room: Fevzi Cakmak
Time: Wednesday, June 26, 2013, 16:20 - 17:20
Chair: Ali Saada, *Sahand University of Technology, Iran*
Co-Chair: Rong-Jong Wai, *Yuan Ze University, Taiwan*

16:20
WeD5.1 **Fuzzy-Neural-Network Control for Robot Manipulator via Sliding-Mode Design**
Rong-Jong Wai, Rajkumar Muthusamy
Yuan Ze University, Taiwan

16:40
WeD5.2 **Linearized Mathematical Model of Intelligent Pneumatic Actuator System: Position, Force and Viscosity Controls**
Ahmad Athif Mohd Faudzi[1], Teh Chuan Enn[1], Khairuddin Osman[1, 2], Zool Hilmi Ismail[1]
[1]Universiti Teknologi Malaysia, Malaysia; [2]Universiti Teknikal Malaysia Melaka, Malaysia

17:00
WeD5.3 **PH Control in Biological Process Using MMPC based on Neuro-Fuzzy Model by LOLIMOT Algorithm**
Ali Saada, Ahmad Akbari Alvanagh, Hamed Rezaei
Sahand University of Technology, Iran

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Wednesday, June 26th, 2013

WeD6 **Signal Processing**
Room: Barbaros A
Time: Wednesday, June 26, 2013, 16:20 - 17:20
Chair: Poogyeon Park, *Pohang University of Science and Technology, South Korea*
Co-Chair: Guoli Wang, *Sun Yat-Sen University, China*

16:20
WeD6.1 **A New Sparse Reconstruction Algorithm for Device-free Localization with Sensor Network**
Zhiyong Yang, Kaide Huang, Guoli Wang
Sun Yat-Sen University, China

16:40
WeD6.2 **A Bias-Compensated Affine Projection Algorithm for Noisy Input Data**
Sang Mok Jung, Nam Kyu Kwon, Poogyeon Park
Pohang University of Science and Technology, South Korea

17:00
WeD6.3 **Defect Detection and Width Estimation in Natural Gas Pipelines Uing MFL Signals**
Mojtaba Rostami Kandroodi[1], Farshad Shirani[1], Babak Nadjar Araabi[1], Majid Nili Ahmadabadi[1], Maisam Mansob Bassiri[2]
[1]University of Tehran, Iran; [2]Segal Pardazesh engineering Co., Iran

Lecture

Wednesday, June 26th, 2013

WeD7 **System Biology**
Room: Barbaros B
Time: Wednesday, June 26, 2013, 16:20 - 17:40
Chair: Miki Shimada, *Waseda University, Japan*
Co-Chair: Tatsuo Kitajima, *Malaysia-Japan International Institute of Technology, Malaysia*

16:20
WeD7.1 **Contribution of Voltage-dependent Ion Channels to Subthreshold Resonance**
Tatsuo Kitajima[1], Zhonggang Feng[2]
[1]University Teknology Malaysia, Malaysia; [2]Yamagata University, Japan

16:40
WeD7.2 **A Gain Scheduling Model of Temperature Compensation for Circadian Rhythm of Cyanobacteria**
Miki Shimada, Kenko Uchida
Waseda University, Japan

17:00
WeD7.3 **Closed-Loop Nonlinear Adaptive Control of Anti-angiogenic Tumor Therapy**
Ugur Hasirci[1], Timothy C. Burg[2], Richard E Groff[2]
[1]Duzce University, USA; [2]Clemson University, USA

Session Chairs Index

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