

2007 IEEE International Conference on Networking, Sensing and Control

Final Program



15-17 April 2007, London, United Kingdom



IEEE SYSTEMS, MAN AND CYBERNETICS SOCIETY



2007 IEEE International Conference on Networking, Sensing and Control

Sponsored by the IEEE Systems, Man and Cybernetics Society

15-17 April 2007, London, United Kingdom

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Chen, Zhixiong	Li, Shaoyuan	Yang, Simon X.
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Cheng, Xiaochun	Liu, Guoping	Yang, Zi-Jiang
CHIBELUSHI, Claude C	Liu, Julian	Yao, Yingwei
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Dai, Yang	Pereira, Rubem	Yu, Hongnian (Chair)
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Duan, Guangren	Selmic, Rastko	Yusuf, Yahaya
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Feng, Gary	Shen, Tielong	Zampieri, Sandro (Co-Chair)
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Gomma, Hesham W.	Tan, Yonghong	Zhang, Huaguang
Griffiths, Alison L	Tassabehji, Rana	Zhang, Jie
Griffiths, Alison L	Tian, GuiYun	Zhang, Sijing
Hossain, Alamgir	Wang, Bing	Zhang, Xu
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Hou, Zhong-Sheng	Wang, Jihong	Zhao, Zhengxu
Hu, Dewen	Wang, Jin	Zheng, Wei Xing
Hu, Huosheng	Wang, Lei	Zhou, Donghua
Hu, Jianghai	Wang, Long	Zhou, Tong
Hu, Sanqing	Wang, Xiao-Fan	Zhu, Haibin
Huang, Wei	Wang, Yongji	



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GREETINGS FROM THE GENERAL CHAIR AND PROGRAM CHAIR

On behalf of the organising committee, we are very pleased to welcome you to the 2007 IEEE International Conference on Networking, Sensing and Control (IEEE ICNSC '07). We hope you enjoy the next few days and find them stimulating and fruitful.

The technologies in networking, sensing and control have been playing important roles in our modern civilization and expected to stay as main characters in the future. The conference intends to bring together all researchers and developers in these fields all around the world to share their research results, to exchange ideas and to explore possible collaborations in academic and in industry. With the tremendous work of the members of the International Program Committee, the final program has a unique set of technical sessions covering latest research and development results in networking, sensing and control. It contains a number of high level theoretical papers as well as many interesting application papers.

Following the IEEE ICNSC tradition, there is an excellent set of plenary speakers. On the first day, after the official opening, there will be a plenary talk on “Next Generation Infrastructures - Network Management and Control Challenges for the Future” delivered by Professor Margot Weijnen, Delft University of Technology, Netherlands. The second day will start with the plenary talk on “Iterative Learning Control: Theoretical Challenges and Applications” given by Professor David Owens, University of Sheffield, UK. On the last day, we will have a plenary talk on “Intelligent Transportation Systems in Taiwan” presented by Professor Tsu-Tian Lee, National Taipei University of Technology, Taiwan.

We would like to take this opportunity to thank the members of the organising committee and the international program committee for their fantastic work. Our sincere thanks also go to many volunteers for their diligence and dedication in the preparation of this conference. Finally, we want to thank the Board of Governors of the IEEE Systems, Man and Cybernetics Society for their helps and guidance.

Guoping Liu
General Chair



Hongnian Yu
Program Chair



CONFERENCE HIGHLIGHTS

A total of 210 papers were submitted to the 2007 IEEE ICNSC from different parts of the world. Each paper was reviewed by two to three reviewers. The final program includes 162 papers among which 115 are the contributed papers and 47 are special session papers. There are three plenary talks, 8 special sessions, 16 lecture sessions and 2 interactive sessions. Each special session and lecture session consists of 5-6 papers. Papers were assigned with the purpose of forming coherent sessions.

CONFERENCE LOCATION

The conference venue is marked by 'Lecture Centre' on the university campus map at http://www.brunel.ac.uk/287/where_pdfs/uxmap.pdf. The local enlarged map is given below.



CONFERENCE REGISTRATION

The conference registration desk, located at the main entrance of the Lecture Centre in Brunel University, will be open during the following time:

- 09:00am - 6:00pm, Sunday, 15 April 2007
- 08:30am - 6:00pm, Monday, 16 April 2007
- 08:30am - 3:00pm, Tuesday, 17 April 2007

The full registration includes Welcome Reception, Conference Banquet, 3 Lunches, and Conference CD-ROM Proceedings.

Additional sets of CD-ROM proceedings and hard copy proceedings may be purchased at the registration desk (\$40 for CD-ROM proceedings and \$200 for hard copy proceedings). After the conference, conference proceedings may be purchased by contacting the IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854, USA, tel. 800-768-4333 (or 732-981-0060).

SOCIAL EVENTS

Welcome Reception (6:00pm - 8:00pm, Sunday, 15 April 2007)
Conference Banquet (6:30pm - 8:30pm, Monday, 16 April 2007)

HOTEL RESERVATIONS

The information about hotels is available on website at <http://www.ieee-icnsc07.org/accomodation.htm>.

TRANSPORTATION

By Air: The conference venue (Brunel University) of the 2007 IEEE ICNSC is about 6 miles away from London Heathrow Airport. For the information on London airports, visit http://www.londontown.com/London/Heathrow_Airport/.

By Bus:

- **From Heathrow Airport:** A10 "Heathrow Fast", every 15 minutes, journey time approximately 25 minutes (alight The Greenway and use river path).
- **From Stockley Park:** A10 "Heathrow Fast" as above, journey time approximately 10 minutes.
- **From West Drayton railway station:** U3 (alight Cleveland Road), 222 (alight Cowley Road and use path via University flats).
- **From Uxbridge (underground) station:** U1, U3 (alight Cleveland Road), U4 and U7 (alight Kingston Lane), 207 (alight The Greenway and use river path), 607 express (alight The Greenway and use river path), 222 and U5 (alight Cowley Road and Use path via University flats).

By Underground: (London Transport): For Uxbridge Station take the Metropolitan Line from Baker Street (and Piccadilly Line during peak hours). Then take a taxi or bus to the campus: U3 or U1 alight Cleveland Road, U4 or U7 alight Kingston Lane, U5 alight Station Road (all in direction of Hillingdon Hospital).

By Rail: Take trains from London (Paddington) or the West (Bristol) to West Drayton. Catch the 'hail and ride' bus to campus: U3 alight Cleveland Road or U5 alight Station Road.

By Foot: From Uxbridge Tube Station: Skirt around the Old Market past HSBC bank and on into Windsor Street. At the large roundabout at the bottom, turn left and cross the dual carriageway via the light-controlled crossing. Enter the end of Whitehall Road directly ahead. It is then a 15-minute walk along Whitehall Road and over the crossroads into Cleveland Road. The University Reception is on the left opposite the pond.

By Car: Parking on the Uxbridge Campus and in the local area is very restricted. Barriers control access to the site and all vehicles must display a valid permit. On arrival, visitors may apply for a permit for the day from the main Reception Desk in the Wilfred Brown Building, alongside the Cleveland Road entrance. In addition, pay-and-display parking is available on site near the Cleveland Road entrance. **Clamping is in operation for illegally parked vehicles.**

- **M4:**

Leave M4 at Junction 4 and follow signs to Uxbridge (A408). Straight across first set of traffic lights,

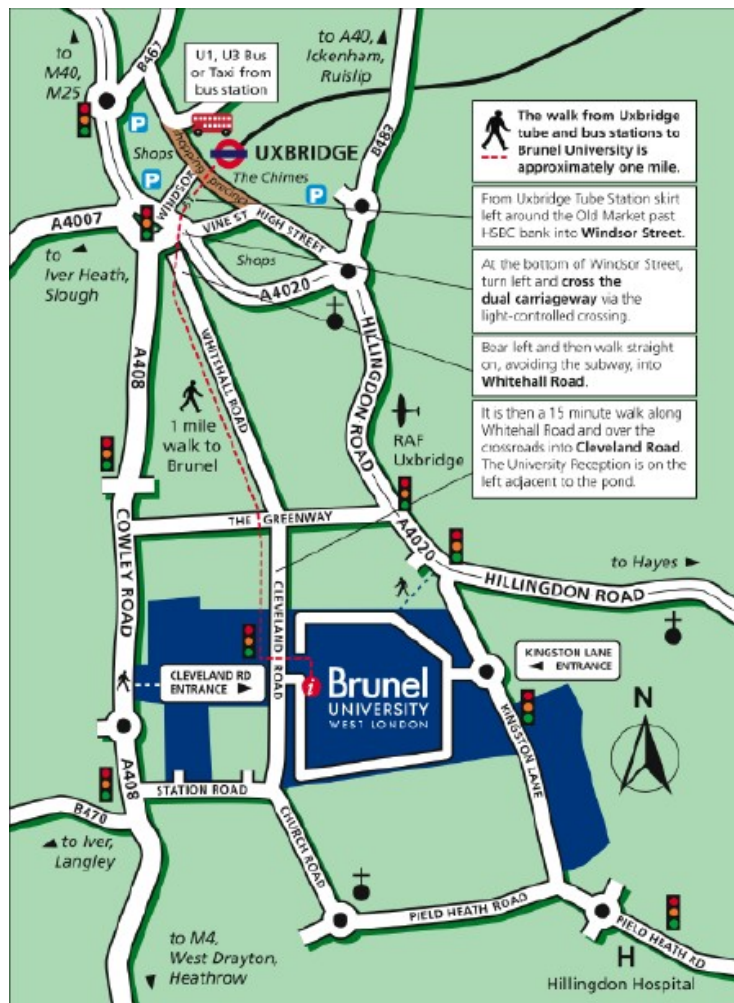
continue on A408, crossing four roundabouts. Turn right at the next set of major traffic lights. Continue ahead to next set of lights and, almost immediately take the right filter lane at second set of traffic lights into Station Road. After 300 metres turn left into Cleveland Road and, after about 150 metres, right into the University.

- **A40/M40:**

At Swakeleys Roundabout take B483 exit to Uxbridge. Follow signs across two mini-roundabouts. At major roundabout bear left onto A4020 (Brunel sign), straight ahead at the first lights, then almost immediately take second right filter turn onto Kingston Lane (signposted Brunel). The main entrance to Brunel is right at the next roundabout. follow signs for Main Reception as you enter the campus.

- **M25:**

(From North or South) Join M40 or M4 then see above.



Access by Car for Registered Disabled Visitors

Disabled parking bays are available at various locations around the campus. Please collect a permit from Main Reception, Wilfred Brown Building, Cleveland Road on arrival.

More information on transportation is available on the website at

<http://www.brunel.ac.uk/about/where/ux/uxacc>.

ABOUT LONDON

London is the largest city in Europe with a population of just under eight million. The city of London has been elected for the 2012 Olympic Games. Ethnically it's also Europe's most diverse metropolis: around two hundred languages are spoken within its confines. London has the greatest concentration of major attractions in Britain and boasts four world heritage sites. More than 200 attractions are free to enter. There's nowhere else in the world where you can see so much for so little. London's traditional sights – Big Ben, Westminster Abbey, Buckingham Palace, St Paul's Cathedral and the Tower of London – continue to draw in millions of tourists every year. Monuments from the capital's more glorious past are everywhere to be seen, from medieval banqueting halls and the great churches of Christopher Wren to the eclectic Victorian architecture of the triumphalist British Empire. There is also much enjoyment to be had from the city's quiet Georgian squares, the narrow alleyways of the City of London, the riverside walks, and the quirks of what is still identifiably a collection of villages. For attractions in London, visit the website at <http://www.britinfo.net/attractions/indexCBB.htm>.

PLENARY SPEAKERS

Professor Margot Weijnen, Delft University of Technology, Netherlands.



Professor Margot P.C. Weijnen (1957) is a full professor of process and energy systems engineering at the Faculty of Technology, Policy and Management, Delft University of Technology. She received her MSc and PhD degrees in the field of chemical process engineering from TU Delft, then joined Shell, where she worked in R&D, in chemicals manufacturing and process design engineering, respectively. She was appointed scientific director to the interfaculty Delft University

Clean Technology institute where she served until her appointment as a full professor in the faculty of Technology, Policy and Management in 1995. In the faculty of TPM she heads the Department of Infrastructure Systems & Services and, within that department, the section for Energy and Industry. The section's research programme focuses on the development of systems design and control engineering methods and tools for energy infrastructures and industrial process networks.

She is the founding programme director of the TU Delft interfaculty research center for Design and Management of Infrastructures, which she established in 1997-1998 and has directed since. She is now scientific director of the Next Generation Infrastructures Foundation, a national knowledge initiative which unites a large number of knowledge institutions as well as public and private organizations actively involved in the design and management of energy, transport and telecommunication infrastructures.

She chaired the 5-year assessment for the EU non-nuclear energy programmes (2000- 2001) and is a member of the EU Advisory Group on Energy since its establishment in 2002. Besides her membership of the Supervisory Board of the National Aerospace Laboratory Foundation, she is a member of the Netherlands General Energy Council (AER), the Netherlands Science and Technology Policy Council (AWT) and the national Innovation Platform.

Professor David H Owens, University of Sheffield, UK



Professor David Owens is currently the Head of the Department of Automatic Control and Systems Engineering (1999-present time) and was Dean of Engineering at Sheffield University (2002-2006). He has over 38 years involvement in academic life with experience of departmental teaching, administration and research and high-level University committee service in three UK Universities (Sheffield, Strathclyde and Exeter Universities).

He has served on many Committees and the Council of the Institution of Electrical Engineers and the Institution of Mechanical Engineers. He was the Chairman of the United Kingdom Automatic Control Council from 1999-2002, has served on the Health and Safety Commission's Nuclear Safety Advisory

Committee (1995-2006) and has been an independent member of British Energy's Training Standards and Accreditation Board. He is an Editor of an Institute of Mathematics and Its Applications International Journal, is an Associate Editor of several other journals and regularly contributes to international activities through conference organisation and committees of the International Federation of Automatic Control.

His extensive research interests have spanned several areas including multivariable control systems design, approximate modelling for design, repetitive control, robust and adaptive control, nonlinear recurrent networks, multi-dimensional systems theory and iterative learning control. Applications have been in the nuclear, aerospace, manufacturing and process control industries. Over the years, his research has been funded by the Engineering and Physical Sciences Research Council, the European Union and the British Council.

He is the author of over 500 refereed technical publications and the author or co-author of four texts on "Feedback and Multivariable Systems" (Peter, Peregrinus, 1979), "Multivariable and Optimal Systems" (Academic Press, 1981), "Analysis and Control of Multipass Processes" (Research Studies Press, 1982 with J B Edwards), "Stability Analysis for Linear Repetitive Processes" (Springer-Verlag Lecture Notes in Control and Mathematical Sciences 175, 1992, with E Rogers) and "Control Systems Theory and Applications for Linear Repetitive Processes" (Springer Lecture Notes in Control and Information Sciences 349, 2007, with E Rogers and K Galkowski).

Professor Tsu-Tian Lee, National Taipei University of Technology, Taiwan.



Professor Tsu-Tian Lee received the B.S. degree in control engineering from the National Chiao-Tung University (NCTU), Hsinchu, Taiwan, in 1970, and the M.S., and Ph.D. degrees in electrical engineering from the University of Oklahoma, Norman, in 1972 and 1975, respectively. In 1975, he was appointed Associate Professor and in 1978 Professor and Chairman of the Department of Control Engineering at NCTU. In 1981, he became Professor and Director of the Institute of Control Engineering, NCTU. In 1986, he was a Visiting Professor and in 1987, a Full Professor of Electrical Engineering at the University of Kentucky, Lexington. In 1990, he was a Professor and Chairman of the Department of Electrical Engineering, National Taiwan University of Science and Technology (NTUST). In 1998, he became the Professor and Dean of the Office of Research and Development, NTUST. In 2000, he was appointed a Chair Professor, the Department of Electrical and Control Engineering, NCTU. Since 2004, he has been with the National Taipei University of Technology (NTUT), where he is now the President. Prof. Lee received the Distinguished Research Award from the National Science Council, R.O.C., in 1991–1998, and the Academic Achievement Award in Engineering and Applied Science from the Ministry of Education, R.O.C., in 1997, the National Endow Chair from the Ministry of Education, R.O.C., in 2003 and 2006, respectively, and the TECO Science and Technology Award from TECO Technology Foundation in 2003. He was elected to the grade of IEEE Fellow in 1997. He was elected as a Fellow of IEE in 2000. He became a Fellow of New York Academy of Sciences (NYAS) in 2002. He has served as Member of Technical Program

Committee and Member of Advisory Committee for many IEEE sponsored international conferences. He is now the Vice President for Conference for the IEEE Systems, Man, and Cybernetics Society.

PAST AND PRESENT OF IEEE ICNSC

2004 IEEE International Conference on Networking, Sensing and Control

GC: Tsu-Tian Lee; Co-GCs: Mengchu Zhou and Hideki Hashimoto

PC: D. T. Lee; Co-PCs: W. A. Gruver, R. Hsing, S. Kamijo, and H. P. Huang

Venue: Taipei, Taiwan

Date: 21-23 March 2004.

2005 IEEE International Conference on Networking, Sensing and Control

GC: Fei-Yue Wang

Co-PCs: MengChu Zhou, Christoforos Hadjicosits, and MuDer Jeng

Venue: Tucson, Arizona

Date: 19-22 March 2005.

2006 IEEE International Conference on Networking, Sensing and Control

GC: MengChu Zhou; Co-GCs: Chi-Hsu (Cash) Wang

PC: Derong Liu; Co-PCs: Zo_a Lukszo and Clay Okino

Venue: Ft. Lauderdale, Florida

Date: 23-25 April 2006.

2007 IEEE International Conference on Networking, Sensing and Control

GC: Guoping Liu; Co-GCs: David Rees, Zofia Lukszo

PC: Hongnian Yu; Co-PCs: George Irwin, Sandro Zampieri, Shuanghua Yang

Venue: London

Date: 15-17 April 2007.

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CONFERENCE PROGRAM

Sunday, 15 April 2007

09:00 - 12:00: Registration			
12:00 - 14:00: Lunch			
14:00: Opening Remarks (Howell Theatre H001) Guoping Liu, General Chair, <i>University of Glamorgan</i>			
14:05 - 15 :05: Plenary Speech 1 (Howell Theatre H001) Title: Next Generation Infrastructures - Network Management and Control Challenges for the Future. Speaker: Professor Margot Weijnen Chair: David Rees, <i>University of Glamorgan</i> Co-Chair: Fei-yue Wang, <i>Institute of Automation, Chinese Academy of Sciences</i>			
15:05 - 15:30: Break			
15:30 - 17:30: Parallel Paper Sessions			
Lecture Theatre: 061	Lecture Theatre: 063	Lecture Theatre: 065	Lecture Theatre: 067
SunE01 Sensor Networks 1	SunE02 Special Session on Networked Control Systems 1	SunE03 Control theory and Applications	SunE04 Interactive Session 1
18:00 - 20:00: Reception			

Monday, 16 April 2007

08:30 - 09:30: Plenary Speech 2 (Howell Theatre H001) Title: Iterative Learning Control: Theoretical Challenges and Applications Speaker: David Owens, <i>University of Sheffield</i> Chair: Hongnian Yu, <i>Staffordshire University</i> Co-chair: Hiroshi Inaba, <i>Tokyo Denki University</i>			
09:30 - 10:00: Break			
10:00 - 12:00: Parallel Paper Sessions			
Lecture Theatre: 061	Lecture Theatre: 063	Lecture Theatre: 065	Lecture Theatre: 067
MonM01 Special Session on Human Adaptive Mechatronics 1	MonM02 Special Session on Decision Making in Transport and Energy	MonM03 Special Session on Emergency Management Systems	MonM04 Network Security and Medical Applications
12:00 - 13:30: Lunch			
13:30 - 15:30: Parallel Paper Sessions			
Lecture Theatre: 061	Lecture Theatre: 063	Lecture Theatre: 065	Lecture Theatre: 067
MonA01 Special Session on Human Adaptive Mechatronics 2	MonA02 Sensor Networks 2	MonA03 Complex System Management	MonA04 Classification and Image Processing
15:30 - 16:00: Break			
16:00 - 18:00: Parallel Paper Sessions			
Lecture Theatre: 061	Lecture Theatre: 063	Lecture Theatre: 065	Lecture Theatre: 067
MonE01 Networked Control Systems Tolerant to Faults	MonE02 Instrument and Measurement	MonE03 Agent Systems and Learning	MonE04 Interactive Session 2
18:30-20:30: Banquet			

Tuesday, 17 April 2007

08:30 - 09:30: Plenary Speech 3 (Howell Theatre H001) Title: Intelligent Transportation Systems in Taiwan Speaker: Professor Tsu-Tian Lee <i>National Taipei University of Technology, Taiwan</i> Chair: Zofia Lukszo, <i>Delft University of Technology</i> Co-chair: Akira Inoue, <i>Okayama University</i>			
09:30 - 10:00: Break			
10:00 - 12:00: Parallel Paper Sessions			
Lecture Theatre: 061	Lecture Theatre: 063	Lecture Theatre: 065	Lecture Theatre: 067
TuesM01 Special Session on New Control Algorithms for Systems	TuesM02 Control of Networks: Active Queue Management	TuesM03 Collaborative Systems and Network Topology	TuesM04 Sensors and Applications
12:00 - 13:30: Lunch			
13:30 - 15:30: Parallel Paper Sessions			
Lecture Theatre: 061	Lecture Theatre: 063	Lecture Theatre: 065	Lecture Theatre: 067
TuesA01 Special Session on Learning, Identification and Safety Issues of Systems	TuesA02 Ad Hoc Networks and Applications	TuesA03 Actuators and Power Systems	TuesA04 Mobile Communication
15:30 - 16:00: Break			
16:00 - 18:00 : Parallel Paper Sessions			
Lecture Theatre: 061	Lecture Theatre: 063	Lecture Theatre: 065	Lecture Theatre: 067
TuesE01 Special Session on Networked Control Systems 2	TuesE02 Soft Computing and Applications	TuesE03 Intelligent Vehicle Highway Systems	TuesE04 Monitoring System and Virtual Environment
18:00: Closing			

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TECHNICAL PROGRAM

15:30-17:30, Sunday, 15 April 2007

SunE01 Lecture Theatre: 061**Sensor Networks 1**Chair: Selmic, Rastko Louisiana Tech Univ., USA
Co-Chair: Hou, Zeng-guang Chinese Academy of Sciences

15:30-15:50

*Dynamic Information Fusion Driven Design of Urban Sensor
Networks* pp.1-6Phoha, Shashi Pennsylvania State Univ.
Ray, Asok

15:50-16:10

Autonomic Wireless Sensor Network Topology Control pp.7-13Tynan, Richard Univ. Coll. Dublin
O'hare, G.. M. P.
Ruzelli, Antonio

16:10-16:30

*Genetic Algorithm Approach for Adaptive Subcarrier, Bit, and
Power Allocation* pp.14-19

Reddy, Yenumula B Grambling State Univ., USA

16:30-16:50

A Power Efficient Routing Protocol for Wireless Sensor Network
pp.20-25Zhang, Wen-ya Chinese Academy of Sciences
Liang, Zi-ze Chinese Academy of Sciences
Hou, Zeng-guang Chinese Academy of Sciences
Tan, Min Chinese Academy of Sciences

16:50-17:10

Performance of wireless Sensor Area Networks pp.26-29He, Xiaoming Univ. Coll. London
Pollard, John K Univ. Coll. London

17:10-17:30

Fault Aware Wireless Sensor Networks pp.30-35Zohra, Fatima A Louisiana Tech Univ., USA
Selmic, Rastko R**SunE02 Lecture Theatre: 063****Special Session on Networked Control Systems 1**Chair: Zhou, Mengchu New Jersey Inst. of Tech.
Co-Chair: Hasan, M Shahidul

15:30-15:50

*Design of Supervisory Software for Ethernet-based Control
Systems* pp.36-41Zhu, Youzhi Chinese Academy of Sciences
Zheng, Geng Chinese Academy of Sciences
Dong, Zhe Chinese Academy of Sciences
Liu, G. P. Univ. of Glamorgan

15:50-16:10

*Embedded Ethernet Control Systems and Smart Node Design
Method* pp.42-46Ju-Guang, Li Southwest Univ. of S&T, China
Hua, Zhang

16:10-16:30

*Structure Design and Application of Embedded Ethernet Based
Control Systems* pp.47-51Bian, Haibo Chinese Academy of Sciences
Liu, G. P. Univ. of Glamorgan
Dong, Zhe Chinese Academy of Sciences

16:30-16:50

Networked Predictive Control System with Data Compression
pp.52-57Hu, Wenshan Univ. of Glamorgan, UK
Liu, G. P. Univ. of Glamorgan
Rees, David Univ. of Glamorgan

16:50-17:10

A Simplified GPC Algorithm of Networked Control Systems
pp.58-63Li, Kunjie Chinese Academy of Sciences
Liu, G.P. Univ. of Glamorgan

17:10-17:30

*Real-time Performance Analysis of Industrial Embedded Control
Systems Using Switched Ethernet* pp.64-69Wu, J. H. Chinese Academy of Sciences
Zheng, G. Chinese Academy of Sciences
Liu, G. P. Univ. of Glamorgan
Li, J. G.**SunE03 Lecture Theatre: 065****Control Theory and Applications**Chair: Su, Chun-Yi Concordia Univ., Canada
Co-Chair: Wang, Hong

15:30-15:50

Model Reference Control including Adaptive Inverse Hysteresis for Systems with Unknown Input Hysteresis pp.70-75

Wang, Yu-feng Concordia Univ., Canada
Su, Chun-Yi Concordia Univ., Canada
Hong, Henry

15:50-16:10

Reference Model Based Maintenance of Control System

Performance for Industrial Processes pp.76-80

Dai, Chengwei
Yang, Shuang-hua Loughborough Univ., UK
Tian, Xuemin
Xia, Bokai

16:10-16:30

On Reduced Structure Control and the 1-norm regularisation

pp.81-86

Nobakhti, Amin The Univ. of Manchester, UK
Brown, Martin
Wang, Hong

16:30-16:50

Incremental Sliding Mode Controller for Large-Scale

Underactuated System pp.87-92

Hao, Yinxing Chinese Academy of Sciences
Yi, Jianqiang Chinese Academy of Sciences
Zhao, Dongbin
Qian, Dianwei

16:50-17:10

An Intelligent Control System for Thermal Processing of

Biomaterials pp.93-98

Yang, Simon X Univ. of Guelph, Canada
Martynenko, Alex I Univ. of Guelph, Canada

17:10-17:30

Decentralized Control with Optimal Control Allocation

pp.99-104

Liu, Weirong Chinese Academy of Sciences
Yi, Jianqiang Chinese Academy of Sciences
Zhao, Dongbin

SunE04

Lecture Theatre: 067

Interactive Session 1

Delayed Cash Payment, Receivable and Inventory Management

pp.105-110

Chen, Jia Inst. of System Science, China
Chao, Xiuli
Wang, Shouyang

Web User's Access Path Clustering pp.111-114

Li, Jihong Shanxi Univ., China
Song, Yijun
Wang, Kaihua

Memoryless State Feedback Controller Design for Networked

Control Systems pp.115-118

Wang, Shuo Yanshan Univ., China
Guan, Xinping
Hua, Changchun

Adaptive Recursive Filters Identification Algorithm of Eliminating the Disturbance on the basis of Hyperstable pp.119-122

Cai, Manjun Yanshan Univ., China
Wang, Xiangju

A Note on Minimal Positive Realizations of Continuous-Time

Linear Systems pp.123-128

Sun, Yuwei Inst. of Automation, China
Yu, Wensheng Chinese Academy of Sciences
Wang, Long Beijing Univ.

Modeling Hysteresis Inverse in Piezoelectric Actuators Based on

Inverse Hysteretic Operator pp.129-132

Tan, Yonghong Guilin Univ. of Electronic Tech.

10:00-12:00, Monday, 16 April 2007

MonM01

Lecture Theatre: 061

Special Session on Human Adaptive Mechatronics 1

Chair: Uchikawa, Y. Tokyo Denki Univ., Japan
Co-Chair: Ito, Masayasu Tokyo Denki Univ., Japan

10:00-10:20

Estimating multiple sources in somatosensory area to SEF of finger stimulus using SVD and time-frequency analysis

pp.133-138

Kim, Bong-Soo Tokyo Denki Univ., Japan
Uchikawa, Yoshinori Tokyo Denki Univ., Japan

10:20-10:40

A novel approach for Self-Localization based on Computer Vision and Artificial Marker Deposition pp.139-144

Chhaniyara, Savan King's Coll. London
Univ. of Mutah

Althoefer, K.

Seneviratne, L. D.

Zweiri, Y. H.

10:40-11:00

Associative Memory for Noisy and Structurally Deformed Two

Dimensional Images Using Neural Networks pp.145-150

Inaba, Hiroshi Tokyo Denki Univ., Japan
Takahashi, Tomoki
Alimhan, Keylan

11:00-11:20

Optimization and Control of a Pendulum-driven Cart-pole System

pp.151-156

Liu, Yang Staffordshire Univ., UK
Yu, Hongnian Staffordshire Univ., UK
Burrows, Brian

11:20-11:40

Extraction of fine blood vessels from an ultrasound image by an adaptive local image processing pp.157-162

Ito, Masayasu Tokyo Denki Univ., Japan
Saito, Yuzuru

11:40-12:00
Robust Gradient-based Iterative Learning Control pp.163-168
Owens, D. H.
Hätönen, J.
Daley, S.

MonM02 **Lecture Theatre: 063**
Special Session on Decision Making in Transport and Energy

Chair: Lukszo, Zofia Delft Univ. of Tech.
Co-Chair: Wang, Fei-yue Chinese Academy of Sciences

10:00-10:20
Road Traffic Signals Modeling and Analysis with Petri nets and Linear Logic pp.169-174
Soares, M. dos Santos
Vrancken, J.

10:20-10:40
Efficient implementation of serial multi-agent model predictive control by parallelization pp.175-180
Negenborn, R.R.
Schutter, B. De
Hellendoorn, J.

10:40-11:00
Better design and operation of infrastructures through bi-level decision making pp.181-186
Lukszo, Z.
Heijnen, P.

11:00-11:20
Planning the Location of Intermodal Freight Hubs: an Agent Based Approach pp.187-192
Dam, K. van
Lukszo, Z.
Ferreira, L.
Sirikijpanichkul, A.

11:20-11:40
Adaptive dynamic control for road traffic signals pp.193-198
Heydecker, Benjamin G Univ. Coll. London, UK
Cai, Chen
Wong, CK

11:40-12:00
Signal Controller Design for Agent-Based Traffic Control System pp.199-204
Li, Zhenjiang Chinese Academy of Sciences
He, Feng
Yao, Qingming
Wang, Fei-yue Chinese Academy of Sciences

MonM03 **Lecture Theatre: 065**
Special Session on Emergency Management Systems

Chair: Wang, Jiacun Monmouth Univ., USA
Co-Chair: Rees, David Univ. of Glamorgan

10:00-10:20
Dynamic project management and its application on public

incidents emergency response system pp.205-208
Zhou, Xianzhong Nanjing Univ., China
Sheng, Zhaohan
Zhao, Jiabao
Ling, Haifeng
Hou, Yunzhang

10:20-10:40
An Observer-Based Chaotic Synchronization Scheme for Time-Delay Secure Communication Systems pp.209-211
Chen, Xuemin Texas Southern Univ.
Wang, Zidong Brunel Univ., UK

10:40-11:00
Decentralized Trust Management based on the Reputation of Information Sources pp.212-217
Yu, Meng Monmouth Univ., USA
Zang, Wanyu
Reagor, Barbara

11:00-11:20
Inter-organizational workflow modeling and analysis of incident command systems pp.218-223
Wang, Jiacun Monmouth Univ., USA
Rosca, Daniela

11:20-11:40
A Location Management Scheme with Reinforcement Learning for PCS Networks pp.224-227
Zhu, Yihua Zhejiang Univ. of Tech., China
Xiao, Gang
Li, Zhi-yun
Zhu, Fan

11:40-12:00
On Petri Net Modeling Of Automated Manufacturing Systems pp.228-233
Wu, Naiqi Guangdong Univ. of Tech., China
Zhou, Mengchu New Jersey Inst. of Tech.

MonM04 **Lecture Theatre: 067**
Network Security and Medical Applications

Chair: Fone, William Univ. Stafford, UK
Co-Chair: Istepanian, H.

10:00-10:20
A New Anti-Spam Protocol Using CAPTCHA pp.234-238
Shirali-shahreza, Sajad Sharif Univ. of Tech., Iran
Movaghar, Ali Sharif Uni. of Tech., Iran

10:20-10:40
Implementation of Elliptic-Curve Cryptography on Mobile Healthcare Devices pp.239-244
Malhotra, Khamish Univ. of Glamorgan, UK
Gardner, Stephen
Patz, Ralf

10:40-11:00
Medical Quality of Service for Wireless Ultrasound Streaming in Robotic Tele- Ultrasonography System pp.245-250
Philip, Nada Kingston Univ., UK

Istepanian, Robert S. H.

11:00-11:20

Designing and Managing Networks to Aid the Capture and Preservation of Evidence to support the Fight Against e-Crime

pp.251-254

Fone, William
Paul, Wright

Univ. Stafford, UK

11:20-11:40

Mdodelling Terrorism pp.255-260

Hackworth, Timothy
Treleaven, Phillip

11:40-12:00

Analysis of a Simple Feedback Scheme for Error Correction over a Lossy Network pp.261-266

Flardh, Oscar
Fischione, Carlo
Johansson, Karl H.
Johansson, Mikael

13:30-15:30, Monday, 16 April 2007

MonA01

Lecture Theatre: 061

Special Session on Human Adaptive Mechatronics 2

Chair: Jiang, Zhao-Hui

Hiroshima Inst. of Tech.

Co-Chair: Althoefer, Kaspar

13:30-13:50

Towards Robot-Assisted Mass-Casualty Triage pp.267-272

Chang, Carolina
Murphy, Robin R

Universidad Simon Bolivar

13:50-14:10

Unstable Object Stabilization and Control Using a DD Robot Manipulator pp.273-278

Jiang, Zhao-Hui
Kamise, Kouya

Hiroshima Inst. of Tech.

14:10-14:30

Dynamic Analysis and Traversability Prediction of Tracked Vehicles on Soft Terrain pp.279-284

Al-milli, Said
Althoefer, Kaspar
Seneviratne, Lakmal D.

King's Coll., Univ. of London

14:30-14:50

Ceiling Light Landmarks Based Localization and Motion Control for a Mobile Robot pp.285-290

Wang, Hongbo
Kong, Lingfu
Yu, Hongnian

DAIHEN Corporation, Japan

Staffordshire Univ., UK

14:50-15:10

A Mechatronic System Design Case Study: Adaptive Modeling and Control of an Inverted Pendulum pp.291-296

Ghazi, Seyed Salahadin

Iran Univ. of S&T., Iran

Mirsaeid

Zarei, Anahita

15:10-15:30

A calibration test of Stewart platform pp.297-301

Zhang, Yong

Shanghai Jiaotong Univ., China

Gao, Feng

Shanghai Jiaotong Univ., China

MonA02

Lecture Theatre: 063

Sensor Networks 2

Chair: Tan, Min

Chinese Academy of Sciences

Co-Chair: Selmic, Rastko R.

13:30-13:50

Improved estimation for object localization via sensor networks

pp.302-306

Chisci, Luigi
Benavoli, Alessio

13:50-14:10

Human Activity Recognition from Environmental Background

Sounds for Wireless Sensor Networks pp.307-312

Zhan, Yi

Keio Univ., Japan

Miura, Shun

Nishimura, Jun

Kuroda, Tadahiro

14:10-14:30

Wireless Sensor Network Modeling Using Modified Recurrent

Neural Networks: Application to Fault Detection pp.313-318

Moustapha, Azzam I.

Louisiana Tech Univ., USA

Selmic, Rastko R.

14:30-14:50

A Wireless Sensor Network Used in Coal Mines pp.319-323

Bai, Meng

Chinese Academy of Sciences

Zhao, Xiaoguang

Hou, Zeng-guang

Chinese Academy of Sciences

Tan, Min

Chinese Academy of Sciences

14:50-15:10

Deploying a Wireless Sensor Network on the Coal Mines

pp.324-328

Wang, Xiaodong

Chinese Academy of Sciences

Zhao, Xiaoguang

Liang, Zize

Tan, Min

Chinese Academy of Sciences

15:10-15:30

Analysis of power consumption for different sensor access modes

pp.329-333

Zhu, Zhenhuan

Loughborough, UK

Yang, Shuanghua

MonA03

Lecture Theatre: 065

Complex System Management

Chair: Atkins, Anthony

Co-Chair: Wu, Wenyan

Univ. Stafford, UK

13:30-13:50

Modeling and Optimization of multiple product FMS using Colored Petri Net and Design of Experiment pp.334-339
Aized, Tauseef Tokyo Inst. of Tech., Japan
Takahashi, Koji
Hagiwara, Ichiro

13:50-14:10
Mixed domain analysis of MIMO dynamic interactions
pp.340-344
Salgado, Mario E UTFSM, Chile
Yuz, Juan I

14:10-14:30
Harbin Water Supply Network Monitoring and Evaluation
pp.345-349
qian, Zu Harbin Inst. of Tech., China
Gao, JinLiang Univ. Stafford, UK
Wu, WenYan
Hou, X Q
Wu, YingBin
Tao, L
Ran, Ning

14:30-14:50
Assessing and Optimizing Online Monitoring for Securing the Water Distribution System pp.350-355
Wu, Wenyan Univ. Stafford, UK
Gao, Jinliang Harbin Inst. of Tech., China
Zhao, Ming
Zu, Qian

14:50-15:10
Inventory Management Simulation using a Novel Replenishment Algorithm pp.356-361
Zheng, Xin Staffordshire Univ., UK
Yu, Hongnian Staffordshire Univ., UK
Atkins, Anthony

MonA04 Lecture Theatre: 067
Classification and Image Processing
Chair: Liu, Derong Univ. of Illinois, USA
Co-Chair: Phoha, Vir V Louisiana Tech Univ., USA

13:30-13:50
A Fuzzy Classifier with Adaptive Learning of Norm Inducing Matrix pp.362-367
Yao, Leehter National Taipei Univ. of Tech.
Yang, Tze

13:50-14:10
Clustering with a Weighted Sum Validity Function Using a Niching PSO Algorithm pp.368-373
Sun, Changyin Hohai Univ., China
Liang, Hua Hohai Univ., China
Li, Linfeng
Liu, Derong Univ. of Illinois, USA

14:10-14:30
A Divergence-measure Based Classification Method for Detecting Anomalies in Network Traffic pp.374-379

Phoha, Vir V Louisiana Tech Univ., USA
Balagani, Kiran S
Kuchimanchi, Gopi K

14:30-14:50
Visual Detection of High Capacity Natural Image Steganography: Is A Known Cover Effective? pp.380-385
Watters, Paul A Macquarie Univ., Australia
Martin, Frances
Stripf, Steffen

14:50-15:10
A Face Hashing Algorithm using Mutual Information and Feature Fusion pp.386-391
Zeng, Zhao Macquarie Univ., Australia
Watters, Paul

15:10-15:30
High-Density Surface Reconstruction of Fine Arts and Documents for Complete Reproduction and Counterfeit Detection
pp.392-397
Doi, Junta The Univ. of Tokyo, Japan
Shimizu, Kentaro
Sekijima, Masakazu

16:00-18:00, Monday, 16 April 2007

MonE01 Lecture Theatre: 061
Networked Control Systems Tolerant to Faults
Chair: Kambhampati, C. Univ. of Hull
Co-Chair: Irwin, G. W. Queen's Univ. Belfast, UK

16:00-16:20
Adaptive and Cooperative Sampling in Networked Control Systems pp.398-403
Zhang, P.
Ding, S. X.
Patton, R. J.
Kambhampati, C. Univ. of Hull

16:20-16:40
A Co-Design Solution for Wireless Feedback Control
pp.404-409
Colandairaj, Jeremy Queen's Univ. Belfast, UK
Irwin, George W
Scanlon, William G

16:40-17:00
Accommodation of Delays for Networked Control Systems Using Classification of Service pp.410-415
Diouri, Idriss
Georges, Jean-Philippe Nancy-Univ., France
Rondeau, Eric

17:00-17:20
Fault Tolerant Control in NCS Medium Access Constraints
pp.416-424
Klinkhieo, Supat The Univ. of Hull

Kambhampati, C. Univ. of Hull
Patton, R. J.

17:20-17:40

Optimisation of Networked Control Systems Using Model-based Safety Analysis Techniques pp.425-430

Parker, David J
Papadopoulos, Yiannis I

17:40-18:00

Consensus in Noisy Switching Directed Networks with Time-Delays pp.431-436

Rum, Farshad Concordia Univ., Canada
Gordon, Brandon W.
Eghtesad, Mohammad

MonE02 Lecture Theatre: 063
Instrument and Measurement

Chair: Tian, Gui Yun Univ. of New Castle
Co-Chair: Yang, S. X.

16:00-16:20

Detection and Measurement of Thin Dielectric Layers Using Reflection of Frequency Scanned Millimetric Waves pp.437-442

Bowring, Nicholas John Manchester Metropolitan Univ.
Baker, John G
Alder, John F

16:20-16:40

A Review of Concealed Weapon Detection and Research in Perspective pp.443-448

Agurto, Alan Univ. of Huddersfield, UK
Li, Yong
Tian, Gui Yun Univ. of New Castle
Bowring, Nick
Lockwood, Stephen

16:40-17:00

Advanced Instrumentation For Sound Monitoring pp.449-454

Atmoko, Hidajat Newcastle Univ., UK
Tian, Gui Yun Univ. of New Castle

17:00-17:20

Development of a New Electronic Nose for Odour Measurement Utilizing Wireless Sensor Networks pp.455-459

Charles, R Univ. of Guelph
Krupin, Y
Holstead, J
Trcka, A
Pan, L.
Yang, S. X.

17:20-17:40

Development of a Portable EEG Monitoring System based on WLAN pp.460-465

Chen, Haifeng NEC Laboratories America, USA
Ye, Donghee
Lee, Jungtea

17:40-18:00

Flash Crowd Detection Using Decoy Hyperlinks pp.466-470

Gavrilis, Dimitris Univ. of Patras, Greece
Chatzis, Ioannis
Dermatas, Evangelos

MonE03 Lecture Theatre: 065
Agent Systems and Learning

Chair: Yang, Hongji De Montfort Univ., UK
Co-Chair: Tang, Ying Rowan Univ., USA

16:00-16:20

Smart Cluster Bombs - Control of Multi-agent Systems for Military Applications pp.471-476

Ekanayake, Samitha Wathsala Deakin Univ., Australia
Pathirana, Pubudu N

16:20-16:40

Reconciling Group and Individual Preferences of Multi-Agent Systems pp.477-482

Stirling, Wynn Brigham Young Univ., USA
Frost, Richard

16:40-17:00

Enforcing Role-Based Access Controls in Software Systems with an Agent Based Service Oriented Approach pp.483-488

Chen, Feng De Montfort Univ., UK
Li, Shaoyun De Montfort Univ., UK
Yang, Hongji De Montfort Univ., UK

17:00-17:20

A Learning Strategy for Disassembly Process Planning pp.489-494

Tang, Ying Rowan Univ., USA
Grochowski, David E

17:20-17:40

Combined Support Vector Novelty Detection for Multi-channel Combustion Data pp.495-500

Clifton, Lei A. Univ. of Manchester
Yin, Hujun Univ. of Manchester
Clifton, David A. Univ. of Oxford, UK
Zhang, Yang Univ. of Manchester

MonE04 Lecture Theatre: 067
Interactive Session 2

Analysis on Kinematics and Dynamics Performance indices for 6-PUS Parallel Robot Mechanism pp.501-506

Zhang, Shihui Yanshan Univ., China
Kong, Lingfu

Kinematics and Control for a Personal Robot with Five Degrees-of-freedom Arms pp.507-512

Wang, Hongbo DAIHEN Corporation, Japan

A Study on Multiple user-classes Dynamic traffic assignment pp.513-518

Li, Runmei Beijing Jiaotong Univ.
Tang, Sharron

Agent Selection and P2P Overlay Construction Using Global Locality Knowledge pp.519-524

Zhang, Guoqiang Chinese Academy of Sciences
Zhang, Guoqing Chinese Academy of Sciences

A Multi-constrained Quality of Service Routing Based on Metrics Transform pp.525-529

Yu, Wang Univ. of Electronic S&T., China
Lemin, Li
Du, Xu

A CORBA-based Integrated Platform for Service Publishing, Searching and Sharing in Virtual Enterprise pp.530-535

Cheng, Tao Shenzhen Univ.

10:00-12:00, Tuesday, 17 April 2007

TuesM01 **Lecture Theatre: 061**
Special Session on New Control Algorithms for Systems

Chair: Inoue, Akira Okayama Univ., Japan
Co-Chair: Yamamoto, T. Hiroshima Univ.

10:00-10:20

GPC-Based PID Controller Using a Stable Time-Varying Proportional Gain pp.536-541

Sato, Takao Univ. of Hyogo, Japan
Inoue, Akira Okayama Univ., Japan
Yamamoto, Toru Hiroshima Univ., Japan

10:20-10:40

An Extension of Two Degree-of-Freedom of Self-Tuning GPC Based on State-space Approach Using Coprime Factorization Approach pp.542-546

YANOUE, Akira Kinki Univ., Japan
INOUE, Akira Okayama Univ., Japan
MASUDA, Shiro Tokyo Metropolitan Univ., Japan

10:40-11:00

Design of a Data-Driven PID Controller pp.547-552

Yamamoto, Toru Hiroshima Univ., Japan
Shah, Sirish L

11:00-11:20

Feedback properties of model predictive control for max-plus-linear systems pp.553-558

Masuda, Shiro Tokyo Metropolitan Univ., Japan
Goto, Hiroyuki

11:20-11:40

Swing-up and stabilizing control system design for an Acrobot pp.559-561

Inoue, Akira Okayama Univ., Japan
Deng, Mingcong Okayama Univ.
Hara, S.
Henmi, Tomohiro

11:40-12:00

Networked Control of PEM Fuel Cells Using an Adaptive Predictive Control Approach pp.562-567

Tong, Shiwen Chinese Academy of Sciences
Liu, G. P. Univ. of Glamorgan

TuesM02 **Lecture Theatre: 063**
Control of Networks: Active Queue Management

Chair: Hossain, Alamgir Univ. of Bradford, UK
Co-Chair: Yang, Shuang-hua Loughborough Univ., UK

10:00-10:20

Active Queue Management Controller using Smith Predictor for Time Delay Networks pp.568-573

Alasem, Rafe Khalaf Bradford Univ., UK
Hossain, Alamgir M
Awan, Irfan Ullah

10:20-10:40

Switching Resilient PI Controllers for Active Queue Management of TCP Flows pp.574-578

Üstebay, Deniz
Özbay, Hitay

10:40-11:00

Two Different Approaches of Active Queue Management pp.579-583

Ali, Abdulmonam Geat Bradford Univ., UK
Woodward, M.E.
Etbega, Mahmud

11:00-11:20

Queue Length Based Internet Congestion Control pp.584-589

Lestas, Marios Univ. of Cyprus, Cyprus
Pitsillides, Andreas
Ioannou, Petros
Hadjipollas, George

11:20-11:40

An Average Queue Weight Parameterization in a Network Supporting TCP Flows with RED pp.590-595

Chen, Wu Loughborough Univ., UK
Li, Yunqiu Loughborough Univ., UK
Yang, Shuang-hua Loughborough Univ., UK

11:40-12:00

Adaptive Network Flow Clustering pp.596-601

Chen, Zhixiong Mercy Coll., USA
Song, Sui

TuesM03 **Lecture Theatre: 065**
Collaborative Systems and Network Topology

Chair: Deng, Mingcong Okayama Univ.
Co-Chair: Wu, Wenyan Univ. Stafford, UK

10:00-10:20

An Architecture to Support Multi-node Downloading of Distributed Virtual Environment on Grid pp.602-607

Wang, Yuying De Montfort University, UK
Lu, Guanghua
Jia, Yuanyuan

10:20-10:40

The First Step for Self-Assembling Process in a System: A Picking-Up a Module Algorithm pp.608-613

Kim, M. Woongjin Coway/Massachusetts Inst. of Tech.

10:40-11:00

The Pancyclicity of m-ary n-cube Networks pp.614-617

Liu, Hongmei China Three Gorges Univ.

11:00-11:20

A Performance Guaranteed New Algorithm for Fault-Tolerant Routing in m-ary n-cube Networks pp.618-621

Liu, Hongmei China Three Gorges Univ.

11:20-11:40

A Hybrid Marker-Based Camera Tracking Approach In Augmented Reality pp.622-627

Yang, Po Staffordshire Univ., UK
Wu, Wenyan Univ. Stafford, UK
Moniri, Mansour

11:40-12:00

Optimal Control and Game Theoretic Approach to Cooperative Control of a Team of Multi-Vehicle Unmanned Systems

pp.628-633

Kazerooni, Elham Semsar Concordia Univ., Canada
Khorasani, Khashayar

TuesM04

Lecture Theatre: 067

Sensors and Applications

Chair: Wright, David
Co-Chair: Griffiths, Alison L Staffordshire Univ., UK

10:00-10:20

Simultaneous estimation of optical flow and object state: A modified approach to optical flow calculation pp.634-638

Pathirana, Pubudu Deakin Univ., Australia
Nishantha
Lim, Allan
Carminati, John
Premaratne, Malin

10:20-10:40

Covering Assisted Living Key Areas based on Home Automation Sensors pp.639-643

Litz, Lothar Univ. of Kaiserslautern, Germany
Gross, Melanie

10:40-11:00

Wireless Networked -Based Sensing for Protection and Decentralized Control of Critical rastructures pp.644-649

Gadze, James D Florida International Univ., USA

11:00-11:20

Sensor Relevance Establishment Problem pp.650-655

Gulrez, Tauseef Macquarie Univ., Australia

11:20-11:40

A Smart Vision Sensor for Detecting Risk Factors of a Toddler's Fall in a Home Environment pp.656-661

Na, Hana Brunel Univ., UK
Qin, Sheng Feng
Wright, David

11:40-12:00

A Centralized Omnidirectional Multi-Camera System with Peripherally-Guided Active Vision and Depth Perception pp.662-667

Jankovic, Nicholas D
Naish, Michael D Univ. of Western Ontario, Canada

13:30-15:30, Tuesday, 17 April 2007

TuesA01

Lecture Theatre: 061

Special Session on Learning, Identification and Safety Issues of Systems

Chair: Inoue, Akira Okayama Univ., Japan
Co-Chair: Deng, Mingcong Okayama Univ.

13:30-13:50

Output Frequencies of Nonlinear Systems Under A General Input pp.668-673

Wu, Xiaofeng The Univ. of Sheffield, UK
Lang, Z Q
Billings, S. A.

13:50-14:10

Abstraction and compression of information utilizing real world for controlling remote controlled robot - Application to snake-like robot pp.674-679

Ito, Kazuyuki Hosei Univ., Japan
Murai, Ryoichi

14:10-14:30

Safety Assessment for Power Plants using Analytical Hierarchy Process and System Functionality pp.680-684

Yuan, Xiaobo Henan Univ. of S&T., China
Yang, Zongxiao
Cheng, Chuanye
Inoue, Akira Okayama Univ., Japan
Deng, Mingcong Okayama Univ.

14:30-14:50

Evolutionary Computation on Multitask Reinforcement Learning Problems pp.685-688

Handa, Hisashi Okayama Univ., Japan

14:50-15:10

An obstacle avoidance method for two wheeled mobile robot pp.689-692

Deng, Mingcong Okayama Univ.
Inoue, Akira Okayama Univ., Japan
Shibata, Yoshiteru
Sekiguchi, K.
Ueki, Nobuyuki

TuesA02

Lecture Theatre: 063

Ad Hoc Networks and Applications

Chair: Griffiths, Alison L Staffordshire Univ., UK
Co-Chair: Liao, Rui

13:30-13:50
Designing an Implementable User-Oriented Objective Function for MANETs pp.693-698
 Haigh, Karen BBN Technologies, USA
 Olofinboba, Olu Honeywell Labs
 Tang, Choon Y Univ. of Oklahoma

13:50-14:10
Simulation of Distributed Wireless Networked Control Systems over MANET using OPNET pp.699-704
 Hasan, Mohammad Staffordshire Univ., UK
 Shahidul
 Yu, Hongnian Staffordshire Univ., UK
 Griffiths, Alison L Staffordshire Univ., UK
 Yang, Tai C

14:10-14:30
Study on QoS Support in 802.11e-based Multi-hop Vehicular Wireless Ad Hoc Networks pp.705-710
 Niu, Zeyun Brunel Univ., UK
 Yao, Wenbing Brunel Univ., UK
 Ni, Qiang
 Song, Yonghua

14:30-14:50
A Real-Time Simulation of WNCs with MANET using a Bi-Directional Interface between MATLAB and OPNET pp.711-716
 Harding, Christopher A
 Griffiths, Alison L Staffordshire Univ., UK
 Hongian, Yu

14:50-15:10
Stable Power Control in Ad-Hoc Wireless Networks pp.717-722
 Huijberts, Henri Queen mary, Univ. of london, UK
 Liao, Rui

15:10-15:30
Super-resolution TOA Estimation in OFDM Systems for Indoor Environments pp.723-728
 Zhao, Fang
 Yao, Wenbing Brunel Univ., UK
 Logothetis, Catharina Carlemalm Uppsala Univ., Sweden
 Song, Yonghua

TuesA03 Lecture Theatre: 065
Actuators and Power Systems

Chair: Zhu, Z.q. Univ. of Sheffield,UK.
 Co-Chair: Wane, Samuel Oliver Staffordshire Univ., UK

13:30-13:50
Intelligent Actuator Control in On-Board ISHM Concept pp.729-733
 Figueroa, Fernando Stennis Space Center,USA
 Selmic, Rastko Louisiana Tech Univ., USA
 Jethwa, Dipan

13:50-14:10
Improved Signal Injection Based Sensorless Technique for PM Brushless AC Drives pp.734-739

Li, Y. Univ. of Sheffield,UK.
 Zhu, Z.q. Univ. of Sheffield,UK.
 Bingham, C.m. Univ. of Sheffield, UK
 Howe, D. Univ. of Sheffield, UK

14:10-14:30
Estimation of Winding Resistance and PM Flux-Linkage in Brushless AC Machines by Reduced-Order Extended Kalman Filter pp.740-745
 Zhu, Z.q. Univ. of Sheffield,UK.
 Zhu, X.
 Sun, P.d.
 Howe, D. Univ. of Sheffield, UK

14:30-14:50
The development of a reaction drive for a propulsion mechanism pp.746-750
 Wane, Samuel Oliver Staffordshire Univ., UK
 Yu, Hongnian Staffordshire Univ., UK
 Yang, Tai Univ. of Sussex

14:50-15:10
DC-DC Intelligent Power Regulator Design Using Wavelet Neural Network pp.751-756
 Hsu, Chun-fei National Chiao-Tung Univ.
 Lee, Tsu-tian National Taipei Univ. of Tech.
 Hung, Kun-neng

TuesA04 Lecture Theatre: 067
Mobile Communication

Chair: Min, Geyong Univ. of Bradford, UK
 Co-Chair: Hossain, Alamgir Univ. of Bradford, UK

13:30-13:50
Congestion Control in Multi-Source Communication Networks – a Time-Varying Sampling Period System Case Study pp.757-762
 Bartoszewicz, Andrzej Technical Univ. of Łódź, Poland
 Ignaciuk, Przemyslaw

13:50-14:10
Model-based congestion control: Performance and simulations pp.763-768
 Floret, Fabienne Universit'e Paris, France
 Raynaud, Henri-françois
 Kulcsar, Caroline

14:10-14:30
Flow-Decomposition for Modelling and Analysis of GPS Mechanism under Self-Similar Network Traffic pp.769-774
 Jin, Xiaolong Univ. of Bradford, UK
 Min, Geyong Univ. of Bradford, UK

14:30-14:50
Smart Aggregates: a Distributed Intelligent Multi-purpose Sensor Network (DIMSN) for Civil Structures pp.775-780
 Song, Gangbing Univ. of Houston, USA
 Gu, Haichang The Univ. of Houston, USA
 YL, Mo

14:50-15:10
Joint Channel and Velocity Estimation pp.781-786

Logothetis, C. C. Uppsala Univ., Sweden
Yao, Wenbing Brunel Univ., UK
Logothetis, Andrew

15:10-15:30

FPCM-Assisted Blind Channel Equalization of M-QAM Signals for Time-Varying Channels pp.787-791

Lain, Jenn-kaie National Yunlin Univ. of S&T, TW
Huang, Chia-tai

16:00-18:00, Tuesday, 17 April 2007

TuesE01 **Lecture Theatre: 061**
Special Session on Networked Control Systems 2

Chair: Chen, Jie Beijing Inst. of Tech.
Co-Chair: Xia, Yuanqing Beijing Inst. of Tech.

16:00-16:20

Observer-based H-infinity control for a class of nonlinear networked systems pp.792-797

Sun, Jian Chinese Academy of Sciences
Liu, G. P. Univ. of Glamorgan

16:20-16:40

State Feedback Controller Design for Networked Control System with Random Network-Induced Delay and Packet Loss
pp.798-802

Tang, Bin Central South Univ., China
Liu, Guoping Univ. of Glamorgan
Gui, Wei-Hua Central South Univ., China

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Information Stream Based Network Dynamic Reconfiguration
pp.803-807

Chen, Jie Beijing Inst. of Tech.
Chen, Chen Beijing Inst. of Tech.
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17:00-17:20

Time Delay Compensation and Stability Analysis of Networked Predictive Control Systems Based on Hammerstein Model
pp.808-811

Zhao, Y.B. Univ. of Glamorgan
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Rees, D. Univ. of Glamorgan

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3D-structure Modeling for Regular Segments of Low Homology Unknown Structure Protein pp.812-814

Zhang, Yanmei
Peng, Zhihong Beijing Inst. of Tech.

17:40-18:00

Stability Analysis of Networked Predictive Control Systems with Random Network Delay pp.815-820

Xia, Yuanqing Beijing Inst. of Tech.
Liu, G. P. Univ. of Glamorgan
Chen, J.

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TuesE02 **Lecture Theatre: 063**
Soft Computing and Applications

Chair: Wu, Qidi
Co-Chair: Yang, Hongji De Montfort Univ., UK

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A Block Deepening Genetic Programming for Scheduling of Direct Load Control pp.821-827

Yao, Leehter National Taipei Univ. of Tech.
Hsu, Tsong-hai
Lin, Chin-chin
Lin, Cheng-han

16:20-16:40

Fast detection of disconnection using adaptive Fuzzy Logic
pp.828-833

Tzvetkov, Vesselin Arcor AG&Co KG, Germany

16:40-17:00

A Novel Soft Computing Model Using Adaptive Neuro-Fuzzy Inference System for Intrusion Detection pp.834-839

Toosi, Adel Nadjaran Ferdowsi Univ. Of Mashhad, Iran
Kahani, Mohsen

17:00-17:20

A Three-Level-Module Adaptive Intrusion Detection System
pp.840-845

Dai, Yaping Beijing Inst. of Technology
Zhao, Linhui
Wang, Yumin
Xiao, Jing BeiJing Inst. of Tech.
Dong, Fangyan

17:20-17:40

Evaluation Mode Research on Intelligent Particle Swarm Optimization Algorithm pp.846-851

Kang, Qi Tongji Univ., China
Wang, Lei Tongji Univ., China
Wu, Qidi

17:40-18:00

Data Collection for Intrusion Detection System Based on Stratified Random Sampling pp.852-855

Zhao, Kuo Jilin Univ., China
Zhang, Meng
Yang, Kexin
Hu, Liang

TuesE03 **Lecture Theatre: 065**
Intelligent Vehicle Highway Systems

Chair: Zhang, Xu Mayer Brown Limited, UK
Co-Chair: Huang, Yi-sheng ChungCheng Inst. of Tech

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Traffic Intelligent Optimization and Local Traffic-Flow Control Inside Shanghai-EXPO-Area pp.856-861

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Kang, Qi Tongji Univ., China

Xiao, Hui
Wu, Qidi
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A Supervisor of Traffic Light Systems Using Statecharts
pp.862-867
Huang, Yi-sheng ChungCheng Inst. of Tech., TW
Lee, Shung-shing
Liu, Yung-kuer

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A CAN and OSEK NM Based Siren for Automobiles pp.868-873
Qiao, Xin Chinese Academy of Sciences
Wang, Zhixue
Sun, Yuan
He, Feng
Wang, Fei-yue Chinese Academy of Sciences

17:00-17:20
Study on Visual Servo Measurement for Vehicle Geometric Parameters pp.874-878
Sun, Lisheng Southeast Univ., China
Zhu, Ke

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Simulation and Visualization of Empirical Traffic Models Using VISSIM pp.879-882
Chen, Heng Univ. of Glamorgan, UK
Zhang, Xu Mayer Brown Limited, UK
Liu, G. P. Univ. of Glamorgan

TuesE04 Lecture Theatre: 067
Monitoring System and Virtual Environment
Chair: Zhengxu, Zhao Derby Univ.
Co-Chair: Hou, Chinese Academy of Sciences

Zeng-guang
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Real-time Monitoring System for Odours around Livestock Farms
pp.883-888
Pan, Leilei Univ. of Guelph, Canada
Liu, Rui
Peng, Shaohong
Yang, Simon X. University of Guelph, Canada
Gregori, Stefano

16:20-16:40
Intelligent Monitoring System Based on the Embedded Technology: A Case Study pp.889-894
Liang, Xiao Chinese Academy of Sciences
Hou, Zeng-guang Chinese Academy of Sciences
Tan, Min Chinese Academy of Sciences

16:40-17:00
A ZigBee-Based Power Monitoring System with Direct Load Control Capabilities pp.895-900
Cheng, Jui-Yu
Hung, Min-Hsiung National Defense Univ., TW

17:00-17:20
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Murenin, Constantine A. East Carolina Univ., USA

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Xiaomei, Liu
Zhengxu, Zhao Derby Univ.

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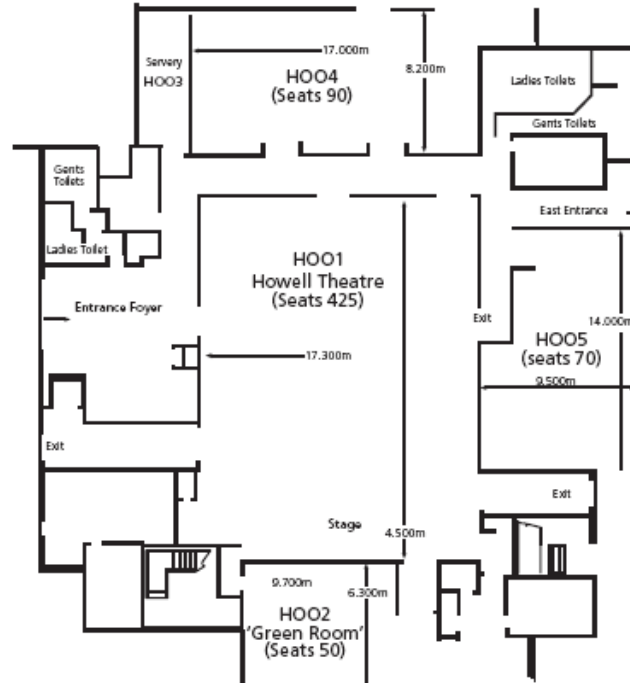
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Lecture Centre (Lecture theatres 061, 063, 065 and 067)

