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| <b>MoA06</b>  | Room 306                                     |
| <b>Ad Hoc Wireless Networks: Communication and Control (Invited ISIC Session)</b>   |  |
| Chair: Commuri, Sesh  | Univ. of Oklahoma                            |
| Co-Chair: Jagannathan, Sarangapani  | The Univ. of Missouri-Rolla                  |
| Organizer: Commuri, Sesh  | Univ. of Oklahoma                            |
| 09:30-09:50   | MoA06.1                                      |
| <i>Dynamic Data Aggregation in Wireless Sensor Networks (I)</i> , pp. 1-6.  |  |
| Commuri, Sesh   | Univ. of Oklahoma                            |
| Tadigotla, Viswanath  | Univ. of Oklahoma                            |
| 09:50-10:10   | MoA06.2                                      |
| <i>Quantized Kalman Filtering (I)</i> , pp. 7-12.   |  |
| Sun, Shuli  | Heilongjiang Univ.                           |
| Lin, Jianyong   | Nanyang Tech. Univ. Singapore                |
| Xie, Lihua  | Nanyang Tech. Univ.                          |
| Xiao, Wendong   | Inst. for Infocomm Res.                      |
| 10:10-10:30   | MoA06.3                                      |
| <i>Route Aware Predictive Congestion Control for Wireless Sensor Networks (I)</i> , pp. 13-18.  |  |
| Larsen, Carl Victor   | Univ. of Missouri - Rolla                    |
| Zawodniok, Maciej   | Univ. of Missouri-Rolla                      |
| Jagannathan, Sarangapani  | The Univ. of Missouri-Rolla                  |
| 10:30-10:50   | MoA06.4                                      |
| <i>Broadcasting Performance Comparison among IVC MAC Protocol Candidates (I)</i> , pp. 19-22.   |  |
| chen, xianbo  | Univ. of Oklahoma                            |
| Refai, Hazem  | Univ. of Okalhoma                            |
| Ma, Xiaomin   | Oral Roberts Univ.                           |
| 10:50-11:10   | MoA06.5                                      |
| <i>Architecture and Algorithm for a Laboratory Vehicle Collision Avoidance System (I)</i> , pp. 23-28.                                      |  |
| Robinson, Craig   | Univ. of Illinois at Urbana-Champaign        |
| Kumar, P. R.  | Univ. of Illinois at Urbana-Champaign        |
| 11:10-11:30   | MoA06.6                                      |
| <i>Hybrid Mobile Wireless Sensor Network Cooperative Localization</i> , pp. 29-34.  |  |
| Seow, Chee Keong  | National Univ. of Singapore                  |
| Seah, Winston   | Inst. for Infocomm Res.                      |
| Liu, Zheng  | National Univ. of Singapore                  |
| <b>MoA07</b>  | Room 314                                     |
| <b>Learning and Control (Regular ISIC Session)</b>  |  |
| Chair: Wang, Cong   | South China Univ. of Tech.                   |
| Co-Chair: Hao, Miao   | Tsinghua Univ.                               |
| 09:30-09:50   | MoA07.1                                      |
| <i>SVM Based Bankruptcy Prediction Model for Small &amp; Micro Business Using Credit Card Sales Information*</i> .                          |  |
| Yoon, Jongsik   | Dongguk Uni.                                 |
| 09:50-10:10   | MoA07.2                                      |
| <i>Rapid Recognition of Dynamical Patterns Via Deterministic Learning and State Observation</i> , pp. 35-40.                                |  |
| Wang, Cong  | South China Univ. of Tech.                   |
| Wang, Chenghong   | Nat. Nature Science Foundation of China      |
| Song, Su  | National Natural Science Foundation of China |
| 10:10-10:30   | MoA07.3                                      |
| <i>Incremental Learning Bayesian Networks for Financial Data Modeling</i> , pp. 41-46.  |  |
| Shi, Da   | Peking Univ.                                 |
| Tan, Shaohua  | Peking Univ.                                 |
| 10:30-10:50   | MoA07.4                                      |
| <i>Stability and Robustness Analysis of Cyclic Pseudo-Downsampled ILC</i> , pp. 47-52.  |  |
| Zhang, Bin  | Nanyang Tech. Univ.                          |
| Wang, Danwei  | Nanyang Tech. Univ.                          |
| Ye, Yongqiang   | Lakehead Univ.                               |
| Zhou, Keliang   | TU Delft                                     |
| Wang, Yigang  | Nanyang Tech. Univ.                          |
| 10:50-11:10   | MoA07.5                                      |
| <i>Image Based Visual Servoing Using Takagi-Sugeno Fuzzy Neural Network Controller</i> , pp. 53-58.   |  |
| Hao, Miao   | Tsinghua Univ.                               |
| <b>MoA08</b>  | Room 313                                     |
| <b>Mobile Robotics I (Regular ISIC Session)</b>   |  |
| Chair: Xie, Guangming   | Peking Univ.                                 |
| Co-Chair: Huang, Loulin   | Massey Univ.                                 |
| 09:30-09:50   | MoA08.1                                      |
| <i>Polar Polynomial Curve for Smooth, Collision-Free Path Generation between Two Arbitrary Configurations for Nonholonomic Robots</i> , pp. |  |

|             |   |   |
|-------------|---|---|
| 59-64.      | Lai, Xuecheng<br>Al Mamun, Abdullah<br>Ge, Shuzhi Sam   | National Univ. of Singapore<br>National Univ. of Singapore<br>National Univ. of Singapore |
| 09:50-10:10 | <i>A Potential Field Approach for Controlling a Mobile Robot to Track a Moving Target</i> , pp. 65-70.<br>Huang, L.                             | MoA08.2<br>Massey Univ.   |
| 10:10-10:30 | <i>Sensor Coverage with a Multi-Robot System</i> , pp. 71-76.<br>Rogge, Jonathan<br>Aeyels, Dirk  | MoA08.3<br>Ghent Univ.<br>Univ. Gent  |
| 10:30-10:50 | <i>Motion Planning Algorithm for Homogeneous Combinatorial Robots in Time-Varying Environment</i> , pp. 77-82.<br>Ho, Hong Fa<br>Liu, Wen-Cheng | MoA08.4<br>National Taiwan Normal Univ.<br>National Taiwan Normal Univ.                   |
| 10:50-11:10 | <i>Decentralized Feedback Formation Control of Mobile Robots<sup>†</sup></i> .<br>Xie, Guangming  | MoA08.5<br>Peking Univ.   |

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| <b>MoB06</b>   |  | Room 306 |
| <b>Hybrid and Switched Systems: Recent Developments (Invited ISIC Session)</b> |  |          |

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|-------------|---|---|
|             | Chair: Lin, Hai<br>Co-Chair: Sun, Zhendong<br>Organizer: Lin, Hai<br>Organizer: Sun, Zhendong   | National Univ. of Singapore<br>South China Univ. of Tech.<br>National Univ. of Singapore<br>South China Univ. of Tech.              |
| 13:30-13:50 | <i>A Necessary and Sufficient Condition for Stability of Arbitrarily Switched Second-Order LTI System: Marginally Stable Case (I)</i> , pp. 83-88.<br>Huang, Zhi Hong<br>Xiang, Cheng<br>Lin, Hai<br>Lee, Tong Heng | MoB06.1<br>National Univ. of Singapore<br>National Univ. of Singapore<br>National Univ. of Singapore<br>National Univ. of Singapore |
| 13:50-14:10 | <i>A Note on Marginal Stability of Switched Systems (I)</i> , pp. 89-93.<br>Sun, Zhendong   | MoB06.2<br>South China Univ. of Tech.   |
| 14:10-14:30 | <i>Robust Stability of Switched Linear Systems with Polytopic Uncertainty (I)</i> , pp. 94-99.<br>Li, Zhengguo<br>Wen, Changyun<br>Soh, Yeng Chai   | MoB06.3<br>Insitute fro nfocomm Res.<br>Nanyang Tech. Univ.<br>Nanyang Tech. Univ.  |
| 14:30-14:50 | <i>Verification of Biochemical Processes Using Stochastic Hybrid Systems (I)</i> , pp. 100-105.<br>Riley, Derek<br>Koutsoukos, Xenofon<br>Riley, Kasandra   | MoB06.4<br>Vanderbilt Univ.<br>Vanderbilt Univ.<br>Mayo Univ.   |
| 14:50-15:10 | <i>Robust Stabilizability of Linear Uncertain Switched Systems : A Computational Algorithm (I)</i> , pp. 106-111.<br>Yfoulis, Christos  | MoB06.5<br>Alexander Tech. Educational Inst. (A.T.E.I.) of Thes   |
| 15:10-15:30 | <i>Hybrid <math>H^{∞}</math>: State Feedback Control for Discrete-Time Switched Linear Systems (I)</i> , pp. 112-117.<br>Lin, Hai<br>Antsaklis, Panos J.  | MoB06.6<br>National Univ. of Singapore<br>Univ. of Notre Dame   |

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| <b>MoB07</b>  |  | Room 314 |
| <b>Neural Network Control and Applications (Invited ISIC Session)</b> |  |          |

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|-------------|---|--|
|             | Chair: Jagannathan, Sarangapani<br>Co-Chair: Ge, Shuzhi Sam<br>Organizer: Jagannathan, Sarangapani<br>Organizer: Ge, Shuzhi Sam                         | The Univ. of Missouri-Rolla<br>National Univ. of Singapore<br>The Univ. of Missouri-Rolla<br>National Univ. of Singapore |
| 13:30-13:50 | <i>Model-Free H-Infinity Load-Frequency Controller Design for Power Systems (I)</i> , pp. 118-125.<br>Al-tamimi, Asma<br>Lewis, Frank L.<br>Wang, Youyi | MoB07.1<br>Automation & Robotics Res. Inst.<br>Univ. of Texas at Arlington<br>Nanyang Tech. Univ.                        |
| 13:50-14:10 | <i>Adaptive Control of Nonlinear Systems Using Multiple Neural Networks (I)*</i> .<br>Narendra, Kumpati S.<br>Feiler, Matthias J.<br>Tian, Zhiling      | MoB07.2<br>Yale Univ.<br>Swiss Federal Inst. of Tech.<br>Yale Univ.  |
| 14:10-14:30 |   | MoB07.3  |

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| <i>Adaptive Neural Networks Control for a Class of Pure-Feedback Systems in Discrete-Time (I)</i> , pp. 126-131.<br>Ge, Shuzhi Sam<br>YANG, Chenguang<br>Lee, Tong Heng   | National Univ. of Singapore<br>National Univ. of Singapore<br>National Univ. of Singapore  |
| 14:30-14:50<br><i>Control of Nonholonomic Mobile Robot Formations Using Neural Networks (I)</i> , pp. 132-137.<br>Dierks, Travis<br>Jagannathan, Sarangapani  | Univ. of Missouri-Rolla<br>The Univ. of Missouri-Rolla   |
| 14:50-15:10<br><i>Direct Adaptive Neural Controller for Earthquake Excited Nonlinear Base Isolated Buildings (I)</i> , pp. 138-143.<br>Sundararajan, N.<br>Suresh, Sundaram<br>Narasimhan, Sriram                                     | MoB07.4<br><br>MoB07.5<br><br>Nanyang Tech. Univ.<br>Res. Student<br>Univ. of Waterloo   |
| 15:10-15:30<br><i>Deterministic Learning and Pattern-Based NN Control (I)</i> , pp. 144-149.<br>Wang, Cong<br>Liu, Tengfei<br>Wang, Chenghong   | MoB07.6<br><br>South China Univ. of Tech.<br>South China Univ. of Tech.<br>Nat. Nature Science Fundation of China                        |
| <b>MoB08</b>  | Room 313   |
| <b>Fuzzy Systems and Control (Regular ISIC Session)</b>   |  |
| Chair: Sun, Fuchun<br>Co-Chair: Commuri, Sesh   | Tsinghua Univ.<br>Univ. of Oklahoma  |
| 13:30-13:50<br><i>New Approaches to Relaxed Stability Conditions and State Feedback <math>H_{\infty}</math> Controller Designs for T-S Fuzzy Systems*</i> .<br>Chang, Xiao Heng<br>Jing, Yuanwei<br>He, Li Li<br>Li, Ying             | MoB08.1<br><br>Northeastern Univ.<br>Northeastern Univ.<br>Anshan science and Tech. Univ.<br>Anshan science and Tech. Univ.              |
| 13:50-14:10<br><i>Universal Approximation for Takagi-Sugeno Fuzzy Systems Using Dynamically Constructive Method-SISO Cases</i> , pp. 150-155.<br>Sun, Fuchun  | MoB08.2<br><br>Tsinghua Univ.  |
| 14:10-14:30<br><i>Fuzzy Model-Based Servo Control for a Class of Nonlinear Systems</i> , pp. 156-159.<br>Ohtake, Hiroshi<br>Tanaka, Kazuo<br>Wang, Hua O.   | MoB08.3<br><br>Univ. of Electro-communications<br>Univ. of Electro-Communications<br>Boston Univ.  |
| 14:30-14:50<br><i>Stabilization of Polynomial Fuzzy Systems Via a Sum of Squares Approach</i> , pp. 160-165.<br>Tanaka, Kazuo<br>Yoshida, Hiroto<br>Ohtake, Hiroshi<br>Wang, Hua O.   | MoB08.4<br><br>Univ. of Electro-Communications<br>The Univ. of Electro-Communications<br>Univ. of Electro-communications<br>Boston Univ. |
| 14:50-15:10<br><i>A Neuro Fuzzy Decision Tree Model for Predicting the Risk in Coronary Artery Disease</i> , pp. 166-171.<br>George, Kochurani<br>S, Aji<br>Kaimal, M. Ramachandra  | MoB08.5<br><br>Kerala Univ.<br>Kerala Univ.<br>Kerala Univ.  |
| 15:10-15:30<br><i>Adaptive Fuzzy Fitness Granulation in Structural Optimization Problems</i> , pp. 172-177.<br>Akbarzadeh-T., Mohammad-R.<br>Davarynejad, Mohsen<br>Pariz, Naser<br>Khorsand, Amir-Reza                               | MoB08.6<br><br>Ferdowsi Univ. of Mashhad<br>FUM / Mashhad / IRAN<br>Ferdowsi Univ.<br>Univ. of Manitoba                                  |
| <b>MoC06</b>  | Room 306   |
| <b>New Development in Switched Systems and Switching Control (Invited ISIC Session)</b>   |  |
| Chair: Zhai, Guisheng<br>Co-Chair: Ohta, Yuzo<br>Organizer: Zhai, Guisheng<br>Organizer: Ohta, Yuzo   | Osaka Prefecture Univ.<br>Kobe Univ.<br>Osaka Prefecture Univ.<br>Kobe Univ.   |
| 15:45-16:05<br><i>Switching Strategies of Collision Avoidance and Tracking Control for Vehicles Based on Non-Cooperative Game and Model Predictive Control (I)</i> , pp. 178-183.<br>Isoda, Naritaka<br>Kogiso, Kiminao<br>Asai, Toru | MoC06.1<br><br>Osaka Univ.<br>Nara Inst. of Science and Tech.<br>Osaka Univ.   |
| 16:05-16:25<br><i>Cooperative Networked Control with Gain Switching Observer (I)</i> , pp. 184-189.   | MoC06.2  |

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| Nakamura, Yukinori   | Nara Inst. of Science and Tech.        |
| Hirata, Kentaro  | NAIST, Nara Inst. of Science and Tech. |
| Sugimoto, Kenji  | Nara Inst. of Science and Tech.        |
| Kogiso, Kiminao  | Nara Inst. of Science and Tech.        |
| 16:25-16:45  | MoC06.3                                |
| <i>L2 Performance Synthesis Via Polynomial Parameter-Dependent Switching State Feedback Control for Constrained Systems (I)</i> , pp. 190-195. |  |
| KIYAMA, Tsuyoshi   | Osaka Univ.                            |
| Hasegawa, Takatori   | Osaka Univ.                            |
| 16:45-17:05  | MoC06.4                                |
| <i>Qualitative Analysis of Switched Discrete-Time Descriptor Systems (I)</i> , pp. 196-201.  |  |
| Zhai, Guisheng   | Osaka Prefecture Univ.                 |
| Xu, Xuping   | Penn State Erie                        |
| Imae, Joe  | Osaka Prefecture Univ.                 |
| Kobayashi, Tomoaki   | Osaka Prefecture Univ.                 |
| 17:05-17:25  | MoC06.5                                |
| <i>A Dual Mode Reference Governor for Discrete Time Systems with State and Control Constraints (I)</i> , pp. 202-207.                          |  |
| Taguchi, Takaaki   | Kobe Univ.                             |
| Ohta, Yuza   | Kobe Univ.                             |
| 17:25-17:45  | MoC06.6                                |
| <i>Stability Analysis and L<sub>2</sub>-Gain of Switched Delay Systems with Stable and Unstable Subsystems (I)</i> , pp. 208-213.              |  |
| Sun, Xi-Ming   | Univ. of Glamorgan                     |
| Wang, Dong   | Dalian Univ. of Tech.                  |
| Wang, Wei  | Harbin Engineering Univ.               |
| Yang, Guang-hong   | Northeastern Univ.                     |

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**MoC07** Room 314

**Recent Advances in Learning Control (Invited ISIC Session)**

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| Chair: Tan, Ying  | The Univ. of Melbourne                               |
| Co-Chair: Xu, Jian-Xin  | National Univ. of Singapore                          |
| Organizer: Tan, Ying  | The Univ. of Melbourne                               |
| Organizer: Xu, Jian-Xin   | National Univ. of Singapore                          |
| 15:45-16:05   | MoC07.1  |
| <i>Modelling and Robust Repetitive Control of PWM DC/AC Converters (I)</i> , pp. 214-219.   |  |
| Wang, Yigang  | Nanyang Tech. Univ.                                  |
| Wang, Danwei  | Nanyang Tech. Univ.                                  |
| Zhou, Keliang   | TU Delft   |
| Zhang, Bin  | Nanyang Tech. Univ.                                  |
| Ye, Yongqiang   | Lakehead Univ.                                       |
| 16:05-16:25   | MoC07.2  |
| <i>Stability Analysis and Control of Repetitive Trajectory Systems on a State-Domain: Roller Coaster Application (I)</i> , pp. 220-225. |  |
| Ahn, Hyo-Sung   | Utah State Univ.                                     |
| Chen, YangQuan  | Utah State Univ.                                     |
| Moore, Kevin L.   | Colorado School of Mines                             |
| Yu, Wonpil  | Electronics and Telecommunications Res. Inst. (ETRI) |
| 16:25-16:45   | MoC07.3  |
| <i>Optimal Tuning of PID Parameters Using Iterative Learning Approach (I)</i> , pp. 226-231.  |  |
| Xu, Jian-Xin  | National Univ. of Singapore                          |
| HUANG, DEQING   | Univ.  |
| 16:45-17:05   | MoC07.4  |
| <i>A New Arimoto-Type Algorithm to Estimate States for Repetitive Processes: Iterative Learning Observer (ILO) (I)</i> , pp. 232-236.   |  |
| Hatonen, Jari Juhani  | The Univ. of Sheffield                               |
| Moore, Kevin L.   | Colorado School of Mines                             |
| 17:05-17:25   | MoC07.5  |
| <i>Point-Wise Extremum Seeking Control Scheme under Repeatable Control Environment (I)</i> , pp. 237-242.                               |  |
| Tan, Ying   | The Univ. of Melbourne                               |
| Mareels, Iven   | The Univ. of Melbourne                               |
| Nesic, Dragan   | Univ. of Melbourne                                   |
| Xu, Jian-Xin  | National Univ. of Singapore                          |
| 17:25-17:45   | MoC07.6  |
| <i>A Unit-Gain D-Type Iterative Learning Control Scheme: Application to a 6-DOF Robot Manipulator (I)</i> , pp. 243-248.                |  |
| Ye, Yongqiang   | Lakehead Univ.                                       |
| Tayebi, Abdelhamid  | Lakehead Univ.                                       |
| Liu, Xiaoping   | Lakehead Univ.                                       |

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**MoC08** Room 313

**Evolutionary Computing Techniques (Regular ISIC Session)**

|                       |                     |
|-----------------------|---------------------|
| Chair: Commuri, Sesh  | Univ. of Oklahoma   |
| Co-Chair: Liu, Wenxin | Florida State Univ. |

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| 15:45-16:05  |  | MoC08.1                              |
| <i>Optimal Control of Non-Linear Plants Using Artificial Immune Systems: Application of the Clonal Selection Algorithm</i> , pp. 249-254.                        |  |                                      |
| Panimadai Ramaswamy, Shweta A  |  | Univ. of Missouri - Rolla            |
| Venayagamoorthy, Ganesh  |  | Univ. of Missouri-Rolla              |
| Balakrishnan, S.N.   |  | Univ. of Missouri-Rolla              |
| 16:05-16:25  |  | MoC08.2                              |
| <i>A Competitive-Cooperation Coevolutionary Paradigm for Multi-Objective Optimization</i> , pp. 255-260.   |  |                                      |
| Goh, Chi Keong   |  | National Univ. of Singapore          |
| Tan, Kay Chen  |  | The National Univ. of Singapore      |
| Tay, Arthur  |  | National Univ. of Singapore          |
| 16:25-16:45  |  | MoC08.3                              |
| <i>Particle Swarm Optimization for Optimal Flow Control in Combined Sewer Networks — a Case Study</i> , pp. 261-266.   |  |                                      |
| Cen, Lihui   |  | Shanghai Jiaotong Univ.              |
| Xi, Yugeng   |  | Shanghai Jiao Tong Univ.             |
| 16:45-17:05  |  | MoC08.4                              |
| <i>A Minimal Channel Set for Individual Identification with EEG Biometric Using Genetic Algorithm*</i> .   |  |                                      |
| K.V.R., Ravi   |  | Republic Pol.                        |
| Ramaswamy, Palaniappan   |  | Univ. of Essex                       |
| 17:05-17:25  |  | MoC08.5                              |
| <i>Weighted Fuzzy Rule-Based System Combined with a Novel Simplified E.Coli Foraging Optimization Algorithm</i> , pp. 267-270.                                   |  |                                      |
| Lin, Shizhuang   |  | Wuhan Univ.                          |
| Liu, Yijian  |  | Wuhan Univ.                          |
| Fang, Yanjun   |  | Wuhan Univ.                          |
| 17:25-17:45  |  | MoC08.6                              |
| <i>Bifurcation Analysis of the Hodgkin-Huxley Model Exposed to External DC Electric Field</i> , pp. 271-276.   |  |                                      |
| Li, Huiyan   |  | Tianjin Univ. of Tech. and Education |
| Che, Yan-Qiu   |  | Tianjin Univ.                        |
| Gao, Hanqiao   |  | Tianjin Univ.                        |
| Dong, Feng   |  | Tianjin Univ.                        |
| wang, jiang  |  | Tianjin Univ.                        |
| <hr/>  |  |                                      |
| <b>TuA06</b>   |  | Room 306                             |
| <b>Hard Disk Drive Servo-Control (Invited ISIC Session)</b>  |  |                                      |
| Chair: Guo, Guoxiao  |  | Western Digital Tech. Inc.           |
| Co-Chair: Du, Chunling   |  | Data Storage Inst.                   |
| Organizer: Guo, Guoxiao  |  | Western Digital Tech. Inc.           |
| Organizer: Du, Chunling  |  | Data Storage Inst.                   |
| Organizer: Herrmann, Guido   |  | Univ. of Bristol                     |
| Organizer: Zhang, Jingliang  |  | Data Storage Inst.                   |
| 09:30-09:50  |  | TuA06.1                              |
| <i>External Vibration Compensation Via Loop Shaping and H_infinity Feedforward Control Design for Hard Disk Drives in Mobile Applications (I)</i> , pp. 277-282. |  |                                      |
| Du, Chunling   |  | Data Storage Inst.                   |
| Ge, Shuzhi Sam   |  | National Univ. of Singapore          |
| Lewis, Frank L.  |  | Univ. of Texas at Arlington          |
| Zhang, Jingliang   |  | Data Storage Inst.                   |
| 09:50-10:10  |  | TuA06.2                              |
| <i>Application of a Discrete Sliding Mode Technique to a HDD Dual-Stage Track-Seek and Track-Following Servo System (I)</i> , pp. 283-288.                       |  |                                      |
| Herrmann, Guido  |  | Univ. of Bristol                     |
| Edwards, Christopher   |  | Univ. of Leicester                   |
| Hredzak, Branislav   |  | Univ. of New South Wales (Asia)      |
| Venkataramanan, V.   |  | Data Storage Inst.                   |
| Spurgeon, Sarah K.   |  | Univ. of Leicester                   |
| 10:10-10:30  |  | TuA06.3                              |
| <i>A Discrete Time Optimal Control Solution for Hard Disk Drives Servo Design (I)</i> , pp. 289-295.   |  |                                      |
| Hu, Shaohua  |  | Harvard Univ.                        |
| Gao, Zhiqiang  |  | Cleveland State Univ.                |
| 10:30-10:50  |  | TuA06.4                              |
| <i>Time Optimal Based SMC with Time-Varying Surface and Its Application to Hard Disk Drives (I)</i> , pp. 296-301.   |  |                                      |
| Hu, Qinglei  |  | Harbin Inst. of Tech.                |
| Xie, Lihua   |  | Nanyang Tech. Univ.                  |
| Wang, Youyi  |  | Nanyang Tech. Univ.                  |
| Du, Chunling   |  | Data Storage Inst.                   |
| 10:50-11:10  |  | TuA06.5                              |
| <i>Two-Degree-Of-Freedom Control of a Self-Sensing Micro-Actuator for HDD (I)</i> , pp. 302-307.   |  |                                      |
| Sasaki, Minoru   |  | Gifu Univ.                           |
| 11:10-11:30  |  | TuA06.6                              |
| <i>Optimal Output Transition for Settling Control in Hard-Disk Drives with Dual-Stage Actuators (I)</i> , pp. 308-314.   |  |                                      |
| Devasia, Santosh   |  | Univ. of Washington                  |

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| <b>TuA07</b>  | Room 314   |
| <b>Advances in Adaptive Learning Control (Invited ISIC Session)</b>   |  |
| Chair: Er, Meng Joo   | NTU  |
| Co-Chair: Chien, Chiang-Ju  | Huafan Univ.   |
| Organizer: Er, Meng Joo   | NTU  |
| 09:30-09:50   | TuA07.1  |
| <i>Direct Adaptive NN Control of Nonlinear Systems in Strict-Feedback Form Using Dynamic Surface Control (I)</i> , pp. 315-320. |  |
| Zhang, Tianping   | Yangzhou Univ.   |
| Ge, Shuzhi Sam  | National Univ. of Singapore                                      |
| 09:50-10:10   | TuA07.2  |
| <i>A General Internal Model Approach for Motion Learning (I)</i> , pp. 321-326.   |  |
| Xu, Jian-Xin  | National Univ. of Singapore                                      |
| Wang, Wei   | National Univ. of Singapore                                      |
| 10:10-10:30   | TuA07.3  |
| <i>A One-Parameter Structure for Adaptive Iterative Learning Control of Robot Manipulators (I)</i> , pp. 327-332.               |  |
| Chien, Chiang-Ju  | Huafan Univ.   |
| Tayebi, Abdelhamid  | Lakehead Univ.   |
| 10:30-10:50   | TuA07.4  |
| <i>Online Structure Optimization Algorithm of Radial Basis Function Neural Network for Tracking Control Systems (I)*.</i>       |  |
| Song, Qing  | Nanyang Tech. Univ.  |
| Ni, Jie   | Nanyang Tech. Univ.  |
| 10:50-11:10   | TuA07.5  |
| <i>Anti-Swing Control with Hierarchical Fuzzy CMAC Compensation for an Overhead Crane (I)</i> , pp. 333-338.                    |  |
| Ortiz, Floriberto   | CINVESTAV-IPN  |
| Yu, Wen   | CINVESTAV-IPN  |
| Moreno-Armendariz, Marco A.   | CIC-IPN  |
| 11:10-11:30   | TuA07.6  |
| <i>Humanoid 3D Gait Generation Based on Inverted Pendulum Model (I)</i> , pp. 339-344.  |  |
| Tang, Zhe   | Nanyang Tech. Univ.  |
| Er, Meng Joo  | NTU  |
| <b>TuA08</b>  | Room 313   |
| <b>Estimation and Adaptive Control (Regular ISIC Session)</b>   |  |
| Chair: Feng, Gang   | City Univ. of Hong Kong  |
| Co-Chair: Ge, Shuzhi Sam  | National Univ. of Singapore                                      |
| 09:30-09:50   | TuA08.1  |
| <i>IMM Tracking of Maneuvering Targets with Online Observed Colored Glint Noise Parameter Estimation*.</i>                      |  |
| Masnadi-Shirazi, Mohammad Ali   | Shiraz Univ.   |
| Banani, Seyed Alireza   | Shiraz Univ.   |
| 09:50-10:10   | TuA08.2  |
| <i>Predictive Simulation Adaptive Control for Pneumatic Components</i> , pp. 345-350.   |  |
| Zachrisson, Anders  | Linköping Univ.  |
| Sethson, Magnus   | Linköping Univ.  |
| 10:10-10:30   | TuA08.3  |
| <i>Robust Adaptive Control of Cooperating Mobile Manipulators with Relative Motion</i> , pp. 351-356.                           |  |
| Li, Zhijun  | The National Univ. of Singapore                                  |
| Ge, Shuzhi Sam  | National Univ. of Singapore                                      |
| Adams, Martin   | Nanyang Tech. Univ.  |
| Wijesoma, Wijerupage Sardha   | Nanyang Tech. Univ.  |
| 10:30-10:50   | TuA08.4  |
| <i>Robust Adaptive Control of Valve Mechanism with Unknown Backlash Nonlinearity</i> , pp. 357-362.                             |  |
| Zhou, Jing  | Department of Engineering Cybernetics, Faculty of Information Te |
| Er, Meng Joo  | NTU  |
| 10:50-11:10   | TuA08.5  |
| <i>Decentralized Astrom-Wittenmark Self-Tuning Regulator of a Multi-Agent Uncertain Coupled ARMAX System (I)</i> , pp. 363-368. |  |
| Ma, Hongbin   | National Univ. of Singapore                                      |
| Lum, Kai-Yew  | National Univ. of Singapore                                      |
| Ge, Shuzhi Sam  | National Univ. of Singapore                                      |
| 11:10-11:30   | TuA08.6  |
| <i>New Results on Reachability Realization of Switched Impulsive Control Systems (I)</i> , pp. 369-374.                         |  |
| Ji, Zhijian   | Qingdao Univ.  |
| Feng, Gang  | City Univ. of Hong Kong  |
| Guo, Xiaoxia  | Ocean Univ. of China   |
| <b>TuB06</b>  | Room 306   |
| <b>Intelligent Control and Its Applications for Nonlinear Systems (Invited ISIC Session)</b>                                    |  |
| Chair: Tan, Yonghong  | Guilin Univ. of Electronic Tech.                                 |
| Co-Chair: Feng, Gang  | City Univ. of Hong Kong  |

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| Organizer: Tan, Yonghong   | Guilin Univ. of Electronic Tech. |
| 13:30-13:50  | TuB06.1                          |
| <i>A Fast Method for Detecting and Locating BGA Based on Twice Grading and Linking Technique (Code NG38T) (I)</i> , pp. 375-378.             |                                  |
| Gao, Hongxia   | South China Univ. of Tech.       |
| Hu, Yue-ming   | South China Univ. of Tech.       |
| Liu, Hai-ming  | South China Univ. of Tech.       |
| Fang, Xiaosheng  | South China Univ. of Tech.       |
| 13:50-14:10  | TuB06.2                          |
| <i>A Heuristic Optimization Algorithm for Multi-Head Moulder(Code NG38T) (I)</i> , pp. 379-384.  |                                  |
| Liu, Hai-ming  | South China Univ. of Tech.       |
| Hu, Yue-ming   | South China Univ. of Tech.       |
| Yuan, Peng   | South China Univ. of Tech.       |
| Gao, Hongxia   | South China Univ. of Tech.       |
| ZHANG, Mei   | South China Univ. of Tech.       |
| 14:10-14:30  | TuB06.3                          |
| <i>Construction of Expanded Input Space for Modeling Hysteretic Systems (I)</i> , pp. 385-388.   |                                  |
| Tan, Yonghong  | Guilin Univ. of Electronic Tech. |
| 14:30-14:50  | TuB06.4                          |
| <i>A Fuzzy PID Thermal Control System for Die Casting Processes (I)</i> , pp. 389-394.   |                                  |
| Yang, Tiebao   | Univ. of Windsor                 |
| Chen, Xiang  | Univ. of Windsor                 |
| Hu, Henry  | Univ. of Windsor                 |
| 14:50-15:10  | TuB06.5                          |
| <i>Robust Control for the Uncertain Systems Preceded by Hysteresis and Disturbances (I)</i> , pp. 395-400.                                   |                                  |
| Chen, Xinkai   | Shibaura Inst. of Tech.          |
| Hisayama, Takeshi  | Shibaura Inst. of Tech.          |
| Su, Chun-Yi  | Concordia Univ.                  |
| 15:10-15:30  | TuB06.6                          |
| <i>Terminal Cost Constraint Based Stable Fuzzy Model Predictive Control of a Nonlinear Fluidized Bed Combustion Plant (I)</i> , pp. 401-406. |                                  |
| Zhang, Tiejun  | City Univ. of Hong Kong          |
| Feng, Gang   | City Univ. of Hong Kong          |
| Lu, Jianhong   | Southeast Univ.                  |

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**TuB07** Room 314

**Neural Network and Control (Regular ISIC Session)**

|   |                             |
|---|-----------------------------|
| Chair: Jagannathan, Sarangapani   | The Univ. of Missouri-Rolla |
| Co-Chair: arik, Sabri   | Istanbul Univ.              |
| 13:30-13:50   | TuB07.1                     |
| <i>Reinforcement Learning Based Output-Feedback Controller for Complex Nonlinear Discrete-Time Systems</i> , pp. 407-412. |                             |
| Shih, Peter   | Univ. of Missouri - Rolla   |
| Jagannathan, Sarangapani  | The Univ. of Missouri-Rolla |
| 13:50-14:10   | TuB07.2                     |
| <i>Global Convergence Analysis of Dynamical Neural Networks with Multiple Time Delays</i> , pp. 413-418.                  |                             |
| Senan, Sibel  | Istanbul Univ.              |
| Arik, Sabri   | Istanbul Univ.              |
| 14:10-14:30   | TuB07.3                     |
| <i>New Results for Global Robust Stability of Neural Networks with Time Delays</i> , pp. 419-423.                         |                             |
| Yucel, Eylem  | Istanbul Univ.              |
| Arik, Sabri   | Istanbul Univ.              |
| 14:30-14:50   | TuB07.4                     |
| <i>Neural Compensation Technique for Fuzzy Controlled Humanoid Robot Arms : Experimental Studies</i> , pp. 424-429.       |                             |
| Jung, Seul  | Chungnam National Univ.     |
| Song, Deok Hee  | Chungnam National Univ.     |
| 14:50-15:10   | TuB07.5                     |
| <i>Constructing the Model of Propylene Distillation Based on Neural Network</i> , pp. 430-434.                            |                             |
| Lu, Jingui  | Nanjing Univ. of Tech.      |
| Fang, Ning  | Utah State Univ.            |
| lin, jinguo   | Nanjing Univ. of Tech.      |
| Chen, Fengxin   | Nanjing Univ. of Tech.      |
| Chen, GuangHui  | Nanjing Univ. of Tech.      |
| 15:10-15:30   | TuB07.6                     |
| <i>Inverse-Free Dual Neural Networks for Online Solution of Strictly Convex Quadratic Programming</i> , pp. 435-440.      |                             |
| Zhang, Yunong   | Sun Yat-Sen Univ.           |
| Li, Zhonghua  | Sun Yat-sen Univ.           |
| Tan, Hong-zhou  | The Univ. of Manitoba       |

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**TuB08** Room 313

**Optimization II (Regular ISIC Session)**

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| Chair: Zhao, ZhengYI | Singapore Management Univ. |
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| Co-Chair: Lin, Jonqlan   | Ching Yun Univ.                |
| 13:30-13:50  | TuB08.1                        |
| <i>Analysis about the Impact of Fading Channel Characteristics on Estimation Errors and System Performance in APSACM Systems*</i>  |                                |
| Sun, Jun   | Shandong Univ.                 |
| 13:50-14:10  | TuB08.2                        |
| <i>Discrete-Time JLQG with Dependently Controlled Jump Probabilities</i> , pp. 441-445.  |                                |
| Xu, Yankai   | Tsinghua Univ. Beijing, China  |
| Chen, Xi   | Tsinghua Univ.                 |
| 14:10-14:30  | TuB08.3                        |
| <i>Bidirectional Flow Shop Scheduling with Multi-Machine Capacity and Critical Operation Sequencing</i> , pp. 446-451.   |                                |
| Zhao, ZhengYI  | Singapore Management Univ.     |
| Ge, Shuzhi Sam   | National Univ. of Singapore    |
| Lau, Hoong Chuin   | Singapore Management Univ.     |
| 14:30-14:50  | TuB08.4                        |
| <i>Random Scaling of Quasi-Newton BFGS Method to Improve the <math>O(N^2)</math>-Operation Approximation of Covariance-Matrix Inverse in Gaussian Process</i> , pp. 452-457. |                                |
| Zhang, Yunong  | Sun Yat-Sen Univ.              |
| Leithead, William  | Univ. of Strathclyde           |
| Leith, Douglas J.  | NUI Maynooth                   |
| 14:50-15:10  | TuB08.5                        |
| <i>A Bayesian Approach to Target Tracking with Finite-Set-Valued Observations</i> , pp. 458-463.   |                                |
| Vo, Ba Tuong   | The Univ. of Western Australia |
| Vo, Ba-Ngu   | The Univ. of Melbourne         |
| Cantoni, A.  | Curtin Univ. of Tech.          |
| 15:10-15:30  | TuB08.6                        |
| <i>Randomized Lagrangian Heuristic Based on Nash Equilibrium for Large Scale Single Machine Scheduling Problem</i> , pp. 464-468.  |                                |
| Gu, Hanyu  | Shanghai Jiao Tong Univ.       |
| Xi, Yugeng   | Shanghai Jiao Tong Univ.       |
| Tao, Jiping  | Shanghai Jiao Tong Univ.       |

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| <b>TuC06</b>   | Room 306                   |
| <b>Intelligent Control on Mechatronics (Invited ISIC Session)</b>  |                            |
| Chair: Lin, Jonqlan  | Ching Yun Univ.            |
| Co-Chair: Commuri, Sesh  | Univ. of Oklahoma          |
| Organizer: Lin, Jonqlan  | Ching Yun Univ.            |
| 15:45-16:05  | TuC06.1                    |
| <i>Exponentially Stable Sliding Mode Based Approach for a Class of Uncertain Multi-Time-Delay Systems (I)</i> , pp. 469-474.                                     |                            |
| Chiang, Tung-sheng   | Chung-yuan Christian Univ. |
| Wu, Ping-Chou  | Ching Yun Univ.            |
| 16:05-16:25  | TuC06.2                    |
| <i>A Supervisory Control Methodology for a New Pneumatic Cart-Seesaw System (I)</i> , pp. 475-480.   |                            |
| Lin, Jonqlan   | Ching Yun Univ.            |
| Zhan, J.H.   | Ching Yun Univ.            |
| Chang, Julian  | Ching Yun Univ.            |
| 16:25-16:45  | TuC06.3                    |
| <i>Based on Genetic Algorithm and Input Estimation Approach to Design the Sliding Mode Controller for Flexible-Joint Robot Control System (I)</i> , pp. 481-486. |                            |
| Chien-Yu, Ji   | Ching Yun Univ.            |
| 16:45-17:05  | TuC06.4                    |
| <i>Discussion on Nonlinear Element Compensation by Gain Adjustment and Dither Smoothing (I)</i> , pp. 487-492.   |                            |
| Yun-Yao, Lee   | Ching Yun Univ.            |
| Kun-Ming, Liu  | Ching Yun Univ.            |
| Chien-Yu, Ji   | Ching Yun Univ.            |
| 17:05-17:25  | TuC06.5                    |
| <i>Intelligent Neural Sliding Control for Planetary Gear Type Inverted Pendulum Mechanism (I)</i> , pp. 493-498.   |                            |
| Huang, Ying J.   | Yuan Ze Univ.              |
| Kuo, Tzu-Chun  | Ching Yun Univ.            |
| Lin, Jonqlan   | Ching Yun Univ.            |
| 17:25-17:45  | TuC06.6                    |
| <i>Intelligent Robust Control for Three-Link Robot Manipulator Via Sliding Mode Technology (I)</i> , pp. 499-504.  |                            |
| hu, wen fong   | ching yun Univ.            |
| Chen, Chiu-Hsiung  | Yuan-Ze Univ.              |
| Peng, Ya-Fu  | Ching Yun Univ.            |
| Lin, Chih-Min  | Yuan-Ze Univ.              |

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| <b>TuC07</b>   | Room 314                    |
| <b>Agents and Cooperative Control (Regular ISIC Session)</b> |                             |
| Chair: Ge, Shuzhi Sam  | National Univ. of Singapore |
| Co-Chair: Xie, Guangming                                     | Peking Univ.                |

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| 15:45-16:05   |  | TuC07.1 |
| <i>A Game-Inspired Framework Modeling for Multiple Intelligent Agents Control Systems - a Water Resources Regulation Problem Application</i> , pp. 505-510. |  |         |
| da Costa, Eliezer Arantes   | UNICAMP - Univ. Estadual de Campinas - SP - Brazil |         |
| Bottura, Celso Pascoli  | UNICAMP  |         |
| 16:05-16:25   |  | TuC07.2 |
| <i>Toward a Practical Multi Agent System for Integrated Control and Asset Management of Petroleum Production Facilities</i> , pp. 511-517.                  |  |         |
| Sayda, Atalla   | Univ. of New Brunswick                             |         |
| Taylor, James H.  | Univ. of New Brunswick                             |         |
| 16:25-16:45   |  | TuC07.3 |
| <i>Adaptive Q-Structure for Agent Formations</i> , pp. 518-523.   |  |         |
| Fua, Cheng-Heng   | National Univ. of Singapore                        |         |
| Ge, Shuzhi Sam  | National Univ. of Singapore                        |         |
| Zhang, Jing Bing  | Simtech  |         |
| Lim, Kiang-Wee  | National Univ. of Singapore                        |         |
| 16:45-17:05   |  | TuC07.4 |
| <i>Consensus Stability Analysis for Multi-Agent System with Time-Varying Coupling Delays (I)*.</i>  |  |         |
| Hu, Jiangping   | Chinese Acad. of Sciences                          |         |
| Hong, Yiguang   | Chinese Acad. of Sciences                          |         |
| Zhang, Lijun  | Tsinghua Univ.                                     |         |
| 17:05-17:25   |  | TuC07.5 |
| <i>Output Agreement in Networks of Agents with State-Space Description Dynamics<sup>†</sup>.</i>  |  |         |
| Xie, Guangming  | Peking Univ.                                       |         |

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| <b>TuC08</b>   |  | Room 313 |
| <b>Hardware, Systems and Fault Diagnosis (Regular ISIC Session)</b>  |  |          |
| Chair: Chowdhury, Fahmida N.   | Univ. of Louisiana at Lafayette                |          |
| Co-Chair: Ibeas, Asier   | Univ. Autónoma de Barcelona                    |          |
| 15:45-16:05  |  | TuC08.1  |
| <i>A Survey of Neural Computation on Graphics Processing Hardware</i> , pp. 524-527.                             |  |          |
| Meuth, Ryan J.   | Univ. of Missouri - Rolla                      |          |
| Wunsch, Donald   | Univ. of Missouri-Rolla                        |          |
| 16:05-16:25  |  | TuC08.2  |
| <i>Soft Computing Based Embedded Design of an Intelligent Wall/Lane Following Vehicle*.</i>                      |  |          |
| Tsui, Willie   | Univ. of Waterloo                              |          |
| Masmoudi, Slim   | Univ. of Tunisia                               |          |
| song, insop  | Univ. of Waterloo                              |          |
| Karray, Fakhri   | Univ. of Waterloo                              |          |
| Masmoudi, Mohamed  | ENIS   |          |
| 16:25-16:45  |  | TuC08.3  |
| <i>Multiple-Delay Smith Predictor Based Control of LTI Systems with Bounded Uncertain Delay</i> , pp. 528-533.   |  |          |
| Ibeas, Asier   | Univ. Autónoma de Barcelona                    |          |
| Vilanova, Ramon  | Univ. Autonoma de Barcelona                    |          |
| Balaguer, Pedro  | Univ. Autonoma de Barcelona                    |          |
| 16:45-17:05  |  | TuC08.4  |
| <i>Multiple Hierarchical Reasoning in Uncertain Situations for Complex Device Fault Diagnosis</i> , pp. 534-538. |  |          |
| Lai, Yushu   | Univ. of Electronic Science and Tech. of China |          |
| Li, Xunbo  | Univ. of Electronic Science and Tech. of China |          |
| Xiong, Yan   | Chongqing Three Gorges Univ.                   |          |
| 17:05-17:25  |  | TuC08.5  |
| <i>A Modified Approach to Observer-Based Fault Detection</i> , pp. 539-543.                                      |  |          |
| Chowdhury, Fahmida N.  | Univ. of Louisiana at Lafayette                |          |
| Chen, Wen  | Univ. of Louisiana at Lafayette                |          |
| 17:25-17:45  |  | TuC08.6  |
| <i>Unascertained Measurement Model of Client Satisfaction Degree Appraisal*.</i>                                 |  |          |
| qingkui, cao   | hebei Univ. of engineering                     |          |
| xiangyang, ren   | china Univ. of mining and Tech.                |          |
| yanli, yang  | hebei Univ. of engineering                     |          |

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| <b>WeA06</b>  |                              | Room 306 |
| <b>Intelligent Robotics (Invited ISIC Session)</b>  |                              |          |
| Chair: Behera, Laxmidhar  | Indian Inst. of Tech. Kanpur |          |
| Co-Chair: Lin, Jonqlan  | Ching Yun Univ.              |          |
| Organizer: Behera, Laxmidhar  | Indian Inst. of Tech. Kanpur |          |
| 09:30-09:50   |                              | WeA06.1  |
| <i>A Model-Free Redundancy Resolution Technique for Visual Motor Coordination of a 6 DOF Robot Manipulator (I)</i> , pp. 544-549. |                              |          |
| Kumar, Swagat   | Indian Inst. of Tech. Kanpur |          |
| Shukla, Amit  | Indian Inst. of Tech. Kanpur |          |
| Dutta, Ashish   | IITK                         |          |

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|--|---------------------------------------|
| Behera, Laxmidhar  | Indian Inst. of Tech. Kanpur          |
| 09:50-10:10  | WeA06.2                               |
| <i>Trajectory Tracking Control of Mobile Robots Using Wavelet Networks (I)</i> , pp. 550-555.                                  |                                       |
| Purwar, Shubhi   | M.N.National Inst. of Tech. Allahabad |
| Gupta, Nidhi   | M.N.National Inst. of Tech.           |
| Kar, Indra Narayan   | Indian Inst. of Tech.                 |
| 10:10-10:30  | WeA06.3                               |
| <i>Higher Order Sliding Mode Controller for Robotic Manipulator (I)</i> , pp. 556-561.   |                                       |
| Purwar, Shubhi   | M.N.National Inst. of Tech. Allahabad |
| 10:30-10:50  | WeA06.4                               |
| <i>Multilayer Generalized Mean Neuron Model for Blind Source Separation (I)</i> , pp. 562-566.                                 |                                       |
| Singh, Meenakshi   | Indian Inst. of Tech. Kanpur          |
| Singh, Deepak  | IIT                                   |
| Kalra, Prem. K   | Indian Inst. of Tech.                 |
| 10:50-11:10  | WeA06.5                               |
| <i>A New Color Based Optical Flow Computation Algorithm (I)</i> , pp. 567-572.   |                                       |
| Jamal, Arshad  | Defence R&D Organization,             |
| Subramanian, Venkatesh   | IIT Kanpur                            |
| 11:10-11:30  | WeA06.6                               |
| <i>Active Vibration Suppression of One-Dimensional Nonlinear Structures Using Optimal Dynamic Inversion (I)</i> , pp. 573-577. |                                       |
| Ali, Faruque   | Indian Inst. of Science               |
| Padhi, Radhakant   | Indian Inst. of Science               |

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**WeA07** Room 314

**Discrete Time Neural Control** (Invited ISIC Session)

|   |   |
|---|---|
| Chair: Sanchez, Edgar N.  | CINVESTAV                                       |
| Co-Chair: Jagannathan, Sarangapani  | The Univ. of Missouri-Rolla                     |
| Organizer: Sanchez, Edgar N.  | CINVESTAV                                       |
| Organizer: Jagannathan, Sarangapani   | The Univ. of Missouri-Rolla                     |
| 09:30-09:50   | WeA07.1   |
| <i>Near Optimal Neural Network-Based Output Feedback Control of Affine Nonlinear Discrete-Time Systems (I)</i> , pp. 578-583.                           |   |
| Yang, Qinmin  | Univ. of Missouri-Rolla                         |
| Jagannathan, Sarangapani  | The Univ. of Missouri-Rolla                     |
| 09:50-10:10   | WeA07.2   |
| <i>Discrete-Time Output Trajectory Tracking for Induction Motors Using a Neural Observer (I)</i> , pp. 584-589.   |   |
| Alanis, Alma Y.   | Cinvestav                                       |
| Sanchez, Edgar N.   | CINVESTAV                                       |
| Loukianov, Alexander G.   | CINVESTAV IPN GDI                               |
| 10:10-10:30   | WeA07.3   |
| <i>Recurrent Fuzzy Neural Networks for Nonlinear System Identification (I)</i> , pp. 590-595.   |   |
| Yu, Wen   | CINVESTAV-IPN                                   |
| Li, Xiaouu  | CINVESTAV-IPN                                   |
| 10:30-10:50   | WeA07.4   |
| <i>Algorithm for Variational Inequality Problems Based on a Gradient Dynamical System Designed Using a Control Liapunov Function (I)</i> , pp. 596-601. |   |
| Pazos, Fernando Agustin   | Federal Univ. of Rio De Janeiro                 |
| Bhaya, Amit   | Federal Univ. of Rio De Janeiro                 |
| 10:50-11:10   | WeA07.5   |
| <i>Stable Adaptive Neural Network Control of Nonaffine Nonlinear Discrete-Time Systems and Application (I)</i> , pp. 602-607.                           |   |
| Zhai, Lianfei   | Northeastern Univ.                              |
| Chai, Tianyou   | Northeastern Univ.                              |
| Ge, Shuzhi Sam  | National Univ. of Singapore                     |
| 11:10-11:30   | WeA07.6   |
| <i>Perceptron Training Algorithms Designed Using Discrete-Time Control Liapunov Functions</i> , pp. 608-613.  |   |
| Diene, Oumar  | Federal Univ. of Rio de Janeiro, PEE/COPPE/UFRJ |
| Bhaya, Amit   | Federal Univ. of Rio De Janeiro                 |

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**WeA08** Room 313

**Sensor Fusion and Applications** (Regular ISIC Session)

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|--|---------------------|
| Chair: Natarajan, Sudha  | Nanyang Tech. Univ. |
| Co-Chair: Kramer, Kathleen A.  | Univ. of San Diego  |
| 09:30-09:50  | WeA08.1             |
| <i>Hausdorff Distance for Iris Recognition</i> , pp. 614-619.                                |                     |
| Natarajan, Sudha   | Nanyang Tech. Univ. |
| Wong Yung Ho, Kenny  | Nanyang Tech. Univ. |
| 09:50-10:10  | WeA08.2             |
| <i>Fuzzy Logic Based Data Association with Target/Sensor Soft Constraints</i> , pp. 620-625. |                     |
| Stubberud, Stephen C.  | ANZUS, Inc.         |
| Kramer, Kathleen A.  | Univ. of San Diego  |

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| 10:10-10:30   |  | WeA08.3               |
| <i>Mounting Location Analysis of Accelerometer of Non-Gyro Inertial Measurement Unit*</i> .                           |  |                       |
| Mingli, Ding  |  | Harbin Inst. of Tech. |
| Qingdong, Zhou  |  | Harbin Inst. of Tech. |
| Qi, Wang  |  | Harbin Inst. of Tech. |
| Changhong, Wang   |  | Harbin Inst. of Tech. |
| 10:30-10:50   |  | WeA08.4               |
| <i>An Augmented State Vector Approach to GPS-Based Localization*</i> .  |  |                       |
| Capezio, Francesco  |  | Univ. of Genova       |
| Sgorbissa, Antonio  |  | Univ. of Genova       |
| Zaccaria, Renato  |  | Univ. of Genova       |
| 10:50-11:10   |  | WeA08.5               |
| <i>Applications of Random Parameter Matrices Kalman Filtering in Uncertain Observation and Multi-Model Systems*</i> . |  |                       |
| Luo, Dandan   |  | Sichuan Univ.         |
| Zhu, Yunmin   |  | Sichuan Univ.         |
| 11:10-11:30   |  | WeA08.6               |
| <i>Some Analytic Results on Communication Direction for Two-Sensor Tandem Binary Decision System*</i> .               |  |                       |
| Song, Enbin   |  | Sichuan Univ.         |
| Zhu, Yunmin   |  | Sichuan Univ.         |
| Zhou, Jie   |  | Sichuan Univ.         |

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| <b>WeB06</b> |  | Room 306 |
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| <b>Metaheuristics for Intelligent Control and Systems (Invited ISIC Session)</b> |  |  |
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|---|--|------------------------|
| Chair: Ishigame, Atsushi  |  | Osaka Prefecture Univ. |
| Co-Chair: Ishibuchi, Hisao  |  | Osaka Prefecture Univ. |
| Organizer: Ishigame, Atsushi  |  | Osaka Prefecture Univ. |
| Organizer: Ishibuchi, Hisao   |  | Osaka Prefecture Univ. |
| 13:30-13:50   |  | WeB06.1                |
| <i>An Efficient Solution for Compositional Design Problems by Multi-Stage Genetic Algorithm (I)</i> , pp. 626-633.                |  |                        |
| Suzuki, Masakazu  |  | Tokai Univ.            |
| Hiyama, Yuki  |  | Tokai Univ.            |
| Yamada, Hideki  |  | Tokai Univ.            |
| 13:50-14:10   |  | WeB06.2                |
| <i>Voltage / Reactive Power Control Optimization with Economy and Security Using Tabu Search (I)</i> , pp. 634-639.               |  |                        |
| Nakachi, Yoshiki  | Graduate School of Engineering, Nagoya Institute of Technology |                        |
| Kato, Atsushi   | Graduate school of Engineering, Nagoya Inst. of Tech.          |                        |
| Ukai, Hiroyuki  | Nagoya Inst. of Tech.  |                        |
| 14:10-14:30   |  | WeB06.3                |
| <i>A Pole Change Generator for Micro Windmill with Maximum Power Point Tracking System (I)</i> , pp. 640-645.                     |  |                        |
| YUKITA, Kazuto  |  | Aichi Inst. of Tech.   |
| ICHIYANAGI, Katsuhiro   |  | Aichi Inst. of Tech.   |
| 14:30-14:50   |  | WeB06.4                |
| <i>Automatic Tuning for Model Predictive Control: Can Particle Swarm Optimization Find a Better Parameter? (I)</i> , pp. 646-651. |  |                        |
| Kawai, Fukiko   | Fuji Electric Advanced Tech. Co., Ltd.,                        |                        |
| Ito, Hideyuki   | Fuji Electric Advanced Tech. Co., Ltd.,                        |                        |
| Nakazawa, Chikashi  | Fuji Electric Advanced Tech. Co. Ltd.                          |                        |
| Matsui, Tetsuro   | Fuji Electric Advanced Tech. Co., Ltd.,                        |                        |
| Fukuyama, Yoshikazu   | Fuji Electric Advanced Tech. Co., Ltd.                         |                        |
| Suzuki, Ryohei  | Keio Univ.   |                        |
| Aiyoshi, Eitaro   | Keio Univ.   |                        |
| 14:50-15:10   |  | WeB06.5                |
| <i>Nonlinear Stabilizing Control Based on Particle Swarm Optimization with Controlled Mutation (I)</i> , pp. 652-657.             |  |                        |
| Ishigame, Atsushi   |  | Osaka Prefecture Univ. |
| 15:10-15:30   |  | WeB06.6                |
| <i>Mimicking Dribble Trajectories by Neural Networks for RoboCup Soccer Simulation (I)</i> , pp. 658-663.                         |  |                        |
| Nakashima, Tomoharu   |  | Osaka Prefecture Univ. |
| Ishibuchi, Hisao  |  | Osaka Prefecture Univ. |

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| <b>WeC07</b> |  | Room 314 |
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| <b>Control Applications III (Regular ISIC Session)</b> |  |  |
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| Chair: Ishibuchi, Hisao  |  | Osaka Prefecture Univ. |
| Co-Chair: Liu, Wenxin  |  | Florida State Univ.    |
| 15:45-16:05  |  | WeC07.1                |
| <i>Control System of an Automated Nanohandling Robot Cell</i> , pp. 664-669.                     |  |                        |
| Stolle, Christian  |  | Univ. of Oldenburg     |
| Fatikow, Sergej  |  | Univ. of Oldenburg     |
| 16:05-16:25  |  | WeC07.2                |
| <i>A Study on Traffic Information Sharing through Inter-Vehicle Communication</i> , pp. 670-675. |  |                        |
| Ohara, Ken   |  | Osaka Prefecture Univ. |

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| Nojima, Yusuke   | Osaka Prefecture Univ.               |
| Ishibuchi, Hisao   | Osaka Prefecture Univ.               |
| 16:25-16:45  | WeC07.3                              |
| <i>Neural Network Based Decentralized Controls of Large Scale Power Systems</i> , pp. 676-681.                         |                                      |
| Liu, Wenxin  | Florida State Univ.                  |
| Jagannathan, Sarangapani   | The Univ. of Missouri-Rolla          |
| Venayagamoorthy, Ganesh  | Univ. of Missouri-Rolla              |
| Wunsch, Donald   | Univ. of Missouri-Rolla              |
| Crow, Mariesa  | Univ. of Missouri-Rolla              |
| Liu, Li  | Florida State Univ.                  |
| Cartes, David A.   | FAMU-FSU                             |
| 16:45-17:05  | WeC07.4                              |
| <i>A Novel Fuzzy Logic Control Strategy for Compressor Surge Control Using a Variable Area Throttle</i> , pp. 682-687. |                                      |
| Al-Mawali, Salim   | Newcastle Univ.                      |
| Zhang, Jie   | Univ. of Newcastle Upon Tyne         |
| 17:05-17:25  | WeC07.5                              |
| <i>Electrical Impedance Microchip Using Microelectrodes.doc*</i>   |                                      |
| wu, ying   | chongqing Univ. of science and Tech. |
| 17:25-17:45  | WeC07.6                              |
| <i>Improved Integral Sliding Mode Controller with Phase Lead Peak Filter for Hard Disk Drives</i> , pp. 688-693.       |                                      |
| Hu, Qinglei  | Harbin Inst. of Tech.                |
| Xie, Lihua   | Nanyang Tech. Univ.                  |
| Wang, Youyi  | Nanyang Tech. Univ.                  |
| Du, Chunling   | Data Storage Inst.                   |