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# Technical Program

<b>TuM1</b>	Christchurch
<b>Nonlinear Systems and Applications I, Pre-Conference Workshop in Honor of Professor David Hill's 60th Birthday (Invited Session)</b>	
Chair: Wen, Changyun	Nanyang Tech. Univ.
Co-Chair: Wang, Youyi	Nanyang Tech. Univ.
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<b>TuP1</b>	Christchurch
<b>Nonlinear Systems and Applications II: Pre-Conference Workshop in Honor of Professor David Hill's 60th Birthday (Invited Session)</b>	
Chair: Wang, Youyi	Nanyang Tech. Univ.
Co-Chair: Wen, Changyun	Nanyang Tech. Univ.
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Wang, Wei (Nanyang Tech. Univ.), Wen, Changyun (Nanyang Tech. Univ.)	
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<b>WeKO</b>	Chancellor 1
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Chair: Zhang, Cishen	Nanyang Tech. Univ.
Co-Chair: Hill, David J.	The Australian National Univ.
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de Souza, Carlos E. (Lab. Nacional de Computacao Cientifica - LNCC), Coutinho, Daniel Ferreira (Pont. Univ. Catolica do Rio Grande)	
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Chair: Shi, Ling	Hong Kong Univ. of Science and Tech.
Co-Chair: Qiu, Li	Hong Kong Univ. of Sci. & Tech.
Organizer: Shi, Ling	Hong Kong Univ. of Science and Tech.
Organizer: Qiu, Li	Hong Kong Univ. of Sci. & Tech.
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<b>Linear Systems and Control I (Regular Session)</b>	
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Co-Chair: Chen, Zhiyong	The Univ. of Newcastle
10:15-10:35	WeAT2.1
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10:35-10:55	WeAT2.2
<i>A Class of Preview Control for Dual-Stage Actuator Systems</i> , pp. 110-115.	
Salton, Aurélio Tergolina (The Univ. of Newcastle, Australia), Chen, Zhiyong (The Univ. of Newcastle, Australia), Fu, Minyue (The Univ. of Newcastle, Australia)	
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Vale, Julie (Univ. of Waterloo), Miller, Daniel E. (Univ. of Waterloo)	
11:15-11:35	WeAT2.4
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Jones, Bryn Llywelyn (Imperial Coll. London), Kerrigan, Eric C. (Imperial Coll. London)	
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Chair: Manderla, M.	Tech. Univ. Darmstadt
Co-Chair: Celikovskiy, Sergej	Inst. of Information Theory & Automation, Acad. of Science of Czech Republic
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Manderla, M. (Tech. Univ. Darmstadt), Konigorski, U. (Tech. Univ. Darmstadt)	
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<b>WeAT4</b>	Chancellor 5
<b>Intelligent Control Algorithms (Invited Session)</b>	
Chair: Zhao, Zhiwen	Beijing Normal Univ.
Co-Chair: Xiao, Jin	Beijing Univ. of Aeronautics and Astronautics
Organizer: Chen, Weihai	Beijing Univ. of Aeronautics and Astronautics, China
10:15-10:35	WeAT4.1
<i>Improved AOMDV with Precaution Algorithm in Wireless Ad Hoc Networking (I)</i> , pp. 175-179.	
Zheng, Yuanqing (Beijing Normal Univ.), Zhao, Zhiwen (Beijing Normal Univ.), Zhu, Jiaojiao (Beijing Normal Univ.)	
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<i>Application of a Genetic Algorithm-Based PI Controller in a Spherical Robot (I)</i> , pp. 180-184. Zhang, Qin (Beijing Univ. of Posts and Telecommunications), Jia, Qingxuan (Beijing Univ. of Posts and Telecommunications), Sun, Hanxu (Beijing Univ. of Posts and Telecommunications), Gong, Zhili (Shandong Wanzhong Tech. Co. Ltd.)	10:55-11:15	WeAT4.3
<i>Testing of Circuit Breakers Using Coil Current Characteristics Analysis (I)</i> , pp. 185-189. Rao, Peilei (Beijing Univ. of Aeronautics and Astronautics), Huang, Jian (Beijing Univ. of Aeronautics and Astronautics), Hu, Xiaoguang (Beijing Univ. of Aeronautics and Astronautics), Xiao, Jin (Beijing Univ. of Aeronautics and Astronautics)	11:15-11:35	WeAT4.4
<i>Research and Realization of On-Line Monitoring System for High Voltage Circuit Breaker Based on ZigBee Technology (I)</i> , pp. 190-195. Hu, Zhenfeng (Beijing Univ. of Aeronautics and Astronautics), Geng, Xin (Beijing Univ. of Aeronautics and Astronautics), Xiao, Jin (Beijing Univ. of Aeronautics and Astronautics), Hu, Xiaoguang (Beijing Univ. of Aeronautics and Astronautics)	11:35-11:55	WeAT4.5
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<b>WeAT5</b>		Christchurch
<b>Hybrid Systems (Invited Session)</b>		
Chair: Xiang, Cheng		National Univ. of Singapore
Co-Chair: Sun, Zhendong		South China Univ. of Tech.
Organizer: Xiang, Cheng		National Univ. of Singapore
Organizer: Lin, Hai		National Univ. of Singapore
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<i>Design of State-Feedback Matrix in Stabilization of Block-Cascading Switched Linear Systems (I)</i> , pp. 220-223. Qiao, Yupeng (South China Univ. of Tech.)		
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<i>Finite-Time Convergence of KH Model under Asymmetric Confidence Levels (I)</i> , pp. 224-227. Shen, Dongbin (South China Univ. of Tech.), Sun, Zhendong (South China Univ. of Tech.)		
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<i>Developments in Hybrid Modeling and Control of Unmanned Aerial Vehicles (I)</i> , pp. 228-233. Karimoddini, Ali (National Univ. of Singapore), Lin, Hai (National Univ. of Singapore), Chen, Ben M. (National Univ. of Singapore), Lee, Tong Heng (National Univ. of Singapore)		
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<i>Robust Control of Hybrid Plants in the Presence of Quantization Errors (I)</i> , pp. 234-239. Corradini, Maria Letizia (Univ. di Camerino), Ippoliti, Gianluca (Univ. Pol. delle Marche), Orlando, Giuseppe (Univ. di Camerino), Pettinari, Silvia (Univ. degli Studi di Camerino)		
<b>WeAT6</b>		Wellington
<b>Adaptive Control and Applications (Regular Session)</b>		
Chair: de la Sen, Manuel		Univ. del Pais Vasco
Co-Chair: Wen, Changyun		Nanyang Tech. Univ.
	10:15-10:35	WeAT6.1
<i>A Discrete Robust Adaptive Control to Stabilize LTI Plants by Using Multirate Sampling</i> , pp. 240-245. Alonso Quesada, Santiago (Univ. del Pais Vasco), de la Sen, Manuel (Univ. del Pais Vasco)		
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<i>Robust Adaptive Control Using Disturbance Observer for the System with Actuator of First Order Time Lag</i> , pp. 246-251. Noh, Ilhwan (Pohang Univ. of Science and Tech.), Won, Sangchul (Pohang Univ. of Science and Tech.)		
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<i>A Model-Free Control Method for Big Time Delay System Based on Improved Iterative Feedback Tuning</i> , pp. 264-269. Ai, Wei (South China Univ. of Tech.), Zhu, Xuefeng (South China University of Tech.), Peng, Tao (South China Univ. of Tech.)		
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*Adaptive Control for Ship Roll Motion with Fully Unknown Parameters*, pp. 270-274.

Dadras, Sara (Tarbiat Modares Univ.), Momeni, Hamid Reza (Tarbiat Modares Univ.), Dadras, Soudeh (Shiraz Univ.)

<b>WeMT1</b>		Chancellor 1
<b>Multi-Agent Systems</b> (Regular Session)		
Chair: Zheng, Yufan		Shanghai Univ.
Co-Chair: Wieland, Peter		Univ. of Stuttgart
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<i>Consensus of Multi-Agent System under Directed Network: A Matrix Analysis Approach</i> , pp. 280-284.		
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Wieland, Peter (Univ. of Stuttgart), Allgower, Frank (Univ. of Stuttgart)		
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Lim, Seunghan (KAIST), Bang, Hyochoong (KAIST)		
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<i>Immune Inspired Framework for Ad Hoc Networks Security</i> , pp. 297-302.		
Abdelgadir Mohamed, Yasir (Univ. Teknologi PETRONAS), Abdullah, Azween B. (Univ. Teknologi PETRONAS)		
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Shu, Linglin (Shanghai Univ.), Zheng, Yufan (Shanghai Univ.), Shao, Haibin (Shanghai Univ.), Pan, Weiyun (Shanghai Univ.)		
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<b>PID Control and Applications</b> (Regular Session)		
Chair: Nguang, Sing Kiong		The Univ. of Auckland
Co-Chair: Yamamoto, Toru		Hiroshima Univ.
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<i>PI Power Control for CDMA Cellular Communication Systems</i> , pp. 309-313.		
Arynova, Aisha S. (The Univ. of Auckland), Nguang, Sing Kiong (The Univ. of Auckland), Liu, Guangyu (The Univ. of Auckland)		
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Zhang, Ridong (Hangzhou Dianzi Univ.), Li, Ping (Liaoning Univ. of Petroleum & Chemical Tech.), Ren, Zhengyun (Donghua Univ.), Wang, Shuqing (Zhejiang Univ.)		
13:55-14:15		WeMT2.3
<i>One-Parameter Tuning PID Control of Chemical Processes</i> , pp. 319-324.		
Fujii, Kenzo (Idmitsu Kosan Company Ltd), Yamamoto, Toru (Hiroshima Univ.)		
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Ahmad, Mohd Ashraf (Univ. Malaysia Pahang), Ramli, Mohd Syakirin (Univ. Malaysia Pahang), Raja Ismail, Raja Mohd Taufika (Univ. Malaysia Pahang), Nasir, Ahmad Nor Kasruddin (Univ. Malaysia Pahang), Zawawi, Mohd Anwar (Univ. Malaysia Pahang)		
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Guo, Shu-Mei (National Cheng-Kung Univ.), Tsai, Jason S. H. (National Cheng-Kung Univ.), Lin, Yen C. (National Cheng-Kung Univ.), Tsai, Tzong-Jiy (Tung-Fang Inst. of Tech.), Chen, Chia W. (Kao Yuan Univ.)		
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<i>Self Tuned State-Feedback for Keeping Optimal Setting of Superior PI Control</i> , pp. 337-342.		
Šulc, Bohumil (Czech Tech. Univ. in Prague), Novak, Martin (Czech Tech. Univ. in Prague)		
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<b>Motion Control</b> (Regular Session)		
Chair: Toda, Masayoshi		Tokyo Univ. of Marine Science and Tech.
Co-Chair: Chen, Ben M.		National Univ. of Singapore
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<i>Modeling and Simulated Control of an under Actuated Autonomous Underwater Vehicle</i> , pp. 343-348.		
Evers, Geert-Jan (The Eindhoven Univ. of Tech.), Vervoort, J. H. A. M. (The Eindhoven Univ. of Tech.), Engelaar, R. C. (The Eindhoven Univ. of Tech.), Nijmeijer, H. (The Eindhoven Univ. of Tech.), de Jager, A. G. (The Eindhoven Univ. of Tech.), Chen, Xiao-Qi (Univ. of Canterbury), Wang, Wen-Hui (Univ. of Canterbury)		
13:35-13:55		WeMT3.2
<i>Motion Control of an Oscillatory-Base Manipulator in the Global Coordinates</i> , pp. 349-354.		
Sato, Masato (Tokyo Univ. of Marine Science and Tech.), Toda, Masayoshi (Tokyo Univ. of Marine Science and Tech.)		
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<i>Add-On Feedforward Disturbance Compensation for Vibration Suppression in HDD</i> , pp. 355-360.		
Wang, Jianyi (Nanyang Tech. Univ.), Wang, Youyi (Nanyang Tech. Univ.)		
14:15-14:35		WeMT3.4
<i>Direct Dynamic Visual Servoing at 1 Khz by Using the Product As 1.5D Encoder</i> , pp. 361-366.		

De Best, Jeroen Johannes Theodorus Hendrikus (Eindhoven Univ. of Tech.), Molengraft, René van de (Eindhoven Univ. of Tech.), Steinbuch, Maarten (Eindhoven Univ. of Tech.)	
14:35-14:55	WeMT3.5
<i>Moving Obstacle Avoidance for a Mobile Robot</i> , pp. 367-372.	
Park, Jung Hee (Seoul National Univ.), Choi, Jeong Sik (Seoul National Univ.), Kim, Jimin (Seoul National Univ.), Lee, Beom Hee (Seoul National Univ.)	
14:55-15:15	WeMT3.6
<i>Kinematically Constrained Smooth Real-Time Velocity Planning for Robotics Applications</i> , pp. 373-378.	
Guarino Lo Bianco, Corrado (Univ. of Parma), Bianco, Lo (Univ. of Parma)	

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**WeMT4** Chancellor 5

**Fuzzy and Neural Systems I** (Regular Session)

Chair: Shi, Juan	Victoria Univ.
Co-Chair: Belikov, Juri	Inst. of Cybernetics at Tallinn Univ. of
13:15-13:35	WeMT4.1
<i>An Experimental Comparison of a Model Based Controller and a Fuzzy Logic Controller for Magnetic Bearing System Stabilization</i> , pp. 379-384.	
Shi, Juan (Victoria Univ.), Lee, Wee Sit (Victoria Univ.)	
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<i>Fuzzy-Logic-Based Integration of Qualitative Uncertainties into Monetary Factory-Evaluations</i> , pp. 385-391.	
Reinhart, Gunther (Tech. Univ. Muenchen), Krebs, Pascal (Tech. Univ. Muenchen), Zaeh, Michael F. (Tech. Univ. Muenchen)	
13:55-14:15	WeMT4.3
<i>ISS Controller Synthesis of Affine Fuzzy Systems</i> , pp. 392-397.	
Li, Yguo (Southeast Univ.), Shen, Jiong (Southeast Univ.), Liu, Xichui (Southeast Univ.), Wu, Jie (Southeast Univ.)	
14:15-14:35	WeMT4.4
<i>Decision Making for Uncertain Data in Dynamic Environment Using Hybrid Method</i> , pp. 398-403.	
Shahi, Ahmad (Univ. Putra Malaysia), Binti Atan, Rodziah (Univ. Putra Malaysia), Sulaiman, Md. Nasir (Univ. Putra Malaysia)	
14:35-14:55	WeMT4.5
<i>Guaranteed Cost Fuzzy Tracking Control for Nonlinear Systems Via Output Feedback Approach</i> , pp. 404-409.	
Kang, Dongyeop (Pohang Univ. of Science and Tech.), Won, Sangchul (Pohang Univ. of Science and Tech.)	
14:55-15:15	WeMT4.6
<i>Neural Network Based Dynamic Pole Placement Control of Nonlinear Systems</i> , pp. 410-415.	
Petlenkov, Eduard (Tallinn Univ. of Tech.), Belikov, Juri (Tallinn Univ. of Tech.)	

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**WeMT5** Christchurch

**Discrete Event Systems** (Regular Session)

Chair: Le Gall, Tristan	Univ. Libre de Bruxelles
Co-Chair: Malik, Robi	Univ. of Waikato
13:15-13:35	WeMT5.1
<i>Validation of Petri Net Apoptosis Models Using P-Invariant Analysis</i> , pp. 416-421.	
Low, Wee Jin Ian (National Univ. of Singapore), Yang, Yang (National Univ. of Singapore), Lin, Hai (National Univ. of Singapore)	
13:35-13:55	WeMT5.2
<i>Model-Checking the Flooding Time Synchronization Protocol</i> , pp. 422-429.	
McInnes, Allan I. (Univ. of Canterbury)	
13:55-14:15	WeMT5.3
<i>Particle Filtering Mode Estimation of Hybrid Systems Based on a Novel Weighted Mode Activation Record Approach</i> , pp. 430-434.	
Salahshoor, Karim (Petroleum Univ. of Tech.), Samadi, Mohammad-Foad (Petroleum Univ. of Tech.), Safari, Ehsan (Petroleum Univ. of Tech.)	
14:15-14:35	WeMT5.4
<i>Computational Complexity for State-Feedback Controllers with Partial Observation</i> , pp. 435-441.	
Kalyon, Gabriel (Univ. Libre de Bruxelles), Le Gall, Tristan (Univ. Libre de Bruxelles), Marchand, Herve (INRIA, centre Rennes Bretagne-Atlantique), Massart, Thierry (Univ. Libre de Bruxelles)	
14:35-14:55	WeMT5.5
<i>Exploiting Distinguishing Sensors in Supervisory Control of DES</i> , pp. 442-447.	
Bouzon, Gustavo (Controlle Soluções em Mecatrônica), de Queiroz, Max H. (Univ. Federal de Santa Catarina), Cury, Jose E. R. (Univ. Federal de Santa Catarina)	
14:55-15:15	WeMT5.6
<i>A Compositional Approach for Verifying Generalised Nonblocking</i> , pp. 448-453.	
Malik, Robi (Univ. of Waikato), Leduc, Ryan (McMaster Univ.)	

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**WeMT6** Wellington

**Fault Detection** (Regular Session)

Chair: Xu, Jun	National Univ. of Singapore
Co-Chair: Fan, Huijin	Huazhong Univ. of Science and Tech.
13:15-13:35	WeMT6.1
<i>Real-Time for Monitoring Aluminium Reduction Cells Using Multi-Way PCA (MPCA) and Dynamic Euclidean Distances</i> , pp. 454-458.	
Abd Majid, Nazatul Aini (The Univ. of Auckland), Young, Brent (The Univ. of Auckland), Taylor, Mark (The Univ. of Auckland), Chen, John (The Univ. of Auckland)	
13:35-13:55	WeMT6.2

- A Theoretical Multiple Faults Diagnosis Approach of Hybrid Systems Applied to a Two Tank System*, pp. 459-464.  
Fourlas, George K. (Tech. Educational Inst. (T. E. I.) of Lamia) WeMT6.3
- 13:55-14:15
- Active Diagnosis of Hybrid Systems - a Model Predictive Approach*, pp. 465-470.  
Tabatabaeipour, Seyedmojtaba (Aalborg Univ.), Ravn, Anders P. (Aalborg Univ.), Izadi-Zamanabadi, Roozbeh (Aalborg Univ.), Bak, Thomas (Aalborg Univ.) WeMT6.4
- 14:15-14:35
- A Novel UIO-Based Approach for Fault Detection and Isolation in Finite Frequency Domain*, pp. 471-476.  
Lum, Kai-Yew (National Univ. of Singapore), Xu, Jun (National Univ. of Singapore), Xie, Lihua (Nanyang Tech. Univ.), Loh, Ai-Poh (National Univ. of Singapore) WeMT6.5
- 14:35-14:55
- Fault Tolerant Control of Networked Control System in Presence of Actuator Failure Using Predictive Reconfiguration*, pp. 477-482.  
Moradi Amani, Ali (Amirkabir Univ. of Tech.), Afshar, Ahmad (Amirkabir Univ. of Tech.), Menhaj, Mohammad Bagher (Amirkabir Univ. of Tech.) WeMT6.6
- 14:55-15:15
- A Fault-Tolerant Algorithm with Cycled Resetting Discount Factor in Semiconductor Manufacturing Industry*, pp. 483-488.  
Ai, Bing (Huazhong Univ. of Science and Tech.), Zheng, Ying (Huazhong Univ. of Science and Tech.), Zhang, Zheng (Hunan Television Station)

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**WePT1** Chancellor 1

**Robust Control (Regular Session)**

- Chair: Zhang, Jingxin Monash Univ.  
Co-Chair: Cai, Wen-Jian Nanyang Tech. Univ.
- 15:45-16:05 WePT1.1
- H2 Optimal Signal Predictive Quantization Subject to Channel Loss*, pp. 489-494.  
Xue, Tong (Monash Univ.), Zhang, Jingxin (Monash Univ.)
- 16:05-16:25 WePT1.2
- H-Infinity Robust Controller for Discrete-Time Linear Systems under Control and Output Constraints*, pp. 495-499.  
Nogueira, Alvaro (Pontificia Univ. Católica do Paraná (PUCPR)), Araújo, Humberto Xavier (Univ. Federal da Bahia), Oliveira, Gustavo H. C. (Pontifical Catholic Univ. of Parana)
- 16:25-16:45 WePT1.3
- Robust Control Correction Synthesis: A Set Theoretic Approach*, pp. 500-506.  
Rakovic, Sasa V. (Imperial Coll. London), Kearney, Michael Peter (Univ. of Queensland), McAree, Peter Ross (Univ. of Queensland)
- 16:45-17:05 WePT1.4
- A Method of Robust Control System Design Based on Quality Engineering and Its Application*, pp. 507-512.  
Nagamine, Takuya (Graduate School of Science and Tech. Nihon Univ.), Horiuchi, Shinichiro (Coll. of Science and Tech. Nihon Univ.)
- 17:05-17:25 WePT1.5
- Robust H<sub>∞</sub>/D-Stability Control of Systems with Polytopic Uncertainty*, pp. 513-518.  
Fu, Dong (Hebei Univ. of Science and Tech.), Ni, Suhong (Hebei Univ. of Science and Tech.), Sun, Man (Northeastern Univ. at Qinhuangdao)
- 17:25-17:45 WePT1.6
- Reflection Coefficient Approach to Robust State Controller Design*, pp. 519-523.  
Nurges, Ulo (Tallinn Univ. of Tech.), Rustern, Ennu (Tallinn Univ. of Tech.)

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**WePT2** Chancellor 3

**Nonlinear Systems and Control I (Regular Session)**

- Chair: Celikovskiy, Sergej Inst. of Information Theory & Automation, Acad. of Science of Czech Republic  
Co-Chair: Belikov, Juri Inst. of Cybernetics at Tallinn Univ. of
- 15:45-16:05 WePT2.1
- Control of Nonlinear Systems with Time-Varying Output Constraints*, pp. 524-529.  
Tee, Keng Peng (Inst. for Infocomm Res. A\*STAR), Ge, Shuzhi Sam (National Univ. of Singapore), Li, Haizhou (Inst. for Infocomm Res. A\*STAR), Ren, Beibei (National Univ. of Singapore)
- 16:05-16:25 WePT2.2
- Efficient Chaos Shift Keying Method Based on the Second Error Derivative Anti-Synchronization Detection*, pp. 530-535.  
Celikovskiy, Sergej (Acad. of Sciences of the Czech), Lynnyk, Volodymyr (Czech Tech. Univ. in Prague)
- 16:25-16:45 WePT2.3
- Model Reference Control of Nonlinear MIMO Systems by Dynamic Output Feedback Linearization of ANARX Models*, pp. 536-541.  
Belikov, Juri (Tallinn Univ. of Tech.), Petlenkov, Eduard (Tallinn Univ. of Tech.)
- 16:45-17:05 WePT2.4
- The Research of Signal Synchronization for Duffing Chaotic System with Uncertainty*, pp. 542-545.  
Wang, Qingguo (Zhejiang Univ.), Yan, Wenjun (Zhejiang Univ.), Wang, Peiliang (Huzhou Teachers Coll.)
- 17:05-17:25 WePT2.5
- Realization Problem of SISO Nonlinear Systems: A Transfer Function Approach*, pp. 546-551.  
Halas, Miroslav (Slovak Univ. of Tech.), Kotta, Ülle (Inst. of Cybernetics at TUT)
- 17:25-17:45 WePT2.6
- Introducing High-Gain Internal Model to Semi-Global Robust Output Regulation for Minimum-Phase Nonlinear Systems*, pp. 552-557.  
Wei, Xile (Tianjin Univ.), Wang, Jiang (Tianjin Univ.), Deng, Bin (Tianjin Univ.), Che, Yan-Qiu (Tianjin Univ.)

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**WePT3** Chancellor 4

**Process Control (Regular Session)**

Chair: Ferkl, Lukas	Czech Tech. Univ. in Prague, Faculty of Electrical Engineering
Co-Chair: Paraschiv, Nicolae	Petroleum - Gas Univ. of Ploiesti
15:45-16:05	WePT3.1
<i>Controller Design Using Second Order Sliding Mode Algorithm with an Application to a Coupled-Tank Liquid-Level System</i> , pp. 558-563. Benayache, Rabià (Univ. de Picardie Jules Verne), Mahieddine Mahmoud, Sofiane (Univ. de Picardie Jules Verne), Chrifi-Alaoui, Larbi (Univ. de Picardie Jules Verne), Bussy, Pascal (Univ. de Picardie Jules Verne), Castelain, Jean-Marie (Univ. de Valenciennes et du Hainaut Cambrésis)	
16:05-16:25	WePT3.2
<i>Real-Time Optimal Control for Three-Tanks Level System Via Improved ADDHP Method</i> , pp. 564-568. Song, Shaojian (Guangxi Univ.), Cai, Guang (Guangxi Univ.), Liao, Bi-Lian (Guangxi Univ.), Lin, Xiao-feng (Guangxi Univ.)	
16:25-16:45	WePT3.3
<i>On-Line, Auto-Tuning Regulation of Electronic Expansion Valve for Evaporator Control</i> , pp. 569-574. Beghi, Alessandro (Univ. di Padova), Cecchinato, Luca (Univ. di Padova), Rampazzo, Mirco (Univ. di Padova)	
16:45-17:05	WePT3.4
<i>A Simple Bumpless Transfer Mechanism with Application to Multi-Effect Evaporators</i> , pp. 575-580. Burke, Brendan J. (The Univ. of Newcastle), Rojas, Alejandro J. (The Univ. of Newcastle), Welsh, James S. (The Univ. of Newcastle), Adams, Gregory J. (The Univ. of Newcastle)	
17:05-17:25	WePT3.5
<i>Using an Advanced Control Technique for Controlling a Distillation Column</i> , pp. 581-584. Paraschiv, Nicolae (Petroleum - Gas Univ. of Ploiesti), Baiesu, Alina (Petroleum - Gas Univ. of Ploiesti), Stamatescu, Grigore (Pol. Univ. Bucharest)	
17:25-17:45	WePT3.6
<i>Model of a Hot Water Full Circulation Mode in a Building</i> , pp. 585-590. Siroky, Jan (Univ. of West Bohemia in Pilsen), Ferkl, Lukas (Czech Tech. Univ. in Prague)	

**WePT4**

Chancellor 5

**Intelligent Control System Design for Tera-Bit Class Hard Disk Drives (Invited Session)**

Chair: Pang, Chee Khiang	National Univ. of Singapore
Co-Chair: Jia, QingWei	Hitachi Asia Ltd
Organizer: Pang, Chee Khiang	National Univ. of Singapore
Organizer: Jia, QingWei	Hitachi Asia Ltd
15:45-16:05	WePT4.1
<i>Sensitivity Loop Shaping for Disturbance Rejection in Hard Disk Drives (I)</i> , pp. 591-596. Zheng, Jinchuan (The Univ. of Newcastle, Australia), Fu, Minyue (The Univ. of Newcastle, Australia), Du, Chunling (Data Storage Inst.), Wang, Youyi (Nanyang Tech. Univ.), Xie, Lihua (Nanyang Tech. Univ.)	
16:05-16:25	WePT4.2
<i>Two-Degree-Of-Freedom Seeking Control for Low Acoustics of Hard Disk Drives (I)</i> , pp. 597-602. Wang, Jianyi (Nanyang Tech. Univ.), Jia, QingWei (Hitachi Asia Ltd), Wang, Youyi (Nanyang Tech. Univ.)	
16:25-16:45	WePT4.3
<i>System Identification of Modal Parameters in Dual-Stage Hard Disk Drives (I)</i> , pp. 603-608. Pang, Chee Khiang (National Univ. of Singapore), Lewis, Frank L. (Univ. of Texas at Arlington)	
16:45-17:05	WePT4.4
<i>FPGA Implementation of Nonlinear Control on Hard Disk Drive (I)</i> , pp. 609-614. Teoh, Jul Nee (Data Storage Inst. A*STAR), Wong, Wai Ee (Data Storage Inst. A*STAR), Ould Bachir, Tarek (Ec. Pol. de Montreal), Hu, Yingtuo (National Univ. of Singapore), Hong, Fan (Data Storage Inst. A*STAR), Du, Chunling (Data Storage Inst.), Al-Mamun, Abdullah (National Univ. of Singapore)	
17:05-17:25	WePT4.5
<i>Modeling of Nonlinear Dynamics at Low Frequencies in Hard Disk Drive and Its Adaptive Compensation (I)</i> , pp. 615-618. Zhang, Jingliang (Data Storage Inst. A*STAR), Ge, Shuzhi Sam (National Univ. of Singapore), Hong, Fan (Data Storage Inst. A*STAR), Pang, Chee Khiang (National Univ. of Singapore)	
17:25-17:45	WePT4.6
<i>Method for Attenuating Mechanical Resonances Using a Multirate Low-Pass Filter (I)</i> , pp. 619-624. Jia, QingWei (Hitachi Asia Ltd)	

**WePT5**

Christchurch

**Modelling and Control of Biological Systems (Regular Session)**

Chair: Deng, Mingcong	Okayama Univ.
Co-Chair: Shi, Wenyu	Lehigh Univ.
15:45-16:05	WePT5.1
<i>Modeling and Control of the Heart Rate and Blood Volume Responses to Hemodialysis</i> , pp. 625-630. Javed, Faizan (The Univ. of New South Wales), Savkin, Andrey V. (The Univ. of New South Wales), Chan, Gregory S. H. (The Univ. of New South Wales), Middleton, Paul M. (Prince of Wales Hospital), Malouf, Philip (Prince of Wales Hospital), Steel, Elizabeth (Prince of Wales Hospital), Mackie, James (Prince of Wales Hospital), Cheng, Teddy M. (The Univ. of New South Wales)	
16:05-16:25	WePT5.2
<i>Unique Parameter Identification of a Cardiovascular System Model Using Feedback Control</i> , pp. 631-636. Hann, Christopher Eric (Univ. of Canterbury), Chase, Geoffrey (Univ. of Canterbury), Desai, Thomas (Liege Univ.), Froissart, Claire (Univ. de Tech. de Belfort-Montbéliard), Revie, James (Univ. of Canterbury), Stevenson, David (Univ. of Canterbury), Shaw, Geoffrey M (Christchurch Hospital)	
16:25-16:45	WePT5.3



<i>Mathematical and Physical Models of a Total Artificial Heart</i> , pp. 637-642. Shi, Wenyu (Lehigh Univ.), Chew, Meng-Sang (Lehigh Univ.)	WePT5.4
16:45-17:05	WePT5.4
<i>Identification of MIMO-ARMAX Models for Glycemia and Sodium Ions Tests, through Particle Swarm Optimization</i> , pp. 643-650. Stefanoiu, Dan (Univ. Pol. of Bucharest), Seraficeanu, Cristian (National Inst. for Diabetes, Nutrition and Metabolic Disease), Culita, Janetta (Univ. Pol. of Bucharest), Musca, Gheorghe (Fresenius Medical Care Romania)	WePT5.5
17:05-17:25	WePT5.5
<i>Online Estimation of Multijoint Human Arm Viscoelasticity for the Case of Unknown Variance</i> , pp. 651-654. Iseki, Keiko (Okayama Univ.), Deng, Mingcong (Okayama Univ.), Inoue, Akira (Okayama Univ.), Bu, Ni (Okayama Univ.)	WePT5.6
17:25-17:45	WePT5.6
<i>Adaptive Control of a Total Artificial Heart – an Experimental Investigation</i> , pp. 655-660. Shi, Wenyu (Lehigh Univ.), Chew, Meng-Sang (Lehigh Univ.)	

<b>WePT6</b>	Wellington
<b>Dynamics and Control of Smart Structures (Invited Session)</b>	
Chair: Mao, Jianqin	BEIHANG Univ.
Co-Chair: Li, Lin	Beijing Univ. of Aeronautics & Astronautics
Organizer: Mao, Jianqin	BEIHANG Univ.
15:45-16:05	WePT6.1
<i>Modeling and Optimal Control for a Smart Structure with Stress-Dependent Hysteresis (I)</i> , pp. 661-666. Ma, Yan Hua (Beijing Univ. of Aero. & Astro.), Mao, Jianqin (Beijing Univ. of Aero. & Astro.)	
16:05-16:25	WePT6.2
<i>Dynamic Model Considering the <math>\pi</math> E Effect for Giant Magnetostrictive Actuators (I)</i> , pp. 667-672. Yang, Yong (Beijing Univ. of Aeronautics & Astronautics), Li, Lin (Beijing Univ. of Aeronautics & Astronautics)	
16:25-16:45	WePT6.3
<i>Model Reference Control with Adaptive Inverse Compensation for Systems Preceded by Stress-Dependent Hysteresis of GMA (I)</i> , pp. 673-678. Zhang, Zhen (Beijing Univ. of Aeronautics & Astronautics), Mao, Jianqin (Beijing Univ. of Aeronautics & Astronautics)	
16:45-17:05	WePT6.4
<i>Study on Guidance and Control Techniques of Mass Moment Vehicle (I)</i> , pp. 679-684. Liu, Jizhong (Beijing Univ. of Aeronautics & Astronautics), Gao, Xiaoying (Beijing Aerospace Automatic control Inst.), Ma, Yan Hua (Beijing Univ. of Aeronautics & Astronautics)	
17:05-17:25	WePT6.5
<i>On the Robust Control of Systems Preceded by Coleman-Hodgdon Hysteresis (I)</i> , pp. 685-689. Du, Juan (South China Univ. of Tech.), Feng, Ying (Concordia Univ.), Su, Chun-Yi (Concordia Univ.), Hu, Yue-ming (South China Univ. of Tech.)	
17:25-17:45	WePT6.6
<i>Active Vibration Control Simulation of the Vibration Isolation Platform (I)</i> , pp. 690-693. Gao, Yanlei (Civil Aviation Administration China), Li, Lin (Beijing Univ. of Aeronautics & Astronautics)	

<b>ThKS</b>	Chancellor 1
<b>Keynote 2: What Makes a Good Regulator, by Prof Jie Huang (Plenary Session)</b>	
Chair: Feng, Gang	City Univ. of Hong Kong
Co-Chair: Hagedorn, Peter	Tech. Univ. Darmstadt
08:30-09:30	ThKS.1
<i>What Makes a Good Regulator?</i> , pp. 694-694. Huang, Jie (Chinese Univ. of Hong Kong)	

<b>ThAT1</b>	Chancellor 1
<b>Optimal Control (Regular Session)</b>	
Chair: Kami, Yasushi	Akashi National Coll. of Tech.
Co-Chair: Jastrzebski, Rafal Piotr	Lappeenranta Univ. of Tech.
10:00-10:20	ThAT1.1
<i>Control of the Pareto Optimality of Systems with Unknown Disturbances</i> , pp. 695-700. Geisler, Jens (Univ. of Paderborn), Traechtler, Ansgar (Univ. of Paderborn)	
10:20-10:40	ThAT1.2
<i>Numerical Method of Network Operator for Multiobjective Synthesis of Optimal Control System</i> , pp. 701-708. Diveev, Askhat (Inst. of Russian Acad. of Sciences), Sofronova, Elena (Peoples' Friendship Univ. of Russia)	
10:40-11:00	ThAT1.3
<i>An Exterior-Point Approach to the Fixed-Order Mixed H-Infinity/d-Stability Controller Design</i> , pp. 709-714. Terada, Takeshi (Advanced Courses of Akashi National Coll. of Tech.), Kami, Yasushi (Akashi National Coll. of Tech.), Nobuyama, Eitaku (Kyushu Inst. of Tech.)	
11:00-11:20	ThAT1.4
<i>Signal-Based <math>H_{\infty}</math> Optimal Control for AMB System Based on Genetic Algorithm</i> , pp. 715-721. Jastrzebski, Rafal Piotr (Lappeenranta Univ. of Tech.)	
11:20-11:40	ThAT1.5
<i>Optimal Control of Nonlinear Discrete-Time Stochastic System with Model-Reality Differences</i> , pp. 722-726. Abdul Aziz, Mohd Ismail (Univ. Teknologi Malaysia (UTM)), Kek, Sie Long (Univ. Tun Hussein onn malaysia (UTHM))	
11:40-12:00	ThAT1.6

*Information Fusion Based Solving Method for Linear Quadratic Optimal Control Problem*, pp. 727-731.

Zhen, Zi-yang (Nanjing Univ. of Aeronautics and Astronautics), Wang, Zhi-sheng (Nanjing Univ. of Aeronautics and Astronautics), Hu, Zhou (Nanjing Univ. of Aeronautics and Astronautics)

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### ThAT2

Chancellor 3

#### Nonlinear Systems and Control II (Regular Session)

Chair: Kotta, Ülle  
Co-Chair: Lee, Ti-Chung

Inst. of Cybernetics at TUT  
Univ. of Science and Tech.

10:00-10:20

ThAT2.1

*Output Regulation of Non-Minimum Phase Nonlinear Systems Using an Extended High-Gain Observer*, pp. 732-737.

Nazulla, Shahid (Michigan State Univ.), Khalil, Hassan K. (Michigan State Univ.)

10:20-10:40

ThAT2.2

*Variance Decomposition of Nonlinear Systems*, pp. 738-744.

Yu, Wei (The Univ. of Auckland), Wilson, David I. (Auckland Univ. of Tech.), Young, Brent (The Univ. of Auckland), Harris, Thomas J. (Queen's Univ.)

10:40-11:00

ThAT2.3

*Necessary Conditions for Transformation the Nonlinear Control System into the Observer Form Via State and Output Coordinate Changes*, pp. 745-750.

Kaparin, Vadim (Univ. of Tech. Akadeemia), Kotta, Ülle (Univ. of Tech. Akadeemia)

11:00-11:20

ThAT2.4

*State and Unknown Input Estimations for a Special Class of Nonlinear Uncertain Systems*, pp. 751-756.

Veluvolu, Kalyana C. (Kyungpook National Univ.), Lee, Dongik (Kyungpook National Univ.), Soh, Yeng Chai (Nanyang Tech. Univ.)

11:20-11:40

ThAT2.5

*Results on Uniform Asymptotic Stability of Nonlinear Time-Varying Switched Systems*, pp. 757-762.

Lee, Ti-Chung (Univ. of Science and Tech.)

11:40-12:00

ThAT2.6

*Irreducibility and Reduction of MIMO Nonlinear Control Systems: Unification and Extension Via Pseudo-Linear Algebra*, pp. 763-768.

Kotta, Ülle (Inst. of Cybernetics at TUT), Kotta, Palle (Inst. of Cybernetics at TUT), Halas, Miroslav (Slovak Univ. of Tech.)

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### ThAT3

Chancellor 4

#### Robot Motion Control (Invited Session)

Chair: Chen, Weihai  
Co-Chair: Zhao, Zhiwen  
Organizer: Chen, Weihai

Beijing Univ. of Aeronautics and Astronautics, China  
Beijing Normal Univ.  
Beijing Univ. of Aeronautics and Astronautics, China

10:00-10:20

ThAT3.1

*Dynamics Analysis and Trajectory Tracking Control for a Cockroach-Like Robot (I)*, pp. 769-774.

Gao, Yong (Beijing Univ. of Aeronautics and Astronautics, China), Chen, Weihai (Beijing Univ. of Aeronautics and Astronautics, China), Lu, Zhen (Beijing Univ. of Aeronautics and Astronautics, China), Chen, Xiao-Qi (Univ. of Canterbury)

10:20-10:40

ThAT3.2

*A Highly Flexible Virtual Physics-Based Control Framework for Multi-Robot Chemical Plume Tracing (I)*, pp. 775-779.

Zou, Yuhua (Beijing Univ. of Aeronautics and Astronautics, China), Chen, Weihai (Beijing Univ. of Aeronautics and Astronautics, China), Luo, Dehan (Guangdong Univ. of Tech. China)

10:40-11:00

ThAT3.3

*The Study on Algorithm for Avoiding Dynamics Singularities of a Space Robot (I)*, pp. 780-785.

Chen, Gang (Beijing Univ. of Posts and Telecommunications), Jia, Qingxuan (Beijing Univ. of Posts and Telecommunications), Sun, Hanxu (Beijing Univ. of Posts and Telecommunications), Wang, Jun (Beijing Univ. of Posts and Telecommunications), Zhang, Wei (China Power Engineering Consulting Group Corp.)

11:00-11:20

ThAT3.4

*Structure Optimization and Tension Analysis of a Cable-Driven Spherical Joint (I)*, pp. 786-791.

Chen, Quanzhu (Beijing Univ. of Aeronautics & Astronautics), Chen, Weihai (Beijing Univ. of Aeronautics & Astronautics), Liu, Rong (Beijing Univ. of Aeronautics & Astronautics), Zhang, Jianbin (Beijing Univ. of Aeronautics & Astronautics)

11:20-11:40

ThAT3.5

*Swarm Robotic Odor Source Localization Using Ant Colony Algorithm (I)*, pp. 792-796.

Zou, Yuhua (Beijing Univ. of Aeronautics and Astronautics), Luo, Dehan (Guangdong Univ. of Tech.), Chen, Weihai (Beijing Univ. of Aeronautics and Astronautics, China)

11:40-12:00

ThAT3.6

*General Automation Test System Based on the Cooperation of Software and Hardware (I)*, pp. 797-800.

Xu, Chongbin (Beijing Normal Univ.), Zhao, Zhiwen (Beijing Normal Univ.), Wang, Feng (Beijing Normal Univ.), Xu, Ke (Beijing Normal Univ.)

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### ThAT4

Chancellor 5

#### Modelling and Control of Power and Transmission Systems (Regular Session)

Chair: Havel, Petr  
Co-Chair: Lie, Tek Tjing

Faculty of Electrical Engineering, Czech Tech.  
AUCKLAND Univ. OF Tech.

10:00-10:20

ThAT4.1

*Magnetic Field Reduction by Optimal Connection for Power Transmission Lines with Underground Power Cables*, pp. 801-806.

Lai, Gordan G. (Chung Cheng Univ.), Yang, Chien-feng (Chung Cheng Univ.), Huang, Hunter M. (Chung Cheng Univ.), Su, Ching-Tzong (WuFeng Inst. of Tech.)

10:20-10:40

ThAT4.2

*Optimal Dispatch of Regulation Reserves for Power Balance Control in Transmission System*, pp. 807-812.

Havel, Petr (The Czech Tech. Univ.), Malik, Ondřej (The Czech Tech. Univ.)

10:40-11:00	ThAT4.3
<i>A Nonlinear TCSC Controller Based on Control Lyapunov Function and Receding Horizon Strategy for Power System Transient Stability Improvement</i> , pp. 813-818.	
Wagh, Sushama (Veermata Jijabai Tech. Inst.), Kamath, Atul R. (Veermata Jijabai Tech. Inst.), Singh, Navdeep M. (Veermata Jijabai Tech. Inst.)	
11:00-11:20	ThAT4.4
<i>Optimal Production Planning of a Power Plant</i> , pp. 819-824.	
Kragelund, Martin (Aalborg Univ.), Jonsson, Ulf T. (Royal Inst. of Tech.), Leth, John (Aalborg Univ.), Wisniewski, Rafael (Aalborg Univ.)	
11:20-11:40	ThAT4.5
<i>A Dynamic Model for Control Purposes of a Wave Energy Power Plant Buoyancy System</i> , pp. 825-830.	
Nielsen, Kirsten Mflgaard (Aalborg Univ.), Pedersen, Tom S. (Aalborg Univ.)	
11:40-12:00	ThAT4.6
<i>An Application of Orthonormal Basis Functions in Power Transformers Wide Band Modeling</i> , pp. 831-836.	
Oliveira, Gustavo H. C. (Pontifical Catholic Univ. of Parana), Maestrelli, Rafael (PUC-PR), Rocha, Angelica C. O. (CEMIG)	

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**ThAT5** Christchurch

**Micro and Nano Systems** (Regular Session)

Chair: Merry, Roel	Eindhoven Univ. of Tech.
Co-Chair: Liang, Jin-Wei	Ming Chi Univ. of Tech.
10:00-10:20	ThAT5.1
<i>A Micro-Pit for Biological Cell Positioning</i> , pp. 837-841.	
Clow, Andrew L. (Univ. of Canterbury), Gaynor, Paul (Univ. of Canterbury), Oback, Björn (Ruakura Res. Centre)	
10:20-10:40	ThAT5.2
<i>Modeling of a Walking Piezo Actuator</i> , pp. 842-847.	
Merry, Roel (Eindhoven Univ. of Tech.), Molengraft, René van de (Eindhoven Univ. of Tech.), Steinbuch, Maarten (Eindhoven Univ. of Tech.)	
10:40-11:00	ThAT5.3
<i>FAT-Based Adaptive Sliding-Mode Control for a Piezoelectric-Actuated System</i> , pp. 848-853.	
Liang, Jin-Wei (Ming Chi Univ. of Tech.), Chen, Hung-Yi (Ming Chi Univ. of Tech.), Tsu, Yu-Ting (Ming Chi Univ. of Tech.)	
11:00-11:20	ThAT5.4
<i>Repetitive Control Applied to a Walking Piezo Actuator</i> , pp. 854-859.	
Merry, Roel (Eindhoven Univ. of Tech.), Kessels, Dirk (Eindhoven Univ. of Tech.), Molengraft, René van de (Eindhoven Univ. of Tech.), Steinbuch, Maarten (Eindhoven Univ. of Tech.)	
11:20-11:40	ThAT5.5
<i>Neuro-Fuzzy Microbotic System Identification for Haptic Intracellular Injection</i> , pp. 860-866.	
Ghanbari, Ali (Univ. of Canterbury), Chen, Xiao-Qi (Univ. of Canterbury), Wang, Wen-Hui (Univ. of Canterbury)	
11:40-12:00	ThAT5.6
<i>A PVDF Based 3D Force Sensor for Micro and Nano Manipulation</i> , pp. 867-871.	
Faramarzi, Sohrab (Univ. of Canterbury), Ghanbari, Ali (Univ. of Canterbury), Chen, Xiao-Qi (Univ. of Canterbury), Wang, Wen-Hui (Univ. of Canterbury)	

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**ThAT6** Wellington

**Sliding Mode Control** (Regular Session)

Chair: Edwards, Christopher	Univ. of Leicester
Co-Chair: Xu, Jian-Xin	National Univ. of Singapore
10:00-10:20	ThAT6.1
<i>Robust Second Order Sliding Mode Controller for Nonlinear Hydraulic System</i> , pp. 872-877.	
Benayache, Rabiâ (Univ. de Picardie Jules Verne), Mahieddine Mahmoud, Sofiane (Univ. de Picardie Jules Verne), Dovifaaz, Xavier (Univ. de Picardie Jules Verne), Chrifi-Alaoui, Larbi (Univ. de Picardie Jules Verne), Bussy, Pascal (Univ. de Picardie Jules Verne)	
10:20-10:40	ThAT6.2
<i>A Simulator Evaluation of a Model-Reference Sliding Mode Fault Tolerant Controller</i> , pp. 878-883.	
Alwi, Halim (Univ. of Leicester), Edwards, Christopher (Univ. of Leicester), Stroosma, Olaf (Delft Univ. of Tech.), Mulder, J.A. (Delft Univ. of Tech.)	
10:40-11:00	ThAT6.3
<i>Decentralized Model Following Adaptive Sliding Mode Controllers for Uncertain Large Scale Systems with Time-Varying Delay Interconnections</i> , pp. 884-890.	
Shigemaru, Shinji (Prefectural Univ. of Hiroshima), Wu, Hansheng (Prefectural Univ. of Hiroshima)	
11:00-11:20	ThAT6.4
<i>Introducing Conditional Integrator to Sliding Mode Control of DC/DC Buck Converter</i> , pp. 891-896.	
Liu, Yuliang (Tianjin Univ. of Tech. and Education), Lu, Meili (Tianjin Univ.), Wei, Xile (Tianjin Univ.), Li, Huiyan (Tianjin Univ. of Tech. and Education), Wang, Jiang (Tianjin Univ.), Che, Yan-Qiu (Tianjin Univ.), Deng, Bin (Tianjin Univ.), Dong, Feng (Tianjin Univ.)	
11:20-11:40	ThAT6.5
<i>A Sliding Mode Controller Scheme for an Underactuated Unicycle</i> , pp. 897-902.	
Xu, Jian-Xin (National Univ. of Singapore), Guo, Zhao-Qin (National Univ. of Singapore), Lee, Tong Heng (National Univ. of Singapore)	
11:40-12:00	ThAT6.6
<i>An LMI Approach for Sliding Mode Static Output Feedback Simultaneous Stabilisation</i> , pp. 903-908.	
Andrade-Dasilva, J. M. (Univ. of Leicester), Edwards, Christopher (Univ. of Leicester)	

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**ThMT1** Chancellor 1

**Sensor Networks and Networked Control I** (Regular Session)

Chair: Aubrun, Christophe	Univ. Henri Poincaré
Co-Chair: Ding, Baocang	Chongqing Univ.
13:00-13:20	ThMT1.1
<i>Effect of Bounded Delay on Convergence Speed of Distributed Consensus Algorithms</i> , pp. 909-913. Cihan, Onur (Bogazici Univ.), Akar, Mehmet (Bogazici Univ.)	
13:20-13:40	ThMT1.2
<i>Observer-Based H-Infinity Control for Networked Control Systems with Multiple Packet Dropouts</i> , pp. 914-919. Che, Wei-Wei (Nanyang Tech. Univ.), Wang, Jian-Liang (Nanyang Tech. Univ.), Yang, Guang-Hong (Northeastern Univ.)	
13:40-14:00	ThMT1.3
<i>Stabilization of Linear Systems Over Networks with Double-Sided, Finite Bounded, Arbitrary Packet Loss</i> , pp. 920-925. Ding, Baocang (Chongqing Univ.), Xie, Lihua (Nanyang Tech. Univ.)	
14:00-14:20	ThMT1.4
<i>State Estimation for Distributed Parameter Systems under Intermittent Observations</i> , pp. 926-930. Muraca, Pietro (Univ. della Calabria), Pugliese, Paolo (Univ. della Calabria)	
14:20-14:40	ThMT1.5
<i>Autonomous Resource Management System of Netted Radar for Tactical Aircrafts</i> , pp. 931-935. Gu, Xiao-Jie (Northwestern Pol. Univ.), Wang, Xin-Min (Northwestern Pol. Univ.), Zhao, Kai-Rui (Northwestern Pol. Univ.), Li, Yan (Northwestern Pol. Univ.)	
14:40-15:00	ThMT1.6
<i>Distributed State Estimation and Model Predictive Control : Application to Fault Tolerant Control</i> , pp. 936-941. Menighed, Kamel (Nancy Univ.), Aubrun, Christophe (Nancy Univ.), Yamé, Joseph-Julien (Nancy Univ.)	
15:00-15:20	ThMT1.7
<i>Multirate Networked Control of Plantwide Chemical Processes</i> , pp. 942-947. Xu, Shichao (The Univ. of New South Wales), Bao, Jie (The Univ. of New South Wales), Zhang, Weidong (Shanghai Jiaotong Univ.)	

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**ThMT2** Chancellor 3

**Linear Systems and Control II (Regular Session)**

Chair: Pantelous, Athanasios	Univ. of Liverpool
Co-Chair: Schmid, Robert	Univ. of Melbourne
13:00-13:20	ThMT2.1
<i>Positive Realness Is Not Equivalent to External Positivity</i> , pp. 948-953. de la Sen, Manuel (Univ. del Pais Vasco)	
13:20-13:40	ThMT2.2
<i>Survey of Transient Performance in Tracking Controllers</i> , pp. 954-959. Schmid, Robert (Univ. of Melbourne), Payne, Koji (Univ. of Melbourne)	
13:40-14:00	ThMT2.3
<i>Low Complexity Parameterized Approximations of Reachable Sets for LTI Systems</i> , pp. 960-965. Savkovic, Borislav (The Univ. of New South Wales)	
14:00-14:20	ThMT2.4
<i>Symmetric/skew-Symmetric Homogeneous Matrix Descriptor (regular) Differential Systems with Consistent Initial Conditions</i> , pp. 966-971. Pantelous, Athanasios (Univ. of Liverpool), Karageorgos, Athanasios A. (Univ. of Athens), Kalogeropoulos, Grigoris I. (Univ. of Athens)	
14:20-14:40	ThMT2.5
<i>Invariant Set Constructions for Feasible Reference Tracking Set Description</i> , pp. 972-977. Benlaoukli, Hichem (SUPELEC), Olaru, Sorin (SUPELEC), Boucher, Patrick (SUPELEC), Marinkovic, Slavica (Coll. of Electrical and Computer Engineering)	
14:40-15:00	ThMT2.6
<i>A New Input/Output Pairing Strategy Based on Linear Quadratic Gaussian Control</i> , pp. 978-982. Halvarsson, Björn (Uppsala Univ.), Carlsson, Bengt (Uppsala Univ.), Wik, Torsten (Chalmers Univ. of Tech.)	
15:00-15:20	ThMT2.7
<i>Robust Tracking and Disturbance Rejection for Time-Delay Systems</i> , pp. 983-988. Iftar, Altug (Anadolu Univ.)	

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**ThMT3** Chancellor 4

**Robotics II (Regular Session)**

Chair: Han, Jianda	Shenyang Inst. of Automation
Co-Chair: Tee, Keng Peng	Inst. for Infocomm Res. A*STAR
13:00-13:20	ThMT3.1
<i>Modelling and Development of Dynamic Simulator for Flexible Parallel Manipulator</i> , pp. 989-994. Leung, Suk Wai Winnie (Hong Kong Univ. of Science and Tech.), Li, Zexiang (Hong Kong Univ. of Science and Tech.), Shi, Ling (Hong Kong Univ. of Science and Tech.)	
13:20-13:40	ThMT3.2
<i>Function Sector Based Real-Time Autonomous Navigation for Outdoor Mobile Robots Equipped with Laser Scanners</i> , pp. 995-1000. Qiu, Quan (Shenyang Inst. of Automation, Chinese Acad. of Sciences), Han, Jianda (Shenyang Inst. of Automation, Chinese Acad. of Sciences)	
13:40-14:00	ThMT3.3
<i>Adaptive Tracking Control of Uncertain Robotic Manipulators in a Constrained Task Space</i> , pp. 1001-1006. Tee, Keng Peng (Inst. for Infocomm Res. A*STAR), Li, Haizhou (Inst. for Infocomm Res. A*STAR)	
14:00-14:20	ThMT3.4
<i>Robust Control of Robot Manipulators Using Dynamic Compensator</i> , pp. 1007-1012.	

Kim, Chin Su (Korea Aerospace Univ.), Lee, Kang Woong (Korea Aerospace Univ.)	
14:20-14:40	ThMT3.5
<i>Dynamics Based Trajectory Planning and Control of Parallel Manipulators</i> , pp. 1013-1018.	
Lou, Yunjiang (Harbin Inst. of Tech. Shenzhen Graduate School), Feng, Fang (Harbin Inst. of Tech. Shenzhen Graduate School), Wang, Michael Yu (Chinese Univ. of Hong Kong)	
14:40-15:00	ThMT3.6
<i>Servo-Constraint Generalized Inverse Dynamics for Robot Manipulator Control Design</i> , pp. 1019-1026.	
Bajodah, Abdulrahman H. (King Abdulaziz Univ.)	
15:00-15:20	ThMT3.7
<i>A Hybrid 6-DOF Mechanism with Closed-Form Position Solutions Employing Two 3-DOF Modules with Decoupled Output Motions</i> , pp. 1027-1032.	
Kim, Sung Mok (Korea Univ.), Kim, Wheekuk (Korea Univ.), Chung, Jaeheon (Hanyang Univ.), Yi, Byung-Ju (Hanyang Univ.)	

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<b>ThMT4</b>	Chancellor 5
<b>System Modelling and Identification (Regular Session)</b>	

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Chair: Vanderwater, Ruth-Anne	Univ. of Waterloo
Co-Chair: Beghi, Alessandro	Univ. di Padova
13:00-13:20	ThMT4.1
<i>Zero Prefix Precoder-Based Blind SIMO Channel Estimation</i> , pp. 1033-1035.	
Wang, Song (La Trobe Univ.), Ross, Robert (La Trobe Univ.), Manton, Jonathan H. (Univ. of Melbourne)	
13:20-13:40	ThMT4.2
<i>Identification of a Linear Model for Nonlinear Systems</i> , pp. 1036-1042.	
Tang, Jiong (The Univ. of New Brunswick), Doraiswami, Rajamani (The Univ. of New Brunswick), Diduch, Chris P. (The Univ. of New Brunswick)	
13:40-14:00	ThMT4.3
<i>A Novel Two-Stage Identification of Unstable Systems</i> , pp. 1043-1048.	
Shahab, Mohammad (King Fahd Univ. of Petroleum and Minerals), Doraiswami, Rajamani (The Univ. of New Brunswick)	
14:00-14:20	ThMT4.4
<i>System Theoretic Tools in Adaptive Optics</i> , pp. 1049-1054.	
Beghi, Alessandro (Univ. di Padova), Cenedese, Angelo (Univ. of Padova), Masiero, Andrea (Univ. di Padova)	
14:20-14:40	ThMT4.5
<i>PMSM Parameter Determination Using Pulsating Torque Decoupling for Feed-Forward Control</i> , pp. 1055-1061.	
Heins, Greg (Charles Darwin Univ.), De Boer, Friso (Charles Darwin Univ.)	
14:40-15:00	ThMT4.6
<i>A Dynamic Control Approach to Studying the Effectiveness of Rewards in Inducing Behavior and Attitude Change</i> , pp. 1062-1067.	
Vanderwater, Ruth-Anne (Univ. of Waterloo), Davison, Daniel E. (Univ. of Waterloo)	
15:00-15:20	ThMT4.7
<i>Modeling and Analysis of Financial Markets Using System Adaptation and Frequency Domain Approach</i> , pp. 1068-1073.	
Zheng, Xiaolian (National Univ. of Singapore), Chen, Ben M. (National Univ. of Singapore)	

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<b>ThMT5</b>	Christchurch
<b>Control Design and Applications (Invited Session)</b>	

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Chair: Chen, Chieh-Li	National Cheng Kung Univ.
Co-Chair: Ding, Zhengtao	The Univ. of Manchester
Organizer: Chen, Chieh-Li	National Cheng Kung Univ.
Organizer: Ding, Zhengtao	The Univ. of Manchester
13:00-13:20	ThMT5.1
<i>Sliding Mode Methodology and LMIs Based Controller Design for Performance Enhancement and Chattering Reduction (I)</i> , pp. 1074-1079.	
Chen, Tien-Tzu (National Cheng Kung Univ.), Peng, Chao-Chung (Cheng Kung Univ.), Chen, Chieh-Li (National Cheng Kung Univ.)	
13:20-13:40	ThMT5.2
<i>On the Role the Friction Plays in an Ultra Precision Positioning System (I)</i> , pp. 1080-1085.	
Hsieh, Chen (National Cheng Kung Univ.), Yang, Kang-Chin (National Cheng Kung Univ.)	
13:40-14:00	ThMT5.3
<i>Model Reference Adaptive Control for a Precision Positioning System (I)</i> , pp. 1086-1091.	
Chang, Kuo-Ming (National Kaohsiung Univ. of Applied Sciences)	
14:00-14:20	ThMT5.4
<i>Iterative Learning Control for Robotic Contouring (I)</i> , pp. 1092-1097.	
Chen, Cha'o-Kuang (National Cheng Kung Univ.), Li, Kai-Sheng (National Cheng Kung Univ.)	
14:20-14:40	ThMT5.5
<i>Tracking Control of a Motor-Piezo XY Gantry Using a Dual Servo Loop Based on ILC and GA (I)</i> , pp. 1098-1103.	
Lin, Chih-Jer (Da-Yeh Univ.), Wu, Cheng-Hsien (National Kaohsiung Univ. of Applied Sciences), Hwang, C. C. (Da-Yeh Univ.)	
14:40-15:00	ThMT5.6
<i>Differential Stability and Design of Reduced Order Observers for Nonlinear Systems (I)</i> , pp. 1104-1109.	
Ding, Zhengtao (The Univ. of Manchester)	
15:00-15:20	ThMT5.7
<i>Crane Operation Using Hand-Motion and Radio Frequency Identification Tags</i> , pp. 1110-1115.	
Peng, Kelvin Chen Chih (Georgia Inst. of Tech.), Singhose, William E. (Georgia Inst. of Tech.), Gessesse, Semir (Arizona State Univ.), Frakes, David (Arizona State Univ.)	

<b>ThMT6</b>		Wellington
<b>New Trends in Iterative Learning Control</b> (Invited Session)		
Chair: Tan, Ying		The Univ. of Melbourne
Co-Chair: Xu, Jian-Xin		National Univ. of Singapore
Organizer: Xu, Jian-Xin		National Univ. of Singapore
13:00-13:20		ThMT6.1
<i>A Dual-Loop Iterative Learning Control for Nonlinear Systems with Hysteresis Input Uncertainty (I)</i> , pp. 1116-1121.		
Huang, Deqing (National Univ. of Singapore), Tan, Ying (The Univ. of Melbourne), Xu, Jian-Xin (National Univ. of Singapore)		
13:20-13:40		ThMT6.2
<i>Periodic Adaptive Learning Control for Velocity-Dependent Disturbance Compensation (I)</i> , pp. 1122-1127.		
Ahn, Hyo-Sung (Gwangju Inst. of Science and Tech. (GIST)), Chen, YangQuan (Utah State Univ.)		
13:40-14:00		ThMT6.3
<i>Iterative Learning Control with Internal Model for Freeway Ramp Metering (I)</i> , pp. 1128-1133.		
Yan, Jingwen (Beijing Jiaotong Univ.), Hou, Zhongsheng (Beijing Jiaotong Univ.)		
14:00-14:20		ThMT6.4
<i>Gradient Descent Optimisation for ILC-Based Stochastic Distribution Control (I)</i> , pp. 1134-1139.		
Ghasemi Afshar, Puya (The Univ. of Manchester), Brown, Martin (The Univ. of Manchester), Wang, Hong (The Univ. of Manchester)		
14:20-14:40		ThMT6.5
<i>FlowBased Local Ramp Metering Using Iterative Learning and PARAMICS Platform (I)</i> , pp. 1140-1145.		
Xu, Jian-Xin (National Univ. of Singapore), Zhao, Xinjie (National Univ. of Singapore), Srinivasan, Dipti (National Univ. of Singapore)		
14:40-15:00		ThMT6.6
<i>Stability Analysis of Iterative Learning Control with Data Dropouts (I)</i> , pp. 1146-1151.		
Bu, Xuhui (Beijing Jiaotong Univ.), Hou, Zhongsheng (Beijing Jiaotong Univ.), Dong, Hairong (School of Electronics and Information Engineering)		
<b>ThMPo1</b>		Chancellor 2/Foyer
<b>Multivariable and Time Delay Systems</b> (Interactive Session)		
Chair: Lee, Dominic Savio		Univ. of Canterbury
Co-Chair: McInnes, Allan		Univ. of Canterbury
13:00-15:20		ThMPo1.1
<i>Robust Fuzzy Filter Design for Uncertain Nonlinear Networked Systems with Random Time-Delays</i> , pp. 1152-1157.		
Huang, Dan (The Univ. of Auckland), Nguang, Sing Kiong (The Univ. of Auckland), Rasool, Faiz (The Univ. of Auckland)		
13:00-15:20		ThMPo1.2
<i>Controllability of Higher-Order Linear Systems with Multiple Delays in Control</i> , pp. 1158-1162.		
Klamka, Jerzy (Silesian Univ. of Tech.)		
13:00-15:20		ThMPo1.3
<i>Positivity and Stabilization of Fractional Discrete-Time Systems with Delays</i> , pp. 1163-1167.		
Kaczorek, Tadeusz (Warsaw Tech. Univ.)		
13:00-15:20		ThMPo1.4
<i>Approximate Design of Optimal Tracking Controller for Systems with Delayed State and Control</i> , pp. 1168-1172.		
Zhang, Cheng-ming (Ocean Univ. of China), Tang, Gong-You (Ocean Univ. of China), Han, Shi-Yuan (Ocean Univ. of China)		
13:00-15:20		ThMPo1.5
<i>Parameterization of Delayed Stabilizing Controllers of Multidimensional Systems Single-Input Single-Output Case</i> , pp. 1173-1177.		
Mori, Kazuyoshi (The Univ. of Aizu)		
13:00-15:20		ThMPo1.6
<i>Robust Adaptive Control Based on Neural State Observer for Nonlinear Time-Delay Systems</i> , pp. 1178-1183.		
Wen, Yuntong (Beijing Inst. of Tech.), Ren, Xuemei (Beijing Inst. of Tech.)		
13:00-15:20		ThMPo1.7
<i>Delay-Dependent <math>H_\infty</math> Dynamic Output Feedback Control for Systems with Time-Varying Delay</i> , pp. 1184-1189.		
Fu, Dong (Hebei Univ. of Science and Tech.), Bai, Yunfei (Hebei Univ. of Science and Tech.), Sun, Man (Northeastern Univ. at Qinhuangdao)		
13:00-15:20		ThMPo1.8
<i>Solutions to Output Regulation Problems of Matrix Second-Order Systems Via Second-Order Dynamic Output Feedback</i> , pp. 1190-1194.		
Teng, Yu (Ningbo Univ. of Tech.), Duan, Guangren (Harbin Inst. of Tech.)		
13:00-15:20		ThMPo1.9
<i>Computational Experience in Finding Zeros of Linear Multivariable Systems</i> , pp. 1195-1200.		
Sima, Vasile (National Inst. for Res. & Dev. in Informatics)		
13:00-15:20		ThMPo1.10
<i>A Homotopy-Like Simplicial Method for Approximating Fixed Points of an Increasing Mapping from <math>R^n</math> into Itself</i> , pp. 1201-1206.		
Dang, Chuangyin (City Univ. of Hong Kong)		
<b>ThMPo2</b>		Chancellor 2/Foyer
<b>Automation and Control Applications</b> (Interactive Session)		
Chair: Lee, Dominic Savio		Univ. of Canterbury
Co-Chair: McInnes, Allan		Univ. of Canterbury
13:00-15:20		ThMPo2.1
<i>Verification of Operation Sequences in Process Simulate by Connecting a Formal Verification Tool</i> , pp. 1207-1212.		
Falkman, Petter (Chalmers Univ. of Tech.), Westman, Fredrik (Volvo Information Tech.), Modig, Christoffer (Volvo 3P)		
13:00-15:20		ThMPo2.2

<i>The Research on Moving of Cavities of a Novel Spiral Oil Wedge Journal Bearing</i> , pp. 1213-1216. Yang, Ying (Univ. of Shandong), Lu, Changhou (Univ. of Shandong)	ThMPo2.3
13:00-15:20	
<i>Decision Support Tool for Resource Allocation Subject to Imprecise Data Constraints</i> , pp. 1217-1222. Bocewicz, Grzegorz (Tech. Univ. of Koszalin), Banaszak, Zbigniew Antoni (Warsaw Univ. of Tech.), Muszynski, Wojciech (WrocB;aw Univ. of Tech.)	ThMPo2.4
13:00-15:20	
<i>Product Quality Modeling and Optimal Control of Soft Capsule Dropping Pills Based on LSSVM and PSO</i> , pp. 1223-1228. Peng, Yanqing (Xiamen Univ. of Tech.), Luo, Jian (Xiamen Univ.), Zhu, Wenzhang (Xiamen Univ. of Tech.)	ThMPo2.5
13:00-15:20	
<i>A Layer-Based Approach to Build up Diagnosis Applications in Process Industries</i> , pp. 1229-1234. Mertens, Martin (RWTH Aachen Univ.), Epple, Ulrich (RWTH Aachen Univ.)	ThMPo2.6
13:00-15:20	
<i>An Improved Quantum Differential Algorithm for Stochastic FlowShop Scheduling Problem</i> , pp. 1235-1240. Bin, Jiao (Shanghai Dianji Univ.), Gu, Xingsheng (East China Univ. of Sceince and Tech.), Jinwei, Gu (East China Univ. of Science and Tech.)	ThMPo2.7
13:00-15:20	
<i>Development of Process Planning and Machining System for Machine-Independent STEP-NC Data</i> , pp. 1241-1247. Igarí, Shinji (Hokkaido Univ.), Tanaka, Fumiki (Hokkaido Univ.), Onosato, Masahiko (Hokkaido Univ.)	ThMPo2.8
13:00-15:20	
<i>Research on Bottleneck Resources Focused FlowPath Design</i> , pp. 1248-1252. Liu, Qiong (Huazhong Univ. of Science and Tech.), Zhou, Gang (Huazhong Univ. of Science and Tech.)	ThMPo2.9
13:00-15:20	
<i>Multi-Core Processors Based Stochastic Test Traffic Generating</i> , pp. 1253-1257. Zhang, Shuo (China National Digital Switching System Eng. & Tech. R&D Center), Zhao, Rongcai (China National Digital Switching System Eng. & Tech. R&D Center), An, Ke (China National Digital Switching System Eng. & Tech. R&D Center)	ThMPo2.10
13:00-15:20	
<i>Study on Sliding Mode Speed Control with RBF Network Approach for PMSM Drives</i> , pp. 1258-1261. Li, Yuan (China Univ. of Mining And Tech.), He, Feng-you (China Univ. of Mining And Tech.), Gu, Shan-mao (China Univ. of Mining And Tech.)	ThMPo2.11
13:00-15:20	
<i>Research on ERT System Denoising Technology Excited by Bi-Directional Pulse Current</i> , pp. 1262-1265. Wang, Pai (Xidian Univ.), Guo, Baolong (Xidian Univ.), Li, Nan (Xidian Univ.)	ThMPo2.12
13:00-15:20	
<i>Refiner Quality Control in a CTMP Plant</i> , pp. 1266-1271. Tervaskanto, Manne (Univ. of Oulu), Ikonen, Enso (Univ. of Oulu), Ahvenlampi, Timo (Univ. of Oulu)	ThMPo2.13
13:00-15:20	
<i>Distributed Attitude Synchronization for Multiple Rigid Bodies without Velocity Measurement</i> , pp. 1272-1277. Chen, Shanjie (Univ. of Science and Tech. of China), Ji, Haibo (Univ. of Science and Tech. of China), Bi, Sheng (Univ. of science and Tech. of China)	
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<b>ThMPo3</b>	Chancellor 2/Foyer
<b>System Modelling, Identification and Fault Detection (Interactive Session)</b>	
Chair: Lee, Dominic Savio	Univ. of Canterbury
Co-Chair: McInnes, Allan	Univ. of Canterbury
13:00-15:20	ThMPo3.1
<i>Experimental Validation of the FuelCellLib Modelica Library</i> , pp. 1278-1283. Rubio, Miguel Angel (Univ. Nacional de Educación a Distancia), Urquía Moraleda, Alfonso (Univ. Nacional de Educacion a Distancia), Dormido, Sebastián (Univ. Nacional de Educacion a Distancia)	
13:00-15:20	ThMPo3.2
<i>A Proposed Biologically-Inspired Model to Analyze Signal Sound</i> , pp. 1284-1289. Hamzah, Hammuzamer Irwan (Univ. Teknologi Petronas), Abdullah, Azween B. (Univ. Teknologi Petronas)	ThMPo3.3
13:00-15:20	
<i>Comparison of Rotary Cement Kiln Identified Models</i> , pp. 1290-1295. Noshirvani, Golamreza (ACECR Markazi Beranch), Fatehi, Alireza (K.N. Toosi Univ. of Tech.), Araabi, Babak Nadjar (Tehran Univ.), Shirvani, Mansoor (Iran Univ. of Science & Tech.), Azizi, Morteza (Saveh White Cement Company)	ThMPo3.4
13:00-15:20	
<i>New Algorithm to Calculate the Strapdown Inertial Measurement Unit Parameters</i> , pp. 1296-1300. Li, Peng (Harbin Inst. of Tech.), Song, Shenmin (Harbin Inst. of Tech.), Chen, Xinglin (Harbin Inst. of Tech.), Duan, Guangren (Harbin Inst. of Tech.)	ThMPo3.5
13:00-15:20	
<i>Modelling of the 4-Axis Kinematic Manipulator AirArm Driven by Pneumatic Muscle Actuators</i> , pp. 1301-1307. Eichhorn, Mike (Inst. for Ocean Tech.), Ament, Christoph (Tech. Univ. of Ilmenau), Nguyen, Tran Trung (Tech. Univ. of Ilmenau)	ThMPo3.6
13:00-15:20	
<i>Design and Implementation of Web-Based DSS for Online Shopping Mall</i> , pp. 1308-1313. Hong, Wenxing (Xiamen Univ.), Weng, Yang (Nanyang Tech. Univ.), Xie, Lihua (Nanyang Tech. Univ.), Li, Maoqing (Xiamen Univ.)	ThMPo3.7
13:00-15:20	
<i>Fire Safety Assessment Technology Research</i> , pp. 1314-1317. Li, Jianfeng (Beijing Acad. of Science and Tech.), Yao, Xiaohui (Beijing Acad. of Science and Tech.), Kui, Qiao (Beijing Acad. of Science and Tech.)	

13:00-15:20		ThMPo3.8
	<i>Adaptive Detection and Location for Water Pipeline Leaks in Lower SNR and Nonstationary Environments</i> , pp. 1318-1323. Wu, Huijuan (Chongqing Univ.), Wen, Yumei (Chongqing Univ.), Yang, Jin (Chongqing Univ.), Li, Ping (Chongqing Univ.)	
13:00-15:20		ThMPo3.9
	<i>Business-Oriented Fault Localization Based on Probabilistic Neural Networks</i> , pp. 1324-1329. Liu, Lianzhong (Beijing Univ. of Aeronautics and Astronautics), Li, Chunfang (Beijing Univ. of Aeronautics and Astronautics)	
13:00-15:20		ThMPo3.10
	<i>Fault Detection and Isolation for Nonlinear F16 Models Using a Gain-Varying UIO Approach</i> , pp. 1330-1335. Xu, Jun (National Univ. of Singapore), Lum, Kai-Yew (National Univ. of Singapore), Loh, Ai-Poh (National Univ. of Singapore)	
13:00-15:20		ThMPo3.11
	<i>Performance Analysis of Pulse Transducers for Measuring Pulse Wave Velocity (I)</i> , pp. 1336-1341. Chen, Yan (Nanyang Tech. Univ.), Wen, Changyun (Nanyang Tech. Univ.)	

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**ThMPo4**

Chancellor 2/Foyer

**Fuzzy and Neural Systems and Control** (Interactive Session)

	Chair: Lee, Dominic Savio	Univ. of Canterbury
	Co-Chair: McInnes, Allan	Univ. of Canterbury
13:00-15:20		ThMPo4.1
	<i>An Adaptive AQM Algorithm Based on Neuron Reinforcement Learning</i> , pp. 1342-1346. Zhou, Chuan (Nanjing Univ. of Sci. & Tech.), Di, Dongjie (Nanjing Univ. of Sci. & Tech.), Chen, Qingwei (Nanjing Univ. of Sci. & Tech.), Guo, Jian (Nanjing Univ. of Sci. & Tech.)	
13:00-15:20		ThMPo4.2
	<i>A Neural Architecture for Attention Modulation and Cross-Stream Interaction</i> , pp. 1347-1353. Chen, Yong (National Univ. of Defense Tech.), Meng, Xiang-lin (National Univ. of Defense Tech.), Wang, Zheng-zhi (National Univ. of Defense Tech.)	
13:00-15:20		ThMPo4.3
	<i>The Assessment of Environment Effect of Foreign Trade Based on BP Neural Network</i> , pp. 1354-1358. Zhao, Jianna (North China Electric Power Univ.), Lu, Shanying (North China Electric Power Univ.)	
13:00-15:20		ThMPo4.4
	<i>Experimental Verification of Dynamic Petri Recurrent-Fuzzy Neural-Network Path Tracking Control Design for Mobile Robot</i> , pp. 1359-1364. Wai, Rong-Jong (Yuan Ze Univ.), Liu, Chia-Ming (Yuan Ze Univ.)	
13:00-15:20		ThMPo4.5
	<i>Price Forecasting Algorithm for Coal and Electricity Price Forecasting Algorithm for Coal and Electricity Based on PSO and RBF Neural Network</i> , pp. 1365-1369. Feng, Yuzhao (Chongqing Logistics Engineering Univ.), Zhao, Hongwei (Chongqing Logistics Engineering Univ.), Chen, Yi (Chongqing Logistics Engineering Univ.), Tian, Li-qiang (Chongqing Logistics Engineering Univ.), Wang, Ping (Power Engineering Consulting Group Cooperation)	
13:00-15:20		ThMPo4.6
	<i>Biological-Filter Fuzzy-Neural Controller Design Based on COD Reduction Rate</i> , pp. 1370-1375. Feng, Yuzhao (Chongqing Logistics Engineering Univ.), Zhao, Hongwei (Chongqing Logistics Engineering Univ.), Chen, Zhli (Chongqing Logistics Engineering Univ.), Chen, Yi (Chongqing Logistics Engineering Univ.), Chen, Yong (Chongqing Logistics Engineering Univ.), Pang, Zishan (Chongqing Logistics Engineering Univ.)	
13:00-15:20		ThMPo4.7
	<i>Adaptive Impedance Control Based on Dynamic Recurrent Fuzzy Neural Network for Upper-Limb Rehabilitation Robot</i> , pp. 1376-1381. Xu, Guo zheng (Southeast Univ.), Song, Ai guo (Southeast Univ.)	
13:00-15:20		ThMPo4.8
	<i>A Method of Improving Position Precision Based on Fuzzy Control</i> , pp. 1382-1387. Deng, Chao (Huazhong Univ. of Science and Tech.), Liu, Qian (Huazhong Univ. of Science and Tech.), Wu, Jun (Huazhong Univ. of Science and Tech.)	
13:00-15:20		ThMPo4.9
	<i>A New Method to Guarantee Performance and Robustness in Optimal Fuzzy Controller Design for Perturbed Nonlinear Systems Based on Piecewise Discontinuous Lyapunov Functions</i> , pp. 1388-1393. Esfandiari, Masoumeh (Malek Ashtar Univ.), Araabi, Babak Nadjar (Univ. of Tehran), Fatehi, Alireza (KNT Univ.), Vali, Ahmad Reza (Malek Ashtar Univ.)	

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**ThMPo5**

Chancellor 2/Foyer

**Sensor Networks and Control** (Interactive Session)

	Chair: Lee, Dominic Savio	Univ. of Canterbury
	Co-Chair: McInnes, Allan	Univ. of Canterbury
13:00-15:20		ThMPo5.1
	<i>Mobile System for Precise Aero Delivery with Global Reach Network Capability</i> , pp. 1394-1398. Yakimenko, Oleg A. (Naval Postgraduate School), Slegers, Nathan J. (Univ. of Alabama), Bourakov, Eugene A. (Naval Postgraduate School), Hewgley, Charles W. (Naval Postgraduate School), Bordetsky, Alex B. (Naval Postgraduate School), Jensen, Red P. (The Arcturus UAV, Rohnert Park), Robinson, Andrew B. (The Arcturus UAV, Rohnert Park), Malone, Josh R. (The Arcturus UAV, Rohnert Park), Heidt, Phil E. (The Arcturus UAV, Rohnert Park)	
13:00-15:20		ThMPo5.2
	<i>Quantised Robust H-Infinity Output Feedback Control of Discrete-Time Systems with Random Communication Delays</i> , pp. 1399-1404. Rasool, Faiz (The Univ. of Auckland), Nguang, Sing Kiong (The Univ. of Auckland)	
13:00-15:20		ThMPo5.3



<i>Stability of Singular NCSs with Time-Varying Delay and Multiple-Packet Transmission</i> , pp. 1405-1410.		
Dang, Xiangdong (Northeastern Univ.), Zhang, Qingling (Northeastern Univ.)		
13:00-15:20		ThMPo5.4
<i>Signal Preprocessing and Downsampling for Optimal Disturbance Attenuation in Networked Control Systems</i> , pp. 1411-1416.		
Blachuta, Marian J. (The Silesian Univ. of Tech.), Grygiel, Rafał; T. (The Silesian Univ. of Tech.)		
13:00-15:20		ThMPo5.5
<i>Localization of Mobile Robots in a Wireless Sensor Networks Based on Hop-Count and Artificial Potentials Method</i> , pp. 1417-1422.		
Bulan, Mustafa Caglar (Istanbul Tech. Univ.), Temeltas, Hakan (Istanbul Tech. Univ.)		
13:00-15:20		ThMPo5.6
<i>Fault Detection for Networked Control System Based on Hinfinity Observer</i> , pp. 1423-1426.		
Li, Zhijun (North China Univ. of Tech.), Sun, Dehui (North China Univ. of Tech.), Li, Yueheng (North China Univ. of Tech.), Shi, Yun Tao (North China Univ. of Tech.)		
13:00-15:20		ThMPo5.7
<i>Reliability of Measuring Human Segment Three-Dimensional Orientation Using Wearable Sensor System</i> , pp. 1427-1432.		
Liu, Kun (Kochi Univ. of Tech.), Liu, Tao (Kochi Univ. of Tech.), Shibata, Kyoko (Kochi Univ. of Tech.), Inoue, Yoshio (Kochi Univ. of Tech.)		
13:00-15:20		ThMPo5.8
<i>Stability of State Feedback NCSs with Multiple-Packet Transmission</i> , pp. 1433-1437.		
Dang, Xiangdong (Northeastern Univ.), Zhang, Qingling (Northeastern Univ.), Li, Jinna (Shenyang Inst. of Chemical Tech.)		
13:00-15:20		ThMPo5.9
<i>A Problem of Decentralized Self-Deployment for Mobile Sensor Networks: Barrier Coverage between Landmarks</i> , pp. 1438-1442.		
Cheng, Teddy M. (Univ. of New South Wales), Savkin, Andrey V. (Univ. of New South Wales)		
13:00-15:20		ThMPo5.10
<i>Location Estimation Using Low-Resolution Optical Sensing</i> , pp. 1443-1448.		
Krenek, Oliver Francis (Univ. of Canterbury), Webb, Russell Y. (Univ. of Canterbury)		
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<b>ThMPo6</b>		Chancellor 2/Foyer
<b>Real Time and Learning Systems (Interactive Session)</b>		
Chair: Lee, Dominic Savio		Univ. of Canterbury
Co-Chair: McInnes, Allan		Univ. of Canterbury
13:00-15:20		ThMPo6.1
<i>Distributed Particle Filter for State Estimation of Hybrid Systems Based on a Learning Vector Quantization Algorithm</i> , pp. 1449-1453.		
Samadi, Mohammad-Foad (Petroeum Univ. of Tech.), Salahshoor, Karim (Petroeum Univ. of Tech.), Safari, Ehsan (Petroeum Univ. of Tech.)		
13:00-15:20		ThMPo6.2
<i>Graphical Route Information Panel and Macroscopic Simulation Based Investigation of Its Control Benefits</i> , pp. 1454-1459.		
Gan, Hongcheng (Univ. of Shanghai for Science and Tech.), Wang, Qing (Shanghai Finance Univ.), Fan, Bingquan (Univ. of Shanghai for Science and Tech.)		
13:00-15:20		ThMPo6.3
<i>Self-Evolving Control Based on Feedback for Avionics Software</i> , pp. 1460-1464.		
Li, Gang (Northwestern Pol. Univ.), Du, Cheng-Lie (Northwest Pol. Univ.), Song, Cui-Ye (Northwest Pol. Univ.), Cai, Xiaobin (China Aviation Industry Corp.)		
13:00-15:20		ThMPo6.4
<i>A Model Driven Methodology for Computer Numerical Control System Design and Development</i> , pp. 1465-1470.		
Li, Fang (South China Univ. of Tech.), Li, Di (South China Univ. of Tech.), Huang, Xin (South China Univ. of Tech.), Lai, Yizong (South China Univ. of Tech.)		
13:00-15:20		ThMPo6.5
<i>A Robust Real-Time Moving Object Tracking Algorithm</i> , pp. 1471-1475.		
Yang, Wenjie (Nanjing Univ. of Posts and Telecommunications), Li, Yun (Nanjing Univ. of Posts and Telecommunications)		
13:00-15:20		ThMPo6.6
<i>Study on Real-Time Monitoring System Based on Configuration Software for Production of Infusion Solutions</i> , pp. 1476-1480.		
Zhang, Yu (Shandong Univ. of Tech.), Yang, Musheng (Shandong Univ. of Tech.), Jia, Zhimin (Shandong Univ. of Tech.), Cao, Xiaoqun (Shandong Univ. of Tech.)		
13:00-15:20		ThMPo6.7
<i>Design and Implementation of CNC Controllers Using Reconfigurable Hardware</i> , pp. 1481-1486.		
Dong, Jingchuan (Tianjin Univ.), Yang, Xingzhao (Xuchang Vocational Tech. Coll.), Liu, Qingjian (Tianjin Univ.), Wang, Zijing (Tianjin TDNC Tech. Co. Ltd), Wang, Taiyong (Tianjin Univ.)		
13:00-15:20		ThMPo6.8
<i>Predictive Modelling of the Monitoring Function. a Predictive Modelling Application for Fault States in a Manufacturing System</i> , pp. 1487-1492.		
Minca, Eugenia (Valahia Univ. of Targoviste), Racoceanu, Daniel (French National Res. Center (CNRS)), Dragomir, Otilia (Valahia Univ. of Targoviste), Stefan, Veronica (Valahia Univ. of Targoviste), Dragomir, Florin (Valahia Univ. of Targoviste)		
13:00-15:20		ThMPo6.9
<i>Automated Generation of Algebraic Invariants for Petri Net</i> , pp. 1493-1496.		
Bi, Zhongqin (Shanghai Univ. of Electric Power), Shan, Mei-Jing (East China Univ. of Pol. Science and Law), Wu, Bin (East China Normal Univ.)		
13:00-15:20		ThMPo6.10
<i>A Two-Stage Safety Analysis Model of Railway Level Crossing Surveillance Systems</i> , pp. 1497-1502.		
Tao, Chi-Chung (Tamkang Univ.)		
13:00-15:20		ThMPo6.11

<i>Supervised Training of Voting Automata for the Surgeon's Motion Recognition During Laparoscope Surgery</i> , pp. 1503-1508. Vain, Jüri (Tallinn Univ. of Tech.), Nomm, Sven (Tallinn Univ. of Tech.), Anier, Aivo (Tallinn Univ. of Tech.), Mijawaki, Fujio (Tokyo Denki Univ.), Totskaya, Tatiana (Tallinn Univ. of Tech.)		
13:00-15:20		ThMPo6.12
<i>Modified HMAX Models for Facial Expression Recognition</i> , pp. 1509-1514. Gu, Wenfei (National Univ. of Singapore), Xiang, Cheng (National Univ. of Singapore), Lin, Hai (National Univ. of Singapore)		
13:00-15:20		ThMPo6.13
<i>Research on Data Mining Model of GIS-Based Urban Underground Pipeline Network</i> , pp. 1515-1520. Zhu, Shunzhi (Xiamen Univ. of Tech.), Hong, Wenxing (Xiamen Univ.), Wu, Qunyong (Fuzhou Univ.), Li, Maoqing (Xiamen Univ.)		
13:00-15:20		ThMPo6.14
<i>A Bit-Encryption Algorithm for JPEG2000 Image Based on Chaos</i> , pp. 1521-1526. Zhang, Yunpeng (Northwestern Pol. Univ.), Zhai, Zhengjun (Northwestern Pol. Univ.), Cai, Xiaobin (China Aviation Industry Corp.), Shi, Hui (Northwestern Pol. Univ.), Zhu, Yu (Northwestern Pol. Univ.)		
<b>FrKO</b>		Chancellor 1
<b>Keynote 3: High-Gain Observers in Nonlinear Feedback Control, by Prof Hassan K. Khalil</b> (Plenary Session)		
Chair: Wang, Wenhui		Univ. of Canterbury
Co-Chair: Gaynor, Paul		Univ. of Canterbury
08:30-09:30		FrKO.1
<i>High-Gain Observers in Nonlinear Feedback Control</i> , pp. 1527-1528. Khalil, Hassan K. (Michigan State Univ.)		
<b>FrAT1</b>		Chancellor 1
<b>Sensor Networks and Networked Control II</b> (Regular Session)		
Chair: Chen, Jie		Univ. of California at Riverside
Co-Chair: Savkovic, Borislav		The Univ. of New South Wales
10:00-10:20		FrAT1.1
<i>Diffusion Scheme of Distributed EM Algorithm for Gaussian Mixtures Over Random Networks</i> , pp. 1529-1534. Weng, Yang (Nanyang Tech. Univ.), Xie, Lihua (Nanyang Tech. Univ.), Xiao, Wendong (Inst. for Infocomm Res. A-star, Singapore)		
10:20-10:40		FrAT1.2
<i>Robust Stability of Networked Control Systems</i> , pp. 1535-1540. Figueroa, Luis Felipe da Cruz (Univ. of Brasilia), Santana, Pedro Henrique de Rodrigues Quemel e Assis (Univ. of Brasilia), Alves, Eduardo da Silva (Univ. of Brasilia), Ishihara, João Yoshiyuki (Univ. of Brasilia), Borges, Geovany Araújo (Univ. of Brasilia), Bauchspiess, Adolfo (Univ. of Brasilia)		
10:40-11:00		FrAT1.3
<i>Optimal Tracking and Power Allocation Over an Additive White Noise Channel</i> , pp. 1541-1546. Li, Yiqian (Univ. of California at Riverside), Tuncel, Ertem (Univ. of California at Riverside), Chen, Jie (Univ. of California at Riverside)		
11:00-11:20		FrAT1.4
<i>Adaptive Filtering Based Short-Term Wind Power Prediction with Multiple Observation Points</i> , pp. 1547-1552. Khalid, Muhammad (The Univ. of New South Wales), Savkin, Andrey V. (The Univ. of New South Wales)		
11:20-11:40		FrAT1.5
<i>Robust Model Predictive Control under Limited Capacity Communication Constraints</i> , pp. 1553-1558. Savkovic, Borislav (The Univ. of New South Wales)		
11:40-12:00		FrAT1.6
<i>On Output Deviation Compensation for Systems with Quantized Input</i> , pp. 1559-1564. Guo, Yuqian (Central South Univ.), Wang, Youyi (Nanyang Tech. Univ.), Xie, Lihua (Nanyang Tech. Univ.), Gui, Weihua (Central South Univ.)		
<b>FrAT2</b>		Chancellor 3
<b>Learning Systems</b> (Regular Session)		
Chair: Krener, Arthur J		Naval Postgraduate School
Co-Chair: Betoni Parodi, Bruno		Helmut Schmidt Univ.
10:00-10:20		FrAT2.1
<i>On Iterative Learning Control with High-Order Internal Models (I)</i> , pp. 1565-1570. Liu, Chunping (Zhejiang Univ.), Xu, Jian-Xin (National Univ. of Singapore), Wu, Jun (Zhejiang Univ.), Tan, Ying (The Univ. of Melbourne)		
10:20-10:40		FrAT2.2
<i>Polynomial Model Tree (POLYMOT) - a New Training Algorithm for Local Model Networks with Higher Degree Polynomials</i> , pp. 1571-1576. Baenfer, Oliver (Univ. of Siegen), Nelles, Oliver (Univ. of Siegen)		
10:40-11:00		FrAT2.3
<i>Principle Tangent Data Reduction</i> , pp. 1577-1580. Hunt, Thomas (Univ. of California), Krener, Arthur J (Naval Postgraduate School)		
11:00-11:20		FrAT2.4
<i>Towards a Learning Framework for Dancing Robots</i> , pp. 1581-1586. Tholley, Ibrahim S. (Loughborough Univ.), Meng, Qinggang (Loughborough Univ.), Chung, Paul. W. H. (Loughborough Univ.)		
11:20-11:40		FrAT2.5
<i>An Active TAN Classifier Based on Vote Entropy-Maximum Entropy of QBC</i> , pp. 1587-1590. Zhao, Yue (Minzu Univ. of China), Cao, Yong-Cun (Minzu Univ. of China)		
11:40-12:00		FrAT2.6
<i>Indoor Online Learning of Feature Maps Using SPLN</i> , pp. 1591-1596.		

<b>FrAT3</b>	Chancellor 4
<b>Automated Guided Vehicles</b> (Regular Session)	
Chair: Villagra, Jorge	Univ. Carlos III
Co-Chair: Sgarioto, Daniel Emmanuel	Defence Tech. Agency
10:00-10:20	FrAT3.1
<a href="#">Steady State Trim and Open Loop Stability Analysis for the REMUS Autonomous Underwater Vehicle</a> , pp. 1597-1602. Sgarioto, Daniel Emmanuel (Defence Tech. Agency)	
10:20-10:40	FrAT3.2
<a href="#">Simulation for Improvement of Dynamic Path Planning in Autonomous Search and Rescue Robots</a> , pp. 1603-1608. Hasler, Michael Douglas (Univ. of Canterbury), Gaynor, Paul (Univ. of Canterbury), Carnegie, Dale Anthony (Victoria Univ. of Wellington)	
10:40-11:00	FrAT3.3
<a href="#">Nonlinear H-Infinity Control for Autonomous Passenger Vehicles</a> , pp. 1609-1614. Moriwaki, Katsumi (The Univ. of Shiga Prefecture)	
11:00-11:20	FrAT3.4
<a href="#">A Collaborative Navigation System for Autonomous Vehicle in Flat Terrain</a> , pp. 1615-1620. Ying, Wenjian (Tsinghua Univ.), Sun, Fuchun (Tsinghua Univ.), Liu, Huaping (Tsinghua Univ.), Song, Yu (Tsinghua Univ.)	
11:20-11:40	FrAT3.5
<a href="#">Robust Flatness-Based Control of an AGV under Varying Load and Friction Conditions</a> , pp. 1621-1628. Villagra, Jorge (Univ. Carlos III), Herrero-Perez, David (Univ. Carlos III), Abderrahim, Mohamed (Univ. Carlos III)	
11:40-12:00	FrAT3.6
<a href="#">Development of a Comprehensive Software System for Implementing Cooperative Control of Multiple Unmanned Aerial Vehicles</a> , pp. 1629-1634. Dong, Xiangxu (National Univ. of Singapore), Chen, Ben M. (National Univ. of Singapore), Cai, Guowei (National Univ. of Singapore), Lin, Hai (National Univ. of Singapore), Lee, Tong Heng (National Univ. of Singapore)	
<b>FrAT4</b>	Christchurch
<b>Fuel Cell Technology</b> (Invited Session)	
Chair: Wang, Youyi	Nanyang Tech. Univ.
Co-Chair: Jia, Junbo	Temasek Pol.
Organizer: Wang, Youyi	Nanyang Tech. Univ.
Organizer: Jia, Junbo	Temasek Pol.
10:00-10:20	FrAT4.1
<a href="#">The Control Strategy for a Solid Oxide Fuel Cell Hybrid System (I)</a> , pp. 1635-1640. Milewski, Jaroslaw (Warsaw Univ. of Tech.), Miller, Andrzej (Warsaw Univ. of Tech.), Dmowski, Antoni (Warsaw Univ. of Tech.), Biczel, Piotr (Warsaw Univ. of Tech.)	
10:20-10:40	FrAT4.2
<a href="#">H<sub>∞</sub> Optimal Control for Fuel Cell System with Adaptive Focusing Particle Swarm Optimization Algorithm (I)</a> , pp. 1641-1645. Li, Qi (Southwest Jiaotong Univ.), Chen, Weirong (Southwest Jiaotong Univ.), Wang, Youyi (Nanyang Tech. Univ.), Jia, Junbo (Temasek Pol.), Han, Ming (Temasek Pol.)	
10:40-11:00	FrAT4.3
<a href="#">A Bistable Twin-Tube Water Samples Collected Valve Control System Based on Fuzzy Interpolation Algorithm (I)</a> , pp. 1646-1649. Xiao, Ying (Jinggangshan Univ.), Liu, Yong (East China Jiaotong Univ.), Peng, Xuange (Jinggangshan Univ.)	
11:00-11:20	FrAT4.4
<a href="#">An Independent Dual-Core Structure of the River Sediment of Image Data Transmission System (I)</a> , pp. 1650-1653. Peng, Xuange (Jinggangshan Univ.), Xiao, Ying (Jinggangshan Univ.), Sun, Lingyu (Jinggangshan Univ.), Zhu, Bing (Jinggangshan Univ.), Liu, Yong (East China Jiaotong Univ.)	
11:20-11:40	FrAT4.5
<a href="#">An Intelligent Control System of Raw Rubber Drying Based on Interpolation (I)</a> , pp. 1654-1656. Zhu, Bing (Jinggangshan Univ.), Zhou, Xuyan (Jinggangshan Univ.), Leng, Ming (Jinggangshan Univ.), Xiao, Ying (Jinggangshan Univ.)	
11:40-12:00	FrAT4.6
<a href="#">MatlabSimulink Based-Study on PEM Fuel Cell and Nonlinear Control (I)</a> , pp. 1657-1662. Jia, Junbo (Temasek Pol.), Yang, Shunfeng (Southwest Jiaotong Univ.), Wang, Youyi (Nanyang Tech. Univ.), Cham, Y. T. (Temasek Pol.)	
<b>FrAT5</b>	Wellington
<b>Power System Control</b> (Invited Session)	
Chair: Lie, Tek Tjing	AUCKLAND Univ. OF Tech.
Co-Chair: Li, Guojie	Tsinghua Univ.
Organizer: Lie, Tek Tjing	AUCKLAND Univ. OF Tech.
10:00-10:20	FrAT5.1
<a href="#">Stability Analysis and Control of Multiple Converter Based Autonomous Microgrid (I)</a> , pp. 1663-1668. Majumder, Ritwik (Queensland Univ. of Tech.), Ghosh, Arindam (Queensland Univ. of Tech.), Ledwich, Gerard (Queensland Univ. of Tech.), Zare, Firuz (Queensland Univ. of Tech.)	
10:20-10:40	FrAT5.2
<a href="#">Power Quality Enhanced Operation and Control of a Microgrid Based Custom Power Park (I)</a> , pp. 1669-1674. Ghosh, Arindam (Queensland Univ. of Tech.), Majumder, Ritwik (Queensland Univ. of Tech.), Ledwich, Gerard (Queensland Univ. of Tech.), Zare, Firuz (Queensland Univ. of Tech.)	
10:40-11:00	FrAT5.3

<i>Incorporation of Static Phase Shifter in Power Systems Using Variable Structure and State Feedback Control (I)</i> , pp. 1675-1680. Shrestha, Govinda Bol (Nanyang Tech. Univ.), Kang, Yuan-Li (Nanyang Tech. Univ.), Lie, Tek Tjing (Auckland Univ. of Tech.)	FrAT5.4
11:00-11:20	
<i>A Photo-Voltaic Damping System for Suppressing Power System Oscillation (I)</i> , pp. 1681-1686. Li, GuoJie (Tsinghua Univ.), Ruan, S. Y. (State Grid Operation Company Ltd.), Choi, San Shing (Nanyang Tech. Univ.)	FrAT5.5
11:20-11:40	
<i>Voltage Quality Enhancement of Grid-Connected Wind Turbine Generation System through Series Compensation: A Probabilistic Approach (I)</i> , pp. 1687-1691. Liu, Y. (Nanyang Tech. Univ.), Choi, San Shing (Nanyang Tech. Univ.)	FrAT5.6
11:40-12:00	
<i>A Statistical Approach to Assess the Impact of Wind Power Generation on Network Frequency (I)</i> , pp. 1692-1696. Wang, X. L. (Nanyang Tech. Univ.), Choi, San Shing (Nanyang Tech. Univ.)	
<b>FrMT1</b>	Chancellor 1
<b>Sensor and Data Fusion (Regular Session)</b>	
Chair: Field, Matthew Co-Chair: Chen, Cheng-Hsiung	Univ. of Wollongong Kainan Univ.
13:00-13:20	FrMT1.1
<i>Motion Capture in Robotics Review</i> , pp. 1697-1702. Field, Matthew (Univ. of Wollongong), Stirling, David (Univ. of Wollongong), Naghdy, Fazel (Univ. of Wollongong), Pan, Zengxi (Univ. of Wollongong)	
13:20-13:40	FrMT1.2
<i>Capacitance-Based Sensor Design and Application in Automatic System</i> , pp. 1703-1707. Li, Nan (Xidian Univ.), Guo, Baolong (Xidian Univ.), Wang, Pai (Xidian Univ.), Huang, Chuan (The Univ. of Manchester)	
13:40-14:00	FrMT1.3
<i>EGOMASTER - a Central Ego Motion Estimation for Driver Assist Systems</i> , pp. 1708-1715. Baer, Michael (AUDI AG), Bouzouraa, Mohamed Essayed (Audi AG), Demiral, Christopher (AUDI AG), Hofmann, Ulrich (AUDI AG), Gies, Stefan (RWTH Aachen Univ.), Diepold, Klaus (Tech. Univ. Muenchen)	
14:00-14:20	FrMT1.4
<i>Human Tracking Using Ceiling Pyroelectric Infrared Sensors</i> , pp. 1716-1721. Luo, Xiaomu (Sun Yat-Sen Univ.), Shen, Baihua (Sun Yat-sen Univ.), Guo, Xuemei (Sun Yat-Sen Univ.), Luo, Guocai (Sun Yat-Sen Univ.), Wang, Guoli (Sun Yat-Sen Univ.)	
14:20-14:40	FrMT1.5
<i>Passive Track Fusion Via Hybrid Coordinate Filtering with Recursive Least Squares Estimator</i> , pp. 1722-1727. Fong, Li-Wei (Yu Da Univ.), Chen, Cheng-Hsiung (Kainan Univ.)	
<b>FrMT2</b>	Chancellor 3
<b>Filtering and Tracking Systems (Regular Session)</b>	
Chair: Yoneyama, Jun Co-Chair: Trofino, Alexandre	Aoyama Gakuin Univ. Federal Univ. of Santa Catarina
13:00-13:20	FrMT2.1
<i>H<sub>∞</sub> Filtering for Sampled-Data Systems</i> , pp. 1728-1733. Yoneyama, Jun (Aoyama Gakuin Univ.)	
13:20-13:40	FrMT2.2
<i>Robust Information Fusion Filtering Method for Discrete-Time Linear Uncertain System</i> , pp. 1734-1738. Wang, Zhi-sheng (Nanjing Univ. of Aeronautics and Astronautics), Zhen, Zi-yang (Nanjing Univ. of Aeronautics and Astronautics), Zhang, Hongliang (Nanjing Univ. of Aeronautics and Astronautics), Chen, Zhaohai (Nanjing Univ. of Aeronautics and Astronautics)	
13:40-14:00	FrMT2.3
<i>An Online Generation of Time-Optimal Trajectories for Piecewise Step References</i> , pp. 1739-1743. Chen, Gan (Nanzan Univ.)	
14:00-14:20	FrMT2.4
<i>A Reference Tracking Strategy for Affine Switched Systems</i> , pp. 1744-1750. Trofino, Alexandre (Federal Univ. of Santa Catarina), Reginatto, Romeu (Univ. Federal Do Rio Grande Do Sul), Oliveira, Jose de (State Univ. of Santa Catarina - UDESC), Scharlau, Cesar C. (Federal Univ. of Santa Catarina), Coutinho, Daniel Ferreira (Pont. Univ. Catolica do Rio Grande)	
14:20-14:40	FrMT2.5
<i>Stability Analysis of the Discrete-Time Difference SDRE State Estimator in a Noisy Environment</i> , pp. 1751-1756. Beikzadeh, Hossein (K.N. Toosi Univ. of Tech.), Taghirad, Hamid D. (K.N. Toosi Univ. of Tech.)	
<b>FrMT3</b>	Chancellor 4
<b>Aircraft Control and Aerodynamical Systems (Regular Session)</b>	
Chair: Kottenstette, Nicholas Co-Chair: Bi, Sheng	Vanderbilt Univ. Univ. of science and Tech. of china
13:00-13:20	FrMT3.1
<i>Robust Attitude Control of Aircraft Based on Partitioned Backstepping</i> , pp. 1757-1760. Bi, Sheng (Univ. of Science and Tech. of China), Ji, Haibo (Univ. of Science and Tech. of China), Chen, Shanjie (Univ. of Science and Tech. of China)	
13:20-13:40	FrMT3.2
<i>Digital Passive Attitude and Altitude Control Schemes for Quadrotor Aircraft</i> , pp. 1761-1768.	

Kottenstette, Nicholas (Vanderbilt Univ.), Porter, Joseph (Vanderbilt Univ.)	
13:40-14:00	FrMT3.3
<i>Analysis of Stability for the Controlled Spacecraft with a Deployable Flexible Appendage</i> , pp. 1769-1774. Shen, Shaoping (Xiamen Univ.)	
14:00-14:20	FrMT3.4
<i>Nonlinear Backstepping Control of Multibody Aerodynamic Systems with Equational Modeling</i> , pp. 1775-1779. Ye, Zhengmao (Southern Univ.), Mohamadian, Habib (Southern Univ.)	
14:20-14:40	FrMT3.5
<i>Flight Control of a Rotary Wing UAV Using Adaptive Backstepping</i> , pp. 1780-1785. Ahmed, Bilal (The Univ. of Newcastle), Pota, Hemanshu R. (The Univ. of New South Wales)	

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<b>FrMT4</b>	Christchurch
<b>Biomedical Instrumentation, Signal Processing and Imaging</b> (Invited Session)	

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Chair: Yang, Ran	Sun Yat-Sen Univ.
Co-Chair: Chen, Zhaolin	Florey Neuroscience Inst.
Organizer: Zhang, Cishen	Nanyang Tech. Univ.
Organizer: Zhang, Jingxin	Monash Univ.
Organizer: Yang, Ran	Sun Yat-Sen Univ.
13:00-13:20	FrMT4.1
<i>An Improved GRAPPA Algorithm Based on Sensitivity Estimation (I)</i> , pp. 1786-1791. Yang, Ran (Sun Yat-Sen Univ.), Zhang, Jingxin (Monash Univ.), Zhang, Cishen (Nanyang Tech. Univ.)	
13:20-13:40	FrMT4.2
<i>2D IIR Filter for Parallel Magnetic Resonance Image Reconstruction (I)</i> , pp. 1792-1795. Chen, Zhaolin (Howard Florey Inst. Australia.), Zhang, Jingxin (Monash Univ. Australia), Yang, Ran (Sun Yat-Sen Univ. P. R. China), Kellman, Peter (NHLBI, NIH), Johnston, Leigh A (Univ. of Melbourne, Australia), Egan, Gary F. (Univ. of Melbourne, Australia)	
13:40-14:00	FrMT4.3
<i>Parallel MR Image Reconstruction by Adaptively Weighted <math>H_2</math>: Optimization (I)</i> , pp. 1796-1800. Zheng, Kaiyu (Monash Univ.), Zhang, Jingxin (Monash Univ.)	
14:00-14:20	FrMT4.4
<i>Ultrasound Image Reconstruction by Two-Dimensional Blind Total Variation Deconvolution (I)</i> , pp. 1801-1806. Huang, Zheng (Monash Univ.), Zhang, Jingxin (Monash Univ.), Zhang, Cishen (Nanyang Tech. Univ.)	
14:20-14:40	FrMT4.5
<i>Classification of Self-Paced Finger Movements with EEG Signals Using Neural Network and Evolutionary Approaches (I)</i> , pp. 1807-1812. Liyana, Sidath Ravindra (National Univ. of Singapore), Xu, Jian-Xin (National Univ. of Singapore), Guan, Cuntai (Inst. for Infocomm Res.), Ang, Kai Keng (Inst. for Infocomm Res. A*STAR), Zhang, Cishen (Nanyang Tech. Univ.), Lee, Tong Heng (National Univ. of Singapore)	

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<b>FrMT5</b>	Wellington
<b>Intelligent and AI Control</b> (Regular Session)	

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Chair: Reichhartinger, Markus	Klagenfurt Univ.
Co-Chair: Ikonen, Enso	Univ. of Oulu
13:00-13:20	FrMT5.1
<i>Analysis of Students' Study Paths Using Finite Markov Chains</i> , pp. 1813-1818. Ikonen, Enso (Univ. of Oulu), Tervaskanto, Manne (Univ. of Oulu), Najim, Kaddour (E.N.S.I.A.C.E.T.)	
13:20-13:40	FrMT5.2
<i>Improving Fuzzy Traffic Controller for Multilane-Multiple Intersection</i> , pp. 1819-1824. Che Soh, Azura (Univ. Putra Malaysia), Khalid, Marzuki (Univ. Teknologi Malaysia), Marhaban, Mohammad Hamiruce (Univ. Putra Malaysia), Yusuf, Rubiyah (Univ. Teknologi Malaysia)	
13:40-14:00	FrMT5.3
<i>Robust Neural Control of Robot-Camera Visual Tracking System</i> , pp. 1825-1830. Pham, Thuong Cat (Inst. of Information Tech.), Nguyen, Tuan Minh (Le Quy Don Univ.)	
14:00-14:20	FrMT5.4
<i>An Agent-Based Approach to Design of Critical Mechanical Device Controller</i> , pp. 1831-1838. Yang, Qiliang (Nanjing Univ. Univ. of Science and Tech.), Xing, Jianchun (PLA Univ. of Science and Tech.), Wang, Ping (PLA Univ. of Science and Tech.), Zou, Yang (Hohai Univ. Univ.)	
14:20-14:40	FrMT5.5
<i>Model-Free Control of a Thermal Plant</i> , pp. 1839-1843. Horn, Martin (Klagenfurt Univ.), Reichhartinger, Markus (Klagenfurt Univ.)	

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<b>FrMPo1</b>	Chancellor 5/Foyer
<b>Robotics and Motion Control</b> (Interactive Session)	

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Chair: Lee, Dominic Savio	Univ. of Canterbury
Co-Chair: McInnes, Allan	Univ. of Canterbury
13:00-14:40	FrMPo1.1
<i>Tracking Control Method for an Underactuated Unicycle Robot Using an Equilibrium State</i> , pp. 1844-1849. Isomi, Yusuke (Univ. of Tsukuba), Majima, Sumiko (Univ. of Tsukuba)	
13:00-14:40	FrMPo1.2
<i>Tripod Gaits Planning and Kinematics Analysis of a Hexapod Robot (I)</i> , pp. 1850-1855. Duan, Xingji (Beijing Univ. of Aeronautics and Astronautics, China), Chen, Weihai (Beijing Univ. of Aeronautics and Astronautics, China), Yu, Shouqian (Beijing Univ. of Aeronautics and Astronautics, China), Liu, Jingmeng (Beijing Univ. of Aeronautics and Astronautics, China)	

13:00-14:40		FrMPo1.3
<i>Joint Force Control of Parallel Robot for Ankle Rehabilitation</i> , pp. 1856-1861.		
Tsoi, Yun Ho (The Univ. of Auckland), Xie, Sheng Quan (The Univ. of Auckland), Mallinson, G. D. (The Univ. of Auckland)		
13:00-14:40		FrMPo1.4
<i>Design and Modeling of a Flea-Like Jumping Robot</i> , pp. 1862-1867.		
Buksh, Sheikh Rashed (Univ. of Canterbury), Chen, Xiao-Qi (Univ. of Canterbury), Wang, Wen-Hui (Univ. of Canterbury)		
13:00-14:40		FrMPo1.5
<i>Quantized Measurement Fusion in Wireless Sensor Network with Correlated Sensor Noises</i> , pp. 1868-1873.		
Zhou, Yan (Shanghai Jiao Tong Univ.), Li, Jianxun (Shanghai Jiao Tong Univ.), Wang, Dongli (Donghua Univ.)		
13:00-14:40		FrMPo1.6
<i>Kinematic Analyses of a 1T2R and a 1T3R Parallel Mechanisms with Closed-Form Position Solutions</i> , pp. 1874-1879.		
Kim, Sung Mok (Korea Univ.), Kim, Wheekuk (Korea Univ.), Chung, Jaeheon (Hanyang Univ.), Yi, Byung-Ju (Hanyang Univ.)		
13:00-14:40		FrMPo1.7
<i>Intelligent Active Assistive and Resistive Orthotic Device for Knee Rehabilitation</i> , pp. 1880-1885.		
Chandrapal, Mervin (Univ. of Canterbury), Chen, Xiao-Qi (Univ. of Canterbury)		
13:00-14:40		FrMPo1.8
<i>Distributed System of Mobile Platform Obstacle Avoidance and Control As Robotic Assistant for Disabled and Elderly</i> , pp. 1886-1891.		
Filipescu, Adrian (Univ. "Dunarea de Jos" of Galati, Romania), Susnea, Ioan (Univ. "Dunarea de Jos" of Galati, Romania), Filipescu, Adriana (Univ. "Dunarea de Jos" of Galati, Romania), Stamatescu, Grigore (Pol. Univ. of Bucharest)		
13:00-14:40		FrMPo1.9
<i>Integrated Offensive Maneuver Using Hierarchical Hybrid Structure for Robot Soccer</i> , pp. 1892-1895.		
Zuo, Guoyu (Beijing Univ. of Tech.), Liang, Shuai (Beijing Univ. of Tech.), Han, Guangsheng (Beijing Univ. of Tech.)		
13:00-14:40		FrMPo1.10
<i>Visual Servoing with an Optical Tracking System and a Lightweight Robot for Laser Osteotomy</i> , pp. 1896-1900.		
Stein, Daniel (Univ. of Karlsruhe), Mönnich, Holger (Univ. of Karlsruhe), Raczowsky, J. (Univ. of Karlsruhe), Wörm, H. (Univ. of Karlsruhe)		
13:00-14:40		FrMPo1.11
<i>Mixed Model-Based/neural Network H-Infinity Impedance Control of Constrained Manipulators</i> , pp. 1901-1906.		
Siqueira, Adriano A G (Univ. of Sao Paulo at Sao Carlos), Terra, Marco Henrique (Univ. of Sao Paulo at Sao Carlos)		
13:00-14:40		FrMPo1.12
<i>Torque Compensation for Angle Designation Controller Using Analog Rate Loop</i> , pp. 1907-1912.		
Kwon, Young Shin (ISR R&D center of LIG Nex1, Co., Ltd), Kim, Chang Jae (Agency For Defense Development), Choi, Yun Seok (ISR R&D center of LIG Nex1, Co., Ltd.), Kim, Doh Hyun (ISR R&D center of LIG Nex1, Co., Ltd.)		
13:00-14:40		FrMPo1.13
<i>Trajectory Optimisation for Increased Stability of Mobile Robots Operating in Uneven Terrains</i> , pp. 1913-1919.		
Beck, Christoph (Univ. of Karlsruhe), Valls Miro, Jaime (Univ. of Tech. Sydney), Dissanayake, Gamini (Univ. of Tech. Sydney)		
13:00-14:40		FrMPo1.14
<i>Research on Search Probability and Camera Footprint of Region Coverage for UAVs</i> , pp. 1920-1924.		
Chen, Hai (Northwestern Pol. Univ.), Wang, Xin-Min (Northwestern Pol. Univ.), Jiao, Yun-Song (Northwestern Pol. Univ.), Li, Yan (Northwestern Pol. Univ.)		
13:00-14:40		FrMPo1.15
<i>Modified Scheme of PID Controllers for Robot Manipulators with an Uncertain Jacobian Matrix</i> , pp. 1925-1930.		
Huang, Chunqing (Xiamen Univ.), Lan, Weiyao (Xiamen Univ.)		

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## FrMPo2

Chancellor 5/Foyer

### Nonlinear Control and Applications (Interactive Session)

	Chair: Lee, Dominic Savio	Univ. of Canterbury
	Co-Chair: McInnes, Allan	Univ. of Canterbury
13:00-14:40		FrMPo2.1
<i>Parameter Estimation of Uncertain Nonlinear MIMO Three Tank Systems Using Higher Order Sliding Modes</i> , pp. 1931-1936.		
Iqbal, Muhammad (Centre for Advanced Studies in Engineering (CASE)), Bhatti, Aamer Iqbal (Muhammad Ali Jinnah Univ.), Iqbal, Sohail (Muhammad Ali Jinnah Univ.), Khan, Qudrat (Muhammad Ali Jinnah Univ.), Kazmi, I. H. (Muhammad Ali Jinnah Univ.)		
13:00-14:40		FrMPo2.2
<i>Double-Command Feedforward-Feedback Control of a Nonlinear Plant</i> , pp. 1937-1942.		
Mohammadzaheri, Morteza (Univ. of Adelaide), Chen, Lei (Univ. of Adelaide), Behnia-Willison, Fariba (Univ. of Adelaide), Askarian, Samin (Univ. of Adelaide)		
13:00-14:40		FrMPo2.3
<i>Adaptive Approximation Control of Nonlinear System Based on Fuzzy Logic with Approximation Error Compensation</i> , pp. 1943-1948.		
Lim, Sun (Korea Electronics Tech. Inst.)		
13:00-14:40		FrMPo2.4
<i>Adaptive Memoryless Observer Design for Nonlinear Time-Delay Systems</i> , pp. 1949-1954.		
Na, Jing (Beijing Inst. of Tech.), Herrmann, Guido (Univ. of Bristol), Ren, Xuemei (Beijing Inst. of Tech.), Barber, Phil (Jaguar & Land Rover Cars Limited)		
13:00-14:40		FrMPo2.5
<i>Automated Controller Design Using Linear Quantitative Feedback Theory for Nonlinear Systems</i> , pp. 1955-1961.		
Kianfar, Roozbeh (Chalmers Univ. of Tech.), Wik, Torsten (Chalmers Univ. of Tech.)		
13:00-14:40		FrMPo2.6
<i>Adaptive Robust Control for Nonlinear System with Input Backlash or Backlash-Like Hysteresis</i> , pp. 1962-1967.		
Guo, Jian (Nanjing Univ. of Science and Tech.), Yao, Bin (Purdue Univ.), Chen, Qingwei (Nanjing Univ. of Science and Tech.), Jiang, Jun (Nanjing Univ. of Science and Tech.)		

13:00-14:40		FrMPo2.7
<i>Intelligent Controller Design and Experimental Implementation of Nonlinear TORA System</i> , pp. 1968-1973. Lee, Ching-Hung (Yuan Ze Univ.), Chang, Sheng-Kai (Yuan Ze Univ.)		
13:00-14:40		FrMPo2.8
<i>Disturbance Effects in Nonlinear Control Systems and Feedforward Control Strategy</i> , pp. 1974-1979. Danapalasingam, Kumeresan (Aalborg Univ.), Cour-Harbo, Anders (Aalborg Univ.), Bisgaard, Morten (Aalborg Univ.)		
<b>FrMPo3</b>		Chancellor 5/Foyer
<b>Control Applications</b> (Interactive Session)		
Chair: Lee, Dominic Savio Co-Chair: McInnes, Allan		Univ. of Canterbury Univ. of Canterbury
13:00-14:40		FrMPo3.1
<i>H-Infinity Fuzzy Tracking Control for Boiler-Turbine Systems</i> , pp. 1980-1985. Wu, Jie (Southeast Univ. Nanjing, China), Krug, Matthias (The Univ. of Auckland), Nguang, Sing Kiong (The Univ. of Auckland), Shen, Jiong (Southeast Univ. Nanjing, China), Li, Yiguo (Southeast Univ. Nanjing, China)		
13:00-14:40		FrMPo3.2
<i>Periodic Disturbance Cancellation by Using Dual-Input Describing Function (DIDF) Method</i> , pp. 1986-1991. Choe, Yeon-Wook (Pukyong National Univ. Coll. of Engineering), Lee, Hyung-Ki (Pukyong National Univ. Coll. of Engineering)		
13:00-14:40		FrMPo3.3
<i>Synchronization to Wirelessly Teleoperate a Hydraulic Skid Steered Mobile Machine from Control Station</i> , pp. 1992-1996. Moya, Javier (Tampere Univ. of Tech.), Huhtala, Kalevi (Tampere Univ. of Tech.)		
13:00-14:40		FrMPo3.4
<i>An Optimizing Algorithm for Resources Allocation in Parallel Test</i> , pp. 1997-2002. Zhou, Dexin (Civil Aviation Univ. of China), Qi, Peng (Civil Aviation Univ. of China), Liu, Tao (Civil Aviation Univ. of China)		
13:00-14:40		FrMPo3.5
<i>A Distributed Control System for a Radio Telescope with Six-Meter Hexapod Mount</i> , pp. 2003-2010. Jiang, Homin (The Acad. Sinica Inst. of Astronomy), Kesteven, Michael (The Australia Telescope National Facility), Wilson, Warwick (The Australia Telescope National Facility), Li, Chao-Te (The Acad. Sinica Inst. of Astronomy), Hiroaki, Nishioka (The Acad. Sinica Inst. of Astronomy), Chen, Ming-Tang (The Acad. Sinica Inst. of Astronomy), Huang, Ted (The Acad. Sinica Inst. of Astronomy), Koch, Patrick (The Acad. Sinica Inst. of Astronomy), Chang, Joshua (The Acad. Sinica Inst. of Astronomy), Kubo, Derek (The Acad. Sinica Inst. of Astronomy and Astrophysics)		
13:00-14:40		FrMPo3.6
<i>Modeling and Analysis of the Coupling Effect for One Kind of Coarse-Fine Stages</i> , pp. 2011-2014. Yang, Yibo (Tsinghua Univ.), Yin, Wensheng (Tsinghua Univ.), Zhu, Yu (Tsinghua Univ.)		
13:00-14:40		FrMPo3.7
<i>ASTRA – Matlab Integration for the Control of Tokamaks</i> , pp. 2015-2020. Sevillano, M. G. (Univ. of the Basque Country), Garrido, Izaskun (Univ. of the Basque Country), Garrido, Aitor J. (Univ. of the Basque Country), Barambones, Oscar (Univ. of the Basque Country), Romero, J. (CIEMAT)		
13:00-14:40		FrMPo3.8
<i>Path Planning in Automated Manipulation of Biological Cells with Optical Tweezers</i> , pp. 2021-2026. Wu, Yanhua (City Univ. of Hong Kong and Univ. of Science and Tech.), Sun, Dong (City Univ. of Hong Kong), Huang, Wenhao (Univ. of Science and Tech. of China), Li, Youfu (City Univ. of Hongkong)		
13:00-14:40		FrMPo3.9
<i>Application of Multistage Fuzzy Control to a Double Inverted Pendulum</i> , pp. 2027-2030. Sun, Qianlai (Taiyuan Univ. of Science and Tech.), Sun, Zhiyi (Taiyuan Univ. of Science and Tech.)		
13:00-14:40		FrMPo3.10
<i>A Novel Content Updating Policy Based on Dynamic Storage Balancing for Clustered Streaming Media System</i> , pp. 2031-2036. Wei, Xing (Univ. of Science and Tech. of China), Yang, Jian (Univ. of Science and Tech. of China), Xi, Hongsheng (Univ. of Science and Tech. of China)		
13:00-14:40		FrMPo3.11
<i>Stable Controller Reconfiguration through Terminal Connections - a Practical Example</i> , pp. 2037-2042. Trangbaek, Klaus (Aalborg Univ.), Bendtsen, Jan Dimon (Aalborg Univ.)		
13:00-14:40		FrMPo3.12
<i>Robust Adaptive PI Controllers for Processes with Large Dead-Time</i> , pp. 2043-2047. Wang, Ya-Gang (Univ. of Shanghai for Science and Tech.), Cai, Wen-Jian (Nanyang Tech. Univ.)		
13:00-14:40		FrMPo3.13
<i>Controller Design for the Nonlinear Resin Transfer Molding-Process by Output Coupling</i> , pp. 2048-2053. Schlake, Jan Christoph (Tech. Univ. Darmstadt), Klunker, Florian (Clausthal Univ. of Tech.), Aranda Gallardo, Santiago (Clausthal Univ. of Tech.), López Pamplona, Alejandro (Tech. Univ. Darmstadt), Ziegmann, Gerhard (Clausthal Univ. of Tech.), Konigorski, U. (Tech. Univ. Darmstadt)		
13:00-14:40		FrMPo3.14
<i>Operability Analysis of a Multiple-Stage Membrane Process Based on Network Approach</i> , pp. 2054-2059. Setiawan, Ridwan (The Univ. of New South Wales), Bao, Jie (The Univ. of New South Wales), Yee, Kevin Wing Kan (The Univ. of New South Wales)		
13:00-14:40		FrMPo3.15
<i>Multiple Channel Filtered-X LMS-RLS Vibration Control in Wood Machining</i> , pp. 2060-2065. Hesselbach, Juergen (Tech. Univ. of Braunschweig), Hoffmeister, Hans-Werner (Tech. Univ. Braunschweig), Loeis, Kingliana (Tech. Univ. Braunschweig)		
13:00-14:40		FrMPo3.16

<i>Boiler-Turbine Unit Controller Design Based on the Extended State Observer</i> , pp. 2066-2071. Khani, Fatemeh (Power and Water Univ. of Tech.), Yazdzizadeh, Alireza (Power and Water Univ. of Tech.)	FrMPo3.17
13:00-14:40	
<i>Gauge and Tension Control in Unsteady State of Cold Rolling Using Mixed H<sub>2</sub>/H<sub>-</sub> Control</i> , pp. 2072-2076. Zhang, Xiaofeng (Univ. of Science and Tech. Beijing), Zhang, Qingdong (Univ. of Science and Tech. Beijing), Sun, Chaoyang (Univ. of Science and Tech. Beijing)	FrMPo3.18
13:00-14:40	
<i>Modeling and Control of Glass Furnace Temperature with Preheated Air by Gas Turbine</i> , pp. 2077-2082. Aeinmehr, Amin (Power and Water Univ. of Tech.), Yazdzizadeh, Alireza (Power and Water Univ. of Tech.), Ghazizadeh, Mohammad Sadegh (Power and Water Univ. of Tech.), Latif Shabgahi, Gholamreza (Power and Water Univ. of Tech.)	FrMPo3.19
13:00-14:40	
<i>Robust and Consistent Defect Size Measuring Method in Automatic Vision Inspection System</i> , pp. 2083-2087. Joo, Young-Bok (Yonsei Univ.), Huh, Kyung-Moo (Dankook Univ.), Hong, Chan-Soek (Chonbuk National Univ.), Park, Kil-Houm (Kyung-pook National Univ.)	FrMPo3.20
13:00-14:40	
<i>FTC Approach Based on Predictive Governor</i> , pp. 2088-2093. Boussaid, Boumedyen (Nancy Univ.), Aubrun, Christophe (Nancy Univ.), Gayed, M. Koni Ben (Univ. of Gabes), Abdelkrim, M. Naceur (Univ. of Gabes)	FrMPo3.21
13:00-14:40	
<i>A Real-Time Trajectory-Based Stability Constraint for Model Predictive Control</i> , pp. 2094-2099. Tran, Tri (The Univ. of New South Wales), Bao, Jie (The Univ. of New South Wales)	FrMPo3.22
13:00-14:40	
<i>Development of a Model-Based Controller Prototype for a PEM Fuel Cell Engine with ASCET-MD</i> , pp. 2100-2105. Ji, Guangji (Tongji Univ.), Ma, Tiancai (Tongji Univ.), Cheng, Fengxiang (Tongji Univ.), Zhang, Chuangsheng (Tongji Univ.), Zhou, Yi (Tongji Univ.), Zhou, Su (Tongji Univ.)	
<b>FrMPo4</b>	Chancellor 5/Foyer
<b>Control of Electric Machines and Systems (Interactive Session)</b>	
Chair: Lee, Dominic Savio Co-Chair: McInnes, Allan	Univ. of Canterbury Univ. of Canterbury
13:00-14:40	FrMPo4.1
<i>Passivity-Based Control for Three-Phase Four-Leg Shunt Active Power Filter</i> , pp. 2106-2110. Liang, Zhishan (China Univ. of Petroleum), Qiu, Yinfeng (China University of Petroleum)	
13:00-14:40	FrMPo4.2
<i>GA Based Robust Design of RHC with Adaptive DA Converter</i> , pp. 2111-2116. Kawabe, Tohru (Univ. of Tsukuba)	
13:00-14:40	FrMPo4.3
<i>Robust Output Regulation of Single-Switch Quadratic Buck Converter Using Internal Model</i> , pp. 2117-2122. Wei, Xile (Tianjin Univ.), Wang, Jiang (Tianjin Univ.), Lu, Meili (Tianjin Univ.), Li, Huiyan (Tianjin Univ. of Tech. and Education), Liu, Yuliang (Tianjin Univ. of Tech. and Education), Che, Yan-Qiu (Tianjin Univ.), Deng, Bin (Tianjin Univ.), Dong, Feng (Tianjin Univ.)	
13:00-14:40	FrMPo4.4
<i>Modeling of Transformer Characteristics Using Fractional Order Transfer Functions</i> , pp. 2123-2128. Kamath, Atul K. (Veermata Jijabai Tech. Inst.), Gandhi, Jay Rasik (Veermata Jijabai Tech. Inst.), Bohra, Arunkumar Sureshkumar (Veermata Jijabai Tech. Inst.), Goel, Ashwani Venkateshwar (Veermata Jijabai Tech. Inst.), Patil, Deepak Umakant (Veermata Jijabai Tech. Inst.), Kulkarni, Ojas Vijay (Veermata Jijabai Tech. Inst.), Chandle, Jayalakshmi O. (Veermata Jijabai Tech. Inst.)	
13:00-14:40	FrMPo4.5
<i>Control of a Test Rig for Vibration Measurements of Overhead Transmission Lines</i> , pp. 2129-2135. Wiendl, Steffen (Tech. Univ. Darmstadt), Hagedorn, Peter (Tech. Univ. Darmstadt), Hochlenert, Daniel (Tech. Univ. Darmstadt)	
13:00-14:40	FrMPo4.6
<i>Indirect Adaptive Feedforward Control in Compensating Cogging Torque and Current Measurement Inaccuracies for Permanent Magnet Motors</i> , pp. 2136-2142. Yeo, Kheng Cher (Charles Darwin Univ.), Heins, Greg (Charles Darwin Univ.), De Boer, Friso (Charles Darwin Univ.)	
13:00-14:40	FrMPo4.7
<i>Control of Chaotic Uncertain Brushless DC Motors</i> , pp. 2143-2148. Dadras, Sara (Tarbiat Modares Univ.), Motallebzadeh, Farzaneh (Tarbiat Modares Univ.), Motallebzadeh, Foroogh (Iran Univ. of Science and Tech.), Ozgoli, Sadjad (Tarbiat Modares Univ.), Momeni, Hamid Reza (Tarbiat Modares Univ.)	
13:00-14:40	FrMPo4.8
<i>A Study of Sampled-Data Integrator Controller and Its Application in Speed Control of DC Motors</i> , pp. 2149-2153. Guo, Hai-jiao (Tohoku Gakuin Univ.), Ishihara, Tadashi (Fukushima Univ.)	
13:00-14:40	FrMPo4.9
<i>Decoupling Control for the Speed Synchronization Task in the Powertrain of a Hybrid Electric Vehicle</i> , pp. 2154-2159. Jarczyk, Jan Christian (IAV GmbH), Alt, Benedikt (The Univ. of the German Armed Forces), Blath, Jan P. (IAV GmbH), Svaricek, Ferdinand (The Univ. of the German Armed Forces), Schultalbers, Matthias (IAV GmbH)	
13:00-14:40	FrMPo4.10
<i>Speed Control of DC Motor Using Composite Nonlinear Feedback</i> , pp. 2160-2164. Lan, Weiyao (Xiamen Univ.), Zhou, Qi (Xiamen Univ.)	
13:00-14:40	FrMPo4.11
<i>A Desktop Saw Wire Coating Machine by Using Electrical Discharge Machining</i> , pp. 2165-2170. Furutani, Katsushi (Toyota Tech. Inst.), Suzuki, Koji (Toyota Tech. Inst.)	



13:00-14:40 FrMPo4.12  
*Study on Sliding Mode Speed Control with Fuzzy Approach for Doubly-Fed Induction Motor*, pp. 2171-2175.  
 Li, Yuan (China Univ. of Mining And Tech.), He, Feng-you (China Univ. of Mining And Tech.), Ye, Zong-bin (China Univ. of Mining And Tech.)

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**FrMPo5** Chancellor 5/Foyer  
**Optimal and Robust Control** (Interactive Session)

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Chair: Lee, Dominic Savio Univ. of Canterbury  
 Co-Chair: McInnes, Allan Univ. of Canterbury

13:00-14:40 FrMPo5.1  
*Disturbance Suppression Via Robust MPC Using Prior Disturbance Data: Low Computational Complexity Method*, pp. 2176-2181.  
 Sato, Masayuki (Japan Aerospace Exploration Agency), Yokoyama, Nobuhiro (National Defense Acad. of Japan), Satoh, Atsushi (Iwate Univ.)

13:00-14:40 FrMPo5.2  
*Automatic Loop Shaping in Fractional-Order QFT Controllers Using Particle Swarm Optimization*, pp. 2182-2187.  
 Meng, Li (Northeastern Univ.), Xue, Dingyu (Northeastern Univ.)

13:00-14:40 FrMPo5.3  
*Non-Fragile Guaranteed Cost Control of an Interval System with State and Input Delay*, pp. 2188-2193.  
 Xiao, Min (Northwestern Pol. Univ.), Shi, Zhongke (Northwestern Pol. Univ.)

13:00-14:40 FrMPo5.4  
*Multi-Objective Control of an Active Vibration System Via Switching*, pp. 2194-2199.  
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*Robust Exponential Stability Analysis for Neutral Delay Systems with Uncertainties*, pp. 2205-2210.  
 Yu, Jimin (Chongqing Univ. of Post and Telecomm.), Tan, Weibing (Yulin Teachers Coll.), Mo, Yuzhong (Liuzhou Teachers Coll.)

13:00-14:40 FrMPo5.7  
*Parameter-Dependent Robust  $H_2$  Filtering for Singular Systems*, pp. 2211-2216.  
 Zhou, Yan (Shanghai Jiao Tong Univ.), Li, Jianxun (Shanghai Jiao Tong Univ.)

13:00-14:40 FrMPo5.8  
*An Optimal Force Cueing Algorithm for Dynamic Seat*, pp. 2217-2222.  
 Shao, Hua (Tsinghua Univ.), Guan, Liwen (Tsinghua Univ.), Wang, Jinsong (Tsinghua Univ.), Wang, Liping (Tsinghua Univ.), Fu, Yang (Chengdu Aircraft Design & Res. Inst.)

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*Local Controller Synthesis for Plug and Play Processes by Decomposition*, pp. 2223-2228.  
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*FEA and Optimum of Twin Seat Underframe in Motor Train Unit*, pp. 2229-2232.  
 Zou, Taoliang (Shanghai Univ. of Engineering Science)

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*Financial Valuation and Optimal Strategy for Retirement Benefits in a Jump Diffusion Model*, pp. 2233-2236.  
 Bian, Baojun (Tongji Univ.), Yuan, Quan (Tongji Univ.), Zhang, Hui (Tongji Univ.)

13:00-14:40 FrMPo5.12  
*Switched Controller Order Reduction*, pp. 2237-2242.  
 Shaker, Hamid Reza (Section for Automation and Control, Aalborg Univ.), Wisniewski, Rafael (Section for Automation and Control, Aalborg Univ.), Tabatabaeipour, Seyedmojtaba (Aalborg Univ.)

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13:00-14:40 FrMPo5.14  
*Design of Passive Control for Flexible Structure Using Genetic Algorithm*, pp. 2249-2253.  
 Saragih, Roberd (Inst. Teknologi Bandung), Mahardhika, Taufan (Inst. Teknologi Bandung)

13:00-14:40 FrMPo5.15  
*Optimal Control for Boiler Combustion System Based on DHP Method and Generalized RBF Network*, pp. 2254-2259.  
 Song, Shaojian (Guangxi Univ.), Liao, Bi-Lian (Guangxi Univ.), Shi, Chang-Cheng (Guangxi Univ.), Lin, Xiao-Feng (Guangxi Univ.)

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**FrPT1** Chancellor 1  
**Complex Systems** (Regular Session)

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Chair: Menon, Prathyush P Univ. of Leicester  
 Co-Chair: de la Sen, Manuel Univ. del Pais Vasco

15:00-15:20 FrPT1.1  
*L2 Optimal Decentralised Static Output Feedback Stabilisation of a Network of Dynamical Systems*, pp. 2260-2265.  
 Menon, Prathyush P (Univ. of Leicester), Edwards, Christopher (Univ. of Leicester), Postlethwaite, Ian (Univ. of Leicester)

15:20-15:40 FrPT1.2

*A Design Approach for Feedback-Feedforward Control Systems*, pp. 2266-2271.

Mohammadzakeri, Morteza (Univ. of Adelaide), Chen, Lei (Univ. of Adelaide), Behnia-Willison, Fariba (Univ. of Adelaide), Aryan, Pouria (Univ. of Adelaide)

15:40-16:00 FrPT1.3

*Decentralized Stabilization of Networked Complex Composite Systems with Nonlinear Perturbations*, pp. 2272-2277.

Bakule, Lubomir (Acad. of Sciences of the Czech Republic), de la Sen, Manuel (Univ. of the Basque Country)

16:00-16:20 FrPT1.4

*Optimization of Network Traffic*, pp. 2278-2281.

Hu, Mao-Bin (Univ. of Science and Tech. of China), Jiang, Rui (Univ. of Science and Tech. of China), Wang, Ruili (Massey Univ. (Turitea)), Du, Wen-Bo (Univ. of Science and Tech. of China), Wu, Qing-Song (Univ. of Science and Tech. of China)

16:20-16:40 FrPT1.5

*The Experiment and Theoretical Analysis of the Completely Inelastic Collision of Microspheres and Optical Microrotor*, pp. 2282-2286.

Zhai, Xiaomin (Univ. of Science and Tech. of China), Ding, Junjun (Univ. of Science and Tech. of China), Huang, Wenhao (Univ. of Science and Tech. of China)

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## FrPT2

Chancellor 3

### Signal Processing and Wavelet Applications (Regular Session)

Chair: Amosov, Oleg S.

Amur State Univ. of Humanities and Pedagogy

Co-Chair: Ye, Zhengmao

Southern Univ.

15:00-15:20

FrPT2.1

*Digital Image Wavelet Compression Enhancement Via Particle Swarm Optimization*, pp. 2287-2292.

Ye, Zhengmao (Southern Univ.), Mohamadian, Habib (Southern Univ.), Ye, Yongmao (Liaoning TV Station)

15:20-15:40

FrPT2.2

*Random Sequences Optimal Estimation by Using Regression and Wavelets*, pp. 2293-2298.

Amosov, Oleg S. (Amur State Univ. of Humanities and Pedagogy), Amosova, Liudmila N. (Amur State Univ. of Humanities and Pedagogy)

15:40-16:00

FrPT2.3

*Digital Watermarking Multi-Objective Optimization Based on Multi-Wavelet*, pp. 2299-2304.

Luo, Jian (Xiamen Univ.), Pan, Yinghui (Xiamen Univ.), Tan, Liang (Jiangxi Univ. of Finance and Ec.)

16:00-16:20

FrPT2.4

*Difference of Wavelet SIFT Based Mobile Robot Navigation*, pp. 2305-2310.

Jun, Sewoong (Korea Electronics Tech. Inst.), Kim, Youngouk (Korea Electronics Tech. Inst.), Lee, Jongbae (Korea Electronics Tech. Inst.)

16:20-16:40

FrPT2.5

*An Integrated Portable Vision Assistant Agency for the Visual Impaired People*, pp. 2311-2316.

Lai, ChinLun (Oriental Inst. of Tech.), Chang, Shu-We (Far Eastern Memorial Hospital), Sheen, Jyh (National Formosa Univ.)

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## FrPT3

Chancellor 4

### Nonlinear Process Control (Regular Session)

Chair: Chang, Bor-chin

Drexel Univ.

Co-Chair: Horn, Joachim

Helmut-Schmidt-Univ. / Univ. of the Federal Armed Forces Hamburg

15:00-15:20

FrPT3.1

*A DSP Microprocessor Hybrid Control of an Inverted Pendulum*, pp. 2317-2322.

Li, Ho-Lung (Drexel Univ.), Chang, Bor-chin (Drexel Univ.), Jagadish, Chirag (Drexel Univ.), Kwatny, Harry G. (Drexel Univ.)

15:20-15:40

FrPT3.2

*Determining the Best Pole Vaulting Using Non-Causal Dynamics*, pp. 2323-2328.

Liu, Guangyu (The Univ. of Auckland), Nguang, Sing Kiong (The Univ. of Auckland)

15:40-16:00

FrPT3.3

*Nonlinear Modeling and Position Control of an Industrial Quadrotor with On-Board Attitude Control*, pp. 2329-2334.

Alpen, Mirco (Helmut-Schmidt-Univ. Univ. of the Federal ArmedForce), Frick, Klaus (Helmut-Schmidt-Univ. Univ. of the Federal ArmedForce), Horn, Joachim (Helmut-Schmidt-Univ. of the Federal ArmedForce)

16:00-16:20

FrPT3.4

*3D Attitude Near-Optimal Control of a Universal Joint Space Robot Model with Initial Angular Momentum*, pp. 2335-2340.

Kai, Tatsuya (Osaka Univ.), Tamaki, Kazuho (Osaka Univ.)

16:20-16:40

FrPT3.5

*A Nonlinear Control Design of the 4-Axis Kinematic Manipulator AirArm Driven by Pneumatic Muscle Actuators*, pp. 2341-2347.

Nguyen, Tran Trung (Tech. Univ. of Ilmenau), Ament, Christoph (Tech. Univ. Ilmenau), Eichhorn, Mike (Inst. for Ocean Tech.)

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## FrPT4

Christchurch

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Chair: Ding, Baocang

Chongqing Univ.

Co-Chair: Tanovic, Omer

Univ. of Sarajevo

15:00-15:20

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*Asymptotically Necessary and Sufficient Stability Conditions in the Sense of Homogeneously Polynomially Nonquadratic Lyapunov*

*Functions for Discrete-Time Takagi-Sugeno Systems*, pp. 2348-2353.

Ding, Baocang (Chongqing Univ.)

15:20-15:40

FrPT4.2

*Hybrid Fuzzy-Neural Network Structure for Vehicle Seat Vibration Isolation*, pp. 2354-2359.

Tanovic, Omer (Univ. of Sarajevo), Huseinbegovic, Senad (Univ. of Sarajevo)

15:40-16:00

FrPT4.3

<i>Positioning Accuracy Improvement of a Vision-Based Optical Fiber Alignment Motion Stage Based on Fuzzy Logic Controller</i> , pp. 2360-2365. Chiu, Chih-Hao (National Cheng Kung Univ.), Wen, Chun-Ming (National Cheng Kung Univ.), Cheng, Ming-Yang (National Cheng Kung Univ.), Chuang, Hung-Shiang (Kao Yuan Univ.)	FrPT4.4
<i>Neural Network Modeling and Nonlinear Predictive Control of a Biotechnological Fed-Batch Process</i> , pp. 2366-2370. Nikfetrat, Akram (Malek-Ashtar Univ. of Tech.), Vali, Ahmad Reza (Malek-Ashtar Univ. of Tech.), Babaeipour, Valliollah (Malek-Ashtar Univ. of Tech.)	FrPT4.5
<i>Fuzzy Logic Controller on Automated Car Braking System</i> , pp. 2371-2375. Mamat, M. (Univ. Malaysia Pahang), Ghani, N. M. (Univ. Malaysia Pahang)	FrPT4.5
<b>FrPT5</b>	Wellington
<b>Intelligent Control of Manufacturing Systems (Invited Session)</b>	
Chair: Xu, Xun	Univ. of Auckland
Co-Chair: Ostgathe, Martin	Tech. Univ. Muenchen
15:00-15:20	FrPT5.1
<i>A Multi-Agent-Supported, Product-Based Production Control (I)</i> , pp. 2376-2383. Zaeh, Michael F. (Tech. Univ. Muenchen), Ostgathe, Martin (Tech. Univ. Muenchen)	
15:20-15:40	FrPT5.2
<i>Simulation and Optimization in a Multi-Process Environment Using STEP-NC (I)</i> , pp. 2384-2391. Laguionie, Raphael (IRCCyN), Rauch, Matthieu (The Univ. of Auckland), Hascoet, Jean-Yves (IRCCyN)	
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<i>Mechatronic Development of PLC Software with Virtual Machine Tools (I)</i> , pp. 2392-2397. Brecher, C. (RWTH Aachen Univ. Germany), Lohse, Wolfram (RWTH Aachen Univ. Germany), Herfs, W. (RWTH Aachen Univ. Germany)	
16:00-16:20	FrPT5.4
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<i>Lot Sizing and Scheduling for Mixed-Model Fabrication/Assembly Systems</i> , pp. 2404-2409. Rao, Yunqing (Huazhong Univ. of Science and Tech.), Wang, Binggang (Huazhong Univ. of Science and Tech.), Shao, Xinyu (Huazhong Univ. of Science and Tech.)	

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