## ADCONIP 2017 Technical Program Monday May 29, 2017

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<td>09:30-10:20 MoAMPL</td>
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<td>14:10-16:10 MoBT2 Room 101 Data Analytics and Machine Learning</td>
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<td>09:00</td>
<td>Corneal Biomechanical Model and Intraocular Pressure Measurement (Jia-Yushi Yen)</td>
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<td>Model-Based Fault Detection and Diagnosis</td>
<td>Process Integration and Optimization 2</td>
<td>Data-Based Controller Tuning</td>
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<td>13:40</td>
<td>Identification and Estimation</td>
<td>Process and Control Monitoring</td>
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<td>15:40</td>
<td>Mathematical Programming and Dynamic Programming: How They Can Be Combined for Further Use in Planning, Scheduling and Control of Multi-Scale Stochastic Energy Systems (Jay H. Lee)</td>
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<td>16:30</td>
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</table>
Technical Program for Monday May 29, 2017

MoAT1 1F Conference Room
Model-Based Control (Regular Session)
Chair: Gao, Furong  Hong Kong Univ. of Science & Tech
Co-Chair: Li, Shaoyuan  Shanghai Jiao Tong Univ
10:40-11:00 MoAT1.1
State Feedback Output Regulation for a Boundary Controlled Linear 2X2 Hyperbolic System, pp. 1-6.
xu, Xiaodong  Univ. of Alberta
Dubljevic, Stevan  Univ. of Alberta
11:00-11:20 MoAT1.2
Robust Distributed Control for Plantwide Processes Based on Dissipativity in Quadratic Differential Forms, pp. 7-12.
Zheng, Chaoxu  Univ. of New South Wales
Bao, Jie  The Univ. of New South Wales
11:20-11:40 MoAT1.3
Wang, Xiao  Shanghai Jiao Tong Univ
Li, Shaoyuan  Shanghai Jiao Tong Univ
Zheng, Yi  Shanghai Jiao Tong Univ
Yang, Yaru  Shanghai Jiao Tong Univ
11:40-12:00 MoAT1.4
Astolfi, Giacomo  Univ. Pol. Marche
Barboni, Luca  I.process Srl
Cocchioni, Francesco  Univ. Pol. Delle Marche
Pepe, Crescenzo  Univ. Pol. Delle Marche
Zanoli, Silvia Maria  Univ. Pol. Delle Marche
12:00-12:20 MoAT1.5
Markana, Anilkumar  Pandit Deendayal Petroleum Univ. Gandhinagar
Padhiyar, Nitin  Indian Inst. of Tech. Gandhinagar
Moudgalya, Kannan M.  I.I.T. Bombay
12:20-12:40 MoAT1.121
A Multi-Objective Model Predictive Control for Temperature Control in Extrusion Processes, pp. 31-36.
Lu, Jingyi  Hong Kong Univ. of Science and Tech
Zhang, Ridong  Hangzhou Dianzi Univ
Yao, Ke  Hong Kong Univ. of Science and Tech
Gao, Furong  Hong Kong Univ. of Science & Tech

MoAT2 Room 101
Process Integration and Optimization 1 (Invited Session)
Chair: Foo, Dominic  Univ. of Nottingham Malaysia Campus
Co-Chair: Bandyopadhyay, Santanu  Indian Inst. of Tech. Bombay
10:40-11:00 MoAT3.1
Two-Step Principal Component Analysis for Dynamic Processes (I), pp. 73-77.
Two-Step Principal Component Analysis for Dynamic Processes (I), pp. 73-77.

MoAT3 Room 103
Process Analytics and Chemometrics (Invited Session)
Chair: Yao, Yuan  National Tsing Hua Univ
Co-Chair: Kim, Sanghong  Kyoto Univ
Organizer: Yao, Yuan  National Tsing Hua Univ
10:40-11:00 MoAT3.1
Two-Step Principal Component Analysis for Dynamic Processes (I), pp. 73-77.
Jin, Feng Dalian Univ. of Tech., Dalian, Liaoning
Wang, Linqing Dalian Univ. of Tech., Dalian, Liaoning
Zhao, Jun Dalian Univ. of Tech., Dalian, Liaoning
Wang, Wei Dalian Univ. of Tech
Liu, Ying Dalian Univ. of Tech
Li, Jian State Grid Dalian Electric Power Supply Company

Liu, Yen-Chun Industrial Tech. Res. Inst
LIN, SHIANG-MING Tamkang Univ
HSIU, WEI-SHIANG Tamkang Univ
Chen, Yih-Hang Tamkang Univ. Department of Chemical and Materials Engineer
Chang, Hsu-an Tamkang Univ

P-Graph Approach to Human Resource Reallocation in Industrial Plants under Crisis Conditions*, pp. 131-136.
Aviso, Kathleen De La Salle Univ
Cayamanda, Christina De La Salle Univ
Mayol, Andres Philip De La Salle Univ
Tan, Raymond De La Salle Univ

Wang, Tianyu Dalian Univ. of Tech
Wang, Linqing Dalian Univ. of Tech., Dalian, Liaoning
Zhao, Jun Dalian Univ. of Tech., Dalian, Liaoning
Wang, Wei Dalian Univ. of Tech
Liu, Ying Dalian Univ. of Tech

MoKT1 1F Conference Room
Keynote 1 (M. Guay) (Keynote Session)
Chair: Bao, Jie The Univ. of New South Wales
13:40-14:10 MoKT1.1

MoKT2 Room 101
Keynote 2 (Y. Fu, H. Yang) (Keynote Session)
Chair: Wang, Youqing Beijing Univ. of Chemical Tech
13:40-14:10 MoKT2.1

Jeong, Dong Hwi Seoul National Univ
Lee, Chang Jun Pukyong National Univ
Lee, Jong Min Seoul National Univ

Zulkaffi, Nur Izyan Cranfield Univ
Kopanos, Georgios M. Cranfield Univ

MoAT4 Room 201
Optimization and Scheduling (Regular Session)
Chair: Lee, Chang Jun Pukyong National Univ
Co-Chair: Lee, Jong Min Seoul National Univ
10:40-11:00 MoAT4.1

MoAT4.2
Zulkaffi, Nur Izyan Cranfield Univ
Kopanos, Georgios M. Cranfield Univ
11:00-11:20 MoAT4.2

MoAT4.3
MoAT4.4
MoAT4.5
MoAT4.6

MoAT3.2
Application of Gaussian Processes with Variable Shrinkage Method and Just-In-Time Modeling in the Semiconductor Industry (I), pp. 78-83.
Wu, Xiaofei Zhejiang Univ
Chan, Lik Teck, Lester Chung Yuan Christian Univ
Chen, Junghui Chung-Yuan Christian Univ
Xie, Lei Zhejiang Univ
11:20-11:40 MoAT3.3

Valve Stiction Detection Using the Bootstrap Hammerstein System Identification (I), pp. 84-89.
Yan, Zhengbing State Key Lab. Ofindustrialcontroltechnology, Department Of
Chen, Junghui Chung-Yuan Christian Univ
Zheng-Jiang, Zhang Department of Electrical and Electronic Engineering, Wenzhou Uni
11:40-12:00 MoAT3.4

A Frequent Pattern Mining Based Shape Defect Diagnosis Method for Cold Rolled Strip Products (I), pp. 90-94.
Li, Xinhai Jiangnan Univ. of Aeronautics and Astronautics
Lu, Ningyun Jiangnan Univ. of Aeronautics and Astronautics
Jiang, Bin IAUE
Zhao, huping Baoshan Iron and Steel Corp
12:00-12:20 MoAT3.5

Subspace Decomposition Based Cumulative Quality Analysis for Multiphase Batch Processes (I), pp. 95-100.
Qin, Yan Zhejiang Univ
Zhao, Chunhui Zhejiang Univ
Gao, Furong Hong Kong Univ. of Science & Tech
12:20-12:40 MoAT3.6

Modified Joint-Y PLS Model for Integrated Use of Data from Similar Plants, pp. 101-106.
Okayama, Naoki Kyoto Univ
Kim, Sanghong Kyoto Univ
Kano, Manabu Kyoto Univ
Hasebe, Shintaro Kyoto Univ

MoAT4 Optimization and Scheduling (Regular Session)
Chair: Lee, Chang Jun Pukyong National Univ
Co-Chair: Lee, Jong Min Seoul National Univ
10:40-11:00 MoAT4.1

Jeong, Dong Hwi Seoul National Univ
Lee, Chang Jun Pukyong National Univ
Lee, Jong Min Seoul National Univ
11:00-11:20 MoAT4.2

Zulkaffi, Nur Izyan Cranfield Univ
Kopanos, Georgios M. Cranfield Univ
11:20-11:40 MoAT4.3

MoAT4.4
Regression Models Processes Using Localized Partial Least Squares
Jeong, Dong Hwi Seoul National Univ
Lee, Chang Jun Pukyong National Univ
Lee, Jong Min Seoul National Univ
11:00-11:20 MoAT4.2

Zulkaffi, Nur Izyan Cranfield Univ
Kopanos, Georgios M. Cranfield Univ
11:20-11:40 MoAT4.3
MoKT3
Keynote 3 (Y. Zhu) (Keynote Session)

Chair: Zhao, Chunhui
Zhejiang Univ
13:40-14:10
MoKT3.1

Zhu, Yucai
Zhejiang Univ

MoBT1
New Directions of Adaptive and Learning Control (Invited Session)

Chair: Takahashi, Masanori
Tokai Univ
Co-Chair: Prasad, Vinay
Univ. of Alberta
Organizer: Takahashi, Masanori
Tokai Univ
Organizer: Ohnishi, Yoshihiro
Ehime Univ
14:10-14:30
MoBT1.1

Extension of a Multi-Rate Control Law Independently of Both Reference and Disturbance Responses (I), pp. 161-165.
Sato, Takao
Univ. of Hyogo
Ishii, Nozomi
Univ. of Hyogo
Araki, Nozomu
Univ. of Hyogo
Konishi, Yasuo
Univ. of Hyogo
14:30-14:50
MoBT1.2

Adaptive Output Feedback Control with Predictive Feedforward Input Based on Extended Output Estimator (I), pp. 166-171.
Fujii, Seiya
Kumamoto Univ
Mizumoto, Ikuro
Kumamoto Univ
14:50-15:10
MoBT1.3

Verification of the Relationship between Desired Angle Ratio and Control Performance in the Links of a Gymnastic Based Controller for an Underactuated Robot (I), pp. 172-177.
Akiyama, Masaki
Advanced Course in National Inst. of Tech. Kagawa Coll
Henmi, Tomohiro
National Inst. of Tech. Kagawa Coll
Yamamoto, Toru
Hiroshima Univ
15:10-15:30
MoBT1.4

A Bayesian Learning and Data Mining Approach to Reaction System Identification: Application to Biomass Conversion, pp. 178-183.
Tefea, Dereje
Univ. of Alberta
de Klerk, Arno
Univ. of Alberta
Prasad, Vinay
Univ. of Alberta
15:30-15:50
MoBT1.5

Self-Repairing Control for Plants with High Relative Degrees (I), pp. 184-189.
Takahashi, Masanori
Tokai Univ
15:50-16:10
MoBT1.6

MoBT2
Data Analytics and Machine Learning (Invited Session)

Chair: Lee, Chang Jun
Pukyong National Univ
Co-Chair: Chiang, Leo
The Dow Chemical Company
Organizer: Gopaluni, Bhushan
Univ. of British Columbia
14:10-14:30
MoBT2.1

Hong, Xiaodan
Donghua Univ
Ren, Lihong
Donghua Univ
Chen, Lei
Donghua Univ
Guo, Fan
Donghua Univ
Ding, Yongsheng
Donghua Univ
Huang, Biao
Univ. of Alberta
14:30-14:50
MoBT2.2

Deep Reinforcement Learning Approaches for Process Control (I), pp. 201-206.
Pon Kumar, Steven
Univ. of British Columbia
Spielberg
Gopaluni, Bhushan
Univ. of British Columbia
Loewen, Philip
Univ. of British Columbia
14:50-15:10
MoBT2.3

Advances in Big Data Analytics at the Dow Chemical Company (I), pp. 207-208.
Chiang, Leo
The Dow Chemical Company
Lu, Bo
The Dow Chemical Company
Castillo, Ivan
The Dow Chemical Company
15:10-15:30
MoBT2.4

Vargas, Ricardo Emanuel
Federal Univ. of Espirito Santo
Vaz Vargas
Federal Univ. of Espirito Santo
Ciarelli, Patrick Marques
Federal Univ. of Espirito Santo
Araújo, Jean Carlos dias de Petróleo Brasileiro S.A
15:30-15:50
MoBT2.5

Research and Application of KICA AROMF Based Fault Diagnosis, pp. 215-220.
ZHOU, Qunxiong
Beijing Univ. of Chemical Tech
Meng, Qian-Qian
Beijing Univ. of Chemical Tech
XU, Yuan
Beijing Univ. of Chemical Tech
He, Yan-Lin
Beijing Univ. of Chemical Tech
15:50-16:10
MoBT2.6

Pattern Analysis of Time-Series Pressure Data by Combining Analysis of CFD Simulation Data for Monitoring of Liquid-Liquid Parallel Flows in Micro Sift (I), Invited Talk.
Matsumoto, Hideyuki
AIST
Yoshikawa, Shiro
Tokyo Institute of Technology

MoBT3
System Identification (Regular Session)

Chair: Yang, Fan
Tsinghua Univ
Co-Chair: Tangirala, Arun K.
Indian Inst. of Tech. Madras
14:10-14:30
MoBT3.1

Pinnamaraju, Vivek Shankar
IIT Madras
Tangirala, Arun K.
Indian Inst. of Tech. Madras
### Design and Control of Separation Processes

**MoBT4.1**


- **Chen, Hung-Hsing**
- **Chen, Meng-Kai**
- **Chien, I-Lung**

**MoBT4.2**

#### Performance of Reactive Distillation Columns with Multiple Reactive Sections for the Disproportionation of Trichlorosilane to Silane (I), pp. 263-268.

- **Zang, Xinxiang**
- **Chen, Haisheng**
- **Huang, Kejin**

**MoBT4.3**

#### Design and Control of Diphenyl Carbonate Reactive Distillation Using a Thermally Coupled Configuration (I), pp. 269-274.

- **Chang, Hsiang-Ning**
- **Lee, Hao-Yeh**

**MoBT4.4**

#### Simulation and Optimization of Structured Packing Replacement in Absorption Column of Natural Gas Dehydration Unit Using Triethylene Glycol (TEG) (I), pp. 275-281.

- **Affandy, Sony Ardian**
- **Handogo, Renanto**
- **Purwo Sutikno, Juwari**

**MoBT4.5**

#### Dynamics and Control of Totally Reboiled Reactive Distillation Columns (I), pp. 282-287.

- **Wang, Tengfei**
- **Chen, Haisheng**
- **Huang, Kejin**

**MoBT4.6**


- **Alcántara-Avila, J. Rafael**
- **Terasaki, Masataka**
- **Lee, Hao-Yeh**
- **Chen, Jun-Lin**
- **Cabrera-Ruiz, Julián**
- **Sotowa, Ken-Ichiho**
- **Horikawa, Toshihide**

### Parameter Identification Method for Process Control Systems Based on the Newton Iteration, pp. 233-238.

- **Xu, Ling**
- **Ding, Feng**
- **Liu, Yanjun**
- **Li, Junhong**
- **Chen, Jing**

### Identification of FIR Models Using Basis Models of First-Order Plus Time Delays, pp. 239-244.

- **Shen, Wenyi**
- **GAO, Xinqing**
- **Yang, Fan**
- **Jiang, Yongheng**
- **Ye, Hao**
- **Huang, Dexian**

### Modeling of Hemoglobin Response to Erythropoietin Therapy through Constrained Optimization, pp. 245-250.

- **Ren, Jia**
- **McAllister, Jayson**
- **Zokui, Li**
- **Liu, Jinfeng**
- **Simonsmeier, Ulrich**

### Parameter Identification for Breakage Distribution Function of Bauxite Based on State Transition Algorithm, pp. 251-256.

- **Wang, Yalin**
- **Peng, Kai**
- **Yuan, Xiaofeng**
- **Li, Ling**
- **Chen, Guanyu**


- **Ku, ShaoWu**
- **Chen, Junhui**
- **Chen, Lik Teck, Lester**

### Identification of LTV Systems with Cascade Control Loops Using Basis Function Approach, pp. 251.

- **Chien, I-Lung**
- **Chen, Meng-Kai**
- **Chien, I-Lung**

### Poster Session (Interactive Session)

- **Chair: Ward, Jeffrey Daniel**
- **Co-Chair: Pan, Tianhong**

**MoPO.1**

#### Robust Preliminary-Summation-Based Principal Component Analysis for Non-Gaussian Processes with Outliers (I), pp. 294-299.

- **Wang, Youqing**

**MoPO.2**

#### Online Flooding Prognosis in Packed Columns by Monitoring Parameter Change in EGARCH Model (I), pp.

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**Room 201**

**Design and Control of Separation Processes (Invited Session)**

- **Chair: Chien, I-Lung**
- **Co-Chair: Lee, Hao-Yeh**
- **Organizer: Lee, Hao-Yeh**
- **Organizer: Chien, I-Lung**

**MoPO**

**Ball Room**

**Poster Session**

- **Chair: Wang, Youqing**
- **Co-Chair: Pan, Tianhong**

Fatani, Sultan
Saudia Aramco

16:10-16:50 MoPO.10

Software Integration for Online Dynamic Simulation Applications, pp. 360-364.
Mitchell, Matthew
The Univ. of Auckland

16:10-16:50 MoPO.12

Liu, Jialin
Tunghai Univ

16:10-16:50 MoPO.15


16:10-16:50 MoPO.8

Sheng, Biqi
China Maritime Pol. Acad

Control of Two Batch Crystallization Processes with Apparent Growth-Rate Dispersion, pp. 342-347.

16:10-16:50 MoPO.9

Wu, Le
Inst. of Electrical Power Res.
Guangdong Power Grid, Gu

Pitchaimuthu, Diban
Univ. of Nottingham Malaysia Campus

16:10-16:50 MoPO.17

Wang, San-Jang
National Tsing Hua Univ

Syu, Wan-Syuan
National Taipei Univ. of Tech

16:10-16:50 MoPO.18

Lee, Jui-Yuan
National Taipei Univ. of Tech

Yu, Chen
Nagoya Inst. of Tech

16:10-16:50 MoPO.19

Wong, David Shan Hill
National Tsing Hua Univ


16:10-16:50 MoPO.10

Development of a Data-Oriented Cascade Control System, pp. 365-370.
Kinosita, Takuya
Hiroshima Univ

16:10-16:50 MoPO.13

Yamamoto, Toru
Hiroshima Univ

OS-L1-ELM: Online Sequential L1-Regularized-ELM Based on ADMM, pp. 371-376.
Li, Dazi
Beijing Univ. of Chemical Tech

16:10-16:50 MoPO.14

Chu, Zhiyin
Beijing Univ. of Chemical Tech

Empirical Trajectories for Batch Crystallization Control with Constraints, pp. 324-329.
Hsiao, Hsien-Feng
National Taiwan Univ

16:10-16:50 MoPO.6

Ward, Jeffrey Daniel
National Taiwan Univ


16:10-16:50 MoPO.7

Wang, Haiyan
Jiangsu Univ


16:10-16:50 MoPO.8

Zhu, Yucui
Zhejiang Univ

Control of Two Batch Crystallization Processes with Apparent Growth-Rate Dispersion, pp. 342-347.

16:10-16:50 MoPO.9

Jiang, Pengfei
Inst. of Electrical Power Res.
Guangdong Power Grid, Gu

Nergetic Crystallization Control with Constraints, pp. 332-333.

16:10-16:50 MoPO.11

Chen, Shihhe
Inst. of Electrical Power Res.
Guangdong Power Grid, Gu

Pitchaimuthu, Diban
Univ. of Nottingham Malaysia Campus

16:10-16:50 MoPO.17

Wu, Le
Inst. of Electrical Power Res.
Guangdong Power Grid, Gu

Syu, Wan-Syuan
National Taipei Univ. of Tech

16:10-16:50 MoPO.18

Gu, Ziyang
China Maritime Pol. Acad


16:10-16:50 MoPO.10

Control of Two Batch Crystallization Processes with Apparent Growth-Rate Dispersion, pp. 342-347.

16:10-16:50 MoPO.9

Chen, Shihhe
Inst. of Electrical Power Res.
Guangdong Power Grid, Gu
Koshijima, Ichiro  
Nagoya Inst. of Tech

16:10-16:50  
MoPO.20


Fu, Qiuhao  
Hiroshima Univ
Koiwai, Kazushige  
Hiroshima Univ
Yamamoto, Toru  
Hiroshima Univ

16:10-16:50  
MoPO.21


Du, Wenli  
East China Univ. of Science and Tech
Alkebsi, Khalil Abdulghani  
East China Univ. of Science and Tech

16:10-16:50  
MoPO.22


Chang, Chiao-Ying  
National Taiwan Univ
Wang, Shih-Han  
National Taiwan Univ
Chen, Cheng-Liang  
National Taiwan Univ
Huang, Yu-Cheng  
National Taiwan Univ

16:10-16:50  
MoPO.23


Zhao, Zhonggai  
Institute of Automation, Jiangnan Univ
Qi, Pengcheng  
Jiangnan Univ
Liu, Fei  
Jiangnan Univ

16:10-16:50  
MoPO.24

**A Simple PID Controller for a Magnetic Bearing with Four Poles and Interconnected Magnetic Flux**, pp. 430-435.

Tshizubu, Christian  
Univ. Federal Fluminense
Santisteban, José Andrés  
Univ. Federal Fluminense

16:10-16:50  
MoPO.25


Lin, Ta-Chen  
Tunghai Univ
Lee, Ya-Hsun  
IV Tech. Co., Ltd
Technical Program for Tuesday May 30, 2017

TuAT1  1F Conference Room
Model-Based Fault Detection and Diagnosis (Invited Session)
Chair: Chang, Chuei-Tin  National Cheng Kung Univ
Co-Chair: Zhao, Jingsong  Tsinghua Univ
Organizer: Chang, Chuei-Tin  National Cheng Kung Univ

10:10-10:30  TuAT1.1
FONG, SHI-HING  National Cheng Kung Univ
Wang, Chung Jung  National Cheng Kung Univ
Chang, Chuei-Tin  National Cheng Kung Univ

10:30-10:50  TuAT1.2
Agent Based Fault Detection Using Negative Selection Algorithm for Chemical Processes (I), pp. 448-452.
Kimura, Naoki  Kyushu Univ
Takeda, Yuya  Kyushu Univ
Hasegawa, Taichi  Kyushu Univ
Tsuge, Yoshifumi  Kyushu Univ

10:50-11:10  TuAT1.3
Yamashita, Yoshiyuki  Tokyo Univ. of Agriculture and Tech

11:10-11:30  TuAT1.4
Ming, Liang  Tsinghua Univ
Zhao, Jingsong  Tsinghua Univ

11:30-11:50  TuAT1.5
Adi, Vincentius Surya Kurnia  National Chung Hsing Univ
Laxmidevi, Rosalina  Independent Scholar
Chang, Chuei-Tin  National Cheng Kung Univ

11:50-12:10  TuAT1.6
Unsafe Situations Avoidance Systems using ICS Sandbox and backup systems for Plant Operations (I), Invited Talk
Hamaguchi, Takashi  Nagoya Institute of Technology
Yamamoto, Shinya  Nagoya Institute of Technology
Tagawa, Takuya  Nagoya Institute of Technology
Mase, Hiroki  Nagoya Institute of Technology
Koshijima, Ichiro  Nagoya Institute of Technology
Hashimoto, Yoshihiro  Nagoya Institute of Technology

TuAT2  Room 101
Process Integration and Optimization 2 (Invited Session)
Chair: Liu, J. Jay  Pukyong National Univ
Co-Chair: Isafiade, Adeniyi  Univ. of Cape Town
Jide
Organizer: Foo, Dominic  Univ. of Nottingham Malaysia Campus

10:10-10:30  TuAT2.1
Retrofitting Industrial Heat Exchanger Network Based on Pinch Analysis (I), pp. 469-474.
Li, Bao-Hong  Dalian Nationalities Univ
Chang, Chuei-Tin  National Cheng Kung Univ

10:30-10:50  TuAT2.2

TuAT3  Room 103
Data-Based Controller Tuning (Invited Session)
Chair: Jeng, Jyh-Cheng  National Taipei Univ. of Tech
Co-Chair: Yamamoto, Toru  Hiroshima Univ
Organizer: Jeng, Jyh-Cheng  National Taipei Univ. of Tech

10:10-10:30  TuAT3.1
Data-Based Design of Centralized PID Controllers for Decoupling Control of Multivariable Processes (I), pp. 505-510.
Jeng, Jyh-Cheng  National Taipei Univ. of Tech
Jian, Yuan-Siang  National Taipei Univ. of Tech
Lee, Ming-Wei  China Steel Corp

10:30-10:50  TuAT3.2
Convergence Property for Iterative Data-Driven PID Gain Tuning Based on Generalized Minimum Variance Regulatory Control (I), pp. 511-516.
Yokoyama, Ryoko  Tokyo Metropolitan Univ
Masuda, Shiro  Tokyo Metropolitan Univ

10:50-11:10  TuAT3.3
Nguyen Quang, Huy  Kanazawa Univ
Kaneko, Osamu  The Univ. of Electro-Communications

11:10-11:30  TuAT3.4
Design of Centralized PID Controllers for TITO Processes, pp. 523-528.
Park, Byeong Eon  POSTECH
Sung, Su Whan  Kyungpook National Univ

Optimum Water Network Design for Multipurpose Batch Plants with an Electrolysis Central Regeneration Unit (I), pp. 475-480.
Bazolana, Nsuda Christie  Univ. of the Witwatersrand
Majozi, Thokozani  School of Chemical and Metallurgical Engineering, Univ. Of

Cheng, Shueh-Hen  Tunghai Univ. Department of Chemical and Materials Engineer
Lo, Chi-Hao  CTCI Corp
Lin, Ta-Chen  Tunghai Univ

Am, Vathna  Auckland Univ. of Tech
Currie, Jonathan  AUT Univ
Wilson, David I.  Auckland Univ. of Tech

Process Design and Simulation of Industrial Scale Biofuel Production Via Pyrolysis of Saccharina Japonica, pp. 493-498.
Brigjievic, Boris  Pukyong National Univ
Liu, J. Jay  Pukyong National Univ

Isafiade, Adeniyi Jide  Univ. of Cape Town

FONG, SHI-HING  National Cheng Kung Univ
Wang, Chung Jung  National Cheng Kung Univ
Chang, Chuei-Tin  National Cheng Kung Univ

Agent Based Fault Detection Using Negative Selection Algorithm for Chemical Processes (I), pp. 448-452.
Kimura, Naoki  Kyushu Univ
Takeda, Yuya  Kyushu Univ
Hasegawa, Taichi  Kyushu Univ
Tsuge, Yoshifumi  Kyushu Univ

Yamashita, Yoshiyuki  Tokyo Univ. of Agriculture and Tech

Ming, Liang  Tsinghua Univ
Zhao, Jingsong  Tsinghua Univ

Adi, Vincentius Surya Kurnia  National Chung Hsing Univ
Laxmidevi, Rosalina  Independent Scholar
Chang, Chuei-Tin  National Cheng Kung Univ

Unsafe Situations Avoidance Systems using ICS Sandbox and backup systems for Plant Operations (I), Invited Talk
Hamaguchi, Takashi  Nagoya Institute of Technology
Yamamoto, Shinya  Nagoya Institute of Technology
Tagawa, Takuya  Nagoya Institute of Technology
Mase, Hiroki  Nagoya Institute of Technology
Koshijima, Ichiro  Nagoya Institute of Technology
Hashimoto, Yoshihiro  Nagoya Institute of Technology

Process Integration and Optimization 2 (Invited Session)
Chair: Liu, J. Jay  Pukyong National Univ
Co-Chair: Isafiade, Adeniyi  Univ. of Cape Town
Jide
Organizer: Foo, Dominic  Univ. of Nottingham Malaysia Campus

Retrofitting Industrial Heat Exchanger Network Based on Pinch Analysis (I), pp. 469-474.
Li, Bao-Hong  Dalian Nationalities Univ
Chang, Chuei-Tin  National Cheng Kung Univ

Data-Based Controller Tuning (Invited Session)
Chair: Jeng, Jyh-Cheng  National Taipei Univ. of Tech
Co-Chair: Yamamoto, Toru  Hiroshima Univ
Organizer: Jeng, Jyh-Cheng  National Taipei Univ. of Tech

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Liu, J. Jay  Pukyong National Univ

Isafiade, Adeniyi Jide  Univ. of Cape Town
Identification and Estimation
TuBT1

Design of a Performance-Driven PID Controller for a Nonlinear System, pp. 529-534.
Liao, Yuntao Hiroshima Univ.
Kinoshita, Takuya Hiroshima Univ.
Koizumi, Kazushige Hiroshima Univ.
Yamamoto, Toru Hiroshima Univ.

11:50-12:10 TuAT3.6

PID Control Loop Performance Assessment and Diagnosis Based on DEA-Related MCDM, pp. 535-540.
Wang, Zun Beijing Univ. of Chemical Tech
Han, Yongming Beijing Univ. of Chemical Tech
geng, zhiqiang Beijing Univ. of Chemical Tech
ZHU, Qunxiong Beijing Univ. of Chemical Tech
XU, Yuan Beijing Univ. of Chemical Tech
He, Yan-Lin Beijing Univ. of Chemical Tech

TuKT1 1F Conference Room
Keynote 4 (B. Young) (Keynote Session)
Chair: Lee, Jong Min Seoul National Univ.
13:10-13:40 TuKT1.1
munir, M. Tajammal The Univ. of Auckland
Abeykoon Udugama, Isuru Univ. of Auckland
Sampath Bandara
Boiarkina, Ira Univ. of Auckland
Yu, Wei The Univ. of Auckland
Young, Brent The Univ. of Auckland

TuKT2 Room 101
Keynote 5 (J. Liu) (Keynote Session)
Chair: Prasad, Vinay Univ. of Alberta
13:10-13:40 TuKT2.1
Distributed Fault Detection and Isolation of Nonlinear Systems Using Output Feedback, pp. 547-552.
Yin, Xunyuan Univ. of Alberta
Liu, Jinfeng Univ. of Alberta

TuKT3 Room 103
Keynote 6 (T. Yamamoto) (Keynote Session)
Chair: Yih, Hwei-Nan Advanced Control & Systems Inc
13:10-13:40 TuKT3.1
Design of a Performance-Driven PID Controller, pp. 553-558.
Yamamoto, Toru Hiroshima Univ.
Kinoshita, Takuya Hiroshima Univ.
Ohnishi, Yoshihiro Ehime Univ.
Shah, Sirish L Univ. of Alberta

TuBT1 1F Conference Room
Identification and Estimation (Regular Session)
Chair: Liu, Fei Jiangnan Univ.
Co-Chair: Yang, Chunhua Central South Univ.
13:40-14:00 TuBT1.1

A Modified Recursive Locally Weighted NIR Modeling for Fermentation Process, pp. 559-564.
Chen, Lingyi Jiangnan Univ.
Zhao, Zhonggai Institute of Automation, Jiangnan Univ.
Liu, Fei Jiangnan Univ.
14:00-14:20 TuBT1.2
On Initialization of the Kalman Filter, pp. 566-570.
Zhao, Shunyi Univ. of Alberta
Huang, Biao Univ. of Alberta
14:20-14:40 TuBT1.3
Improved Compound Controller for Active Power Filter, pp. 571-576.
Wang, Yifan Jiangsu Univ.
Zheng, Hong Jiangsu Univ.
Wang, Ruoyin Jiangsu Univ.
wenn, zhu Jiangsu university
14:40-15:00 TuBT1.4
Output-Related Feature Representation for Soft Sensing Based on Supervised Locality Preserving Projections, pp. 577-582.
Yuan, Xiaofeng Central South Univ.
Wang, Yalin Central South Univ.
Yang, Chunhua Central South Univ.
Guti, Weiheu Central South Univ.
Jiang, Qingchao Key Lab. of Advanced Control and Optimization for Chemical

15:00-15:20 TuBT1.5
Xu, Frost Zhejiang Univ.
Mantri, Madhav Indian Inst. of Tech. Kharagpur
Zukui, Li Univ. of Alberta

TuBT2 Room 101
Process and Control Monitoring (Regular Session)
Chair: Munaro, Celso Jose Federal Univ. of Espirito Santo
Co-Chair: Liu, J. Jay Pukyong National Univ.
13:40-14:00 TuBT2.1
Multi-Objective Complexity Reduction for Set-Based Fault Diagnosis, pp. 589-594.
Savchenko, Anton Univ. of Magdeburg
Andonov, Petar OvGU Magdeburg
Rumischinski, Philipp Robert Bosch Automotive Steering GmbH
Findeisen, Rolf Univ. of Magdeburg

14:00-14:20 TuBT2.2
Statistical Online Model Quality Monitoring for Linear Closed-Loop Control System, pp. 595-600.
Ling, Dan Huazhong Univ. of Science and Tech
Zheng, Ying Huazhong Univ. of Science and Tech
Yang, Xiaoyu Huazhong Univ. of Science and Tech
Wang, Yan Zhengzhou Univ. of Light Industry

14:20-14:40 TuBT2.3
Handling Class Imbalance and Multiple Inspection Objectives in Design of Industrial Inspection System, pp. 606-611.

Survey on Advanced Alarm Strategies Based on Multivariate Analysis, pp. 612-617.


Graph-Theoretic Control Structure Synthesis for Optimal Operation of Heat Exchanger Networks, pp. 630-635.


**Venue**

**Howard Civil Service International House, Taipei, Taiwan**

福華文教會館

http://intl-house.howard-hotels.com/
No. 30, Sec 3, Xinsheng S. Road, Taipei

**Floor Plan**

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<tr>
<td>Workshop</td>
<td>09:00-17:00</td>
<td>28 May</td>
<td>2F 201 (Lunch: 2F Yuehsiang)</td>
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<tr>
<td>Registration</td>
<td>14:00-18:00</td>
<td>28 May</td>
<td>1F Conference Room</td>
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<td>Welcome Reception</td>
<td>18:00-20:00</td>
<td>28 May</td>
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<tr>
<td>AdCONIP Sessions</td>
<td>09:00-17:40</td>
<td>29 May</td>
<td>1F Conference Room; 101; 103; 201</td>
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<tr>
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<td>12:40-13:40</td>
<td>29 May</td>
<td>2F Yuehsiang Restaurant</td>
</tr>
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<td>1F Conference Room; 101; 103</td>
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<td>30 May</td>
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</tr>
<tr>
<td>Dinner (Optional)</td>
<td>18:00-20:00</td>
<td>30 May</td>
<td>1F Garden Cafeteria (show ticket)</td>
</tr>
</tbody>
</table>
Taipei Metro System

(AdCONIP: 福華文教會館)