

ADCONIP 2017 Technical Program Monday May 29, 2017

Track T1	Track T2	Track T3	Track T4
09:00-09:30 MoOC 1F Conference Room Opening Ceremony			
09:30-10:20 MoAMPL 1F Conference Room Advanced Control of Pharmaceutical Crystallization (Richard D. Braatz)			
10:20-10:40 MoTea_Break Ball Room			
10:40-12:40 MoAT1 1F Conference Room Model-Based Control	10:40-12:40 MoAT2 Room 101 Process Integration and Optimization 1	10:40-12:40 MoAT3 Room 103 Process Analytics and Chemometrics	10:40-12:40 MoAT4 Room 201 Optimization and Scheduling
12:40-13:40 MoLunch_Break Yuehsiang Restaurant			
13:40-14:10 MoKT1 1F Conference Room Keynote 1 (M. Guay)	13:40-14:10 MoKT2 Room 101 Keynote 2 (Y. Fu, H. Yang)	13:40-14:10 MoKT3 Room 103 Keynote 3 (Y. Zhu)	
14:10-16:10 MoBT1 1F Conference Room New Directions of Adaptive and Learning Control	14:10-16:10 MoBT2 Room 101 Data Analytics and Machine Learning	14:10-16:10 MoBT3 Room 103 System Identification	14:10-16:10 MoBT4 Room 201 Design and Control of Separation Processes
16:10-16:50 MoPO Ball Room Poster Session			
16:50-17:40 MoPMPL 1F Conference Room Economic Plantwide Control (Sigurd Skogestad)			
18:00-20:00 MoBanquet Ball Room Banquet			

ADCONIP 2017 Technical Program Tuesday May 30, 2017

Track T1	Track T2	Track T3
09:00-09:50 TuAMPL 1F Conference Room Corneal Biomechanical Model and Intraocular Pressure Measurement (Jia-Yushi Yen)		
09:50-10:10 TuAMTea_Break Ball Room		
10:10-12:10 TuAT1 1F Conference Room Model-Based Fault Detection and Diagnosis	10:10-12:10 TuAT2 Room 101 Process Integration and Optimization 2	10:10-12:10 TuAT3 Room 103 Data-Based Controller Tuning
12:10-13:10 TuLunch_Break Yuehsiang Restaurant		
13:10-13:40 TuKT1 1F Conference Room Keynote 4 (B. Young)	13:10-13:40 TuKT2 Room 101 Keynote 5 (J. Liu)	13:10-13:40 TuKT3 Room 103 Keynote 6 (T. Yamamoto)
13:40-15:20 TuBT1 1F Conference Room Identification and Estimation	13:40-15:20 TuBT2 Room 101 Process and Control Monitoring	13:40-15:20 TuBT3 Room 103 Control Applications
15:20-15:40 TuPMTea_Break Ball Room		
15:40-16:30 TuPMPL 1F Conference Room 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)		
16:30-16:50 TuClosing 1F Conference Room Closing Ceremony		

Content List of 2017 6th International Symposium on Advanced Control of Industrial Processes (AdCONIP)

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
<i>State Feedback Output Regulation for a Boundary Controlled Linear 2X2 Hyperbolic System</i> , pp. 1-6.	
xu, Xiaodong	Univ. of Alberta
Dubljevic, Stevan	Univ. of Alberta
11:00-11:20	MoAT1.2
<i>Robust Distributed Control for Plantwide Processes Based on Dissipativity in Quadratic Differential Forms</i> , pp. 7-12.	
Zheng, Chaoxu	Univ. of New South Wales
Bao, Jie	The Univ. of New South Wales
11:20-11:40	MoAT1.3
<i>Double-Layered Model Predictive Control Strategy with Dynamic Trajectory Calculation</i> , pp. 13-18.	
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
<i>Optimization of a Pusher Type Reheating Furnace: An Adaptive Model Predictive Control Approach</i> , pp. 19-24.	
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
<i>Multi-Objective Control of a Fed-Batch Bioreactor Using Shrinking Horizon MPC: A Case Study</i> , pp. 25-30.	
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
<i>A Multi-Objective Model Predictive Control for Temperature Control in Extrusion Processes</i> , 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

Organizer: Foo, Dominic	Univ. of Nottingham Malaysia Campus
10:40-11:00	MoAT2.1
<i>Optimal Allocations of Area Margins and Spares to Accommodate HEN Cleaning Schedules (I)</i> , pp. 37-42.	
LIAO, BO-JYUN	National Cheng Kung Univ
Yi, Kuang-Ting	National Cheng Kung Univ
Chang, Chuei-Tin	National Cheng Kung Univ
11:00-11:20	MoAT2.2
<i>Segregated Targeting for Resource Allocation Networks with Dedicated Sources (I)</i> , pp. 43-48.	
Jain, Sheetal	IIT Bombay
Bandyopadhyay, Santanu	Indian Inst. of Tech. Bombay
11:20-11:40	MoAT2.3
<i>A Pinch Analysis Approach to Project Selection Problem (I)</i> , pp. 49-54.	
Roychoudhuri, Pritam	IIT Bombay
Bandyopadhyay, Santanu	Indian Inst. of Tech. Bombay
Foo, Dominic	Univ. of Nottingham Malaysia Campus
Tan, Raymond	De La Salle Univ
Kazantzi, Vasiliki	Univ. of Applied Science - TEI of Thessaly
11:40-12:00	MoAT2.4
<i>Active Bypass Design for Optimal Operation of Heat Exchanger Networks (I)</i> , pp. 55-60.	
Gu, Siwen	Dalian Univ. of Tech
Liu, Linlin	Dalian Univ. of Tech
Du, Jian	Dalian Univ. of Tech
Song, Haodong	Dalian Univ. of Tech
Meng, Qingwei	Dalian Univ. of Tech
12:00-12:20	MoAT2.5
<i>Optimal Design of Hydrogen Network with Intermediate Header and Minimum Compressor Work (I)</i> , pp. 61-66.	
Deng, Chun	China Univ. of Petroleum, Beijing
Zhou, Yuhang	Sinochem Xingzhong Oil Staging (Zhoushan) CO, LTD.316000
Zhu, Meiqian	State Key Lab. of Heavy Oil Processing, Coll. of Chemica
Feng, Xiao	School of Chemical Engineering & Tech. Xi'an Jiaotong Univ
12:20-12:40	MoAT2.6
<i>Pinch Analysis Approach to Optimal Planning of Biochar-Based Carbon Management Networks (I)</i> , pp. 67-72.	
Tan, Raymond	De La Salle Univ
Bandyopadhyay, Santanu	IIT Bombay
Foo, Dominic	Univ. of Nottingham Malaysia Campus

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
<i>Two-Step Principal Component Analysis for Dynamic Processes (I)</i> , pp. 73-77.	

Wang, Youqing	Beijing Univ. of Chemical Tech
11:00-11:20	MoAT3.2
<i>Application of Gaussian Processes with Variable Shrinkage Method and Just-In-Time Modeling in the Semiconductor Industry (I)</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
<i>Valve Stiction Detection Using the Bootstrap Hammerstein System Identification (I)</i> , pp. 84-89.	
Yan, Zhengbing	State Key Lab. Of industrial control technology, 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
<i>A Frequent Pattern Mining Based Shape Defect Diagnosis Method for Cold Rolled Strip Products (I)</i> , pp. 90-94.	
Li, Xinhang	Nanjing Univ. of Aeronautics and Astronautics
Lu, Ningyun	Nanjing Univ. of Aeronautics and Astronautics
Jiang, Bin	NUAA
Zhao, huiping	Baoshan Iron and Steel Corp
12:00-12:20	MoAT3.5
<i>Subspace Decomposition Based Cumulative Quality Analysis for Multiphase Batch Processes (I)</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
<i>Modified Joint-Y PLS Model for Integrated Use of Data from Similar Plants</i> , pp. 101-106.	
Okayama, Naoki	Kyoto Univ
Kim, Sanghong	Kyoto Univ
Kano, Manabu	Kyoto Univ
Hasebe, Shinji	Kyoto 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
<i>A Novel Run-To-Run Optimization Algorithm for Batch Processes Using Localized Partial Least Squares Regression Models</i> , pp. 107-112.	
Jeong, Dong Hwi	Seoul National Univ
Lee, Chang Jun	Pukyong National Univ
Lee, Jong Min	Seoul National Univ
11:00-11:20	MoAT4.2
<i>Simultaneous Planning of Production and Utility Systems under Performance Degradation</i> , pp. 113-118.	
Zulkafli, Nur Izyan	Cranfield Univ
Kopanos, Georgios M.	Cranfield Univ
11:20-11:40	MoAT4.3

A Dynamic Causal Diagram and Constraint-Based Method for Scheduling in Blast Furnace Gas System of the Steel Industry, pp. 119-124.

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

11:40-12:00 MoAT4.4

Energy and Economic Performance of Carbon Dioxide Chemical Absorption System with Gas Pressurized Stripping, pp. 125-130.

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

12:00-12:20 MoAT4.5

*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

12:20-12:40 MoAT4.6

Evolutionary Adaptive Dynamic Programming Algorithm for Converter Gas Scheduling of Steel Industry, pp. 137-142.

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

Adaptive Gain Nonlinear Observer Design Techniques, pp. 143-148.

Guay, Martin Queen's Univ

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

Simultaneous Estimation of the Number of Principal Components and Kernel Parameter in KPCA, pp. 149-154.

Fu, Yujia	Jiangnan Univ
YANG, Huizhong	Jiangnan Univ
Tao, Hongfeng	Jiangnan Univ

MoKT3 Room 103
Keynote 3 (Y. Zhu) (Keynote Session)

Chair: Zhao, Chunhui Zhejiang Univ

13:40-14:10 MoKT3.1

System Identification: New Developments of the Asymptotic Theory and Method, pp. 155-160.

Zhu, Yucai Zhejiang Univ

MoBT1 1F Conference Room
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

Design of a Discrete-Time ASPR Based Adaptive Output Feedback Control System with a Feedforward Input (I), pp. 190-194.

Guan, Zhe Hiroshima Univ

Wakitani, Shin Hiroshima Univ

Mizumoto, Ikuro Kumamoto Univ

Yamamoto, Toru Hiroshima Univ

MoBT2 Room 101
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

A Weighted Gaussian Process Regression for Multivariate Modelling (I), pp. 195-200.

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

Proposal of Two Classifiers of Offshore Naturally Flowing Wells Events Using K-Nearest Neighbors, Sliding Windows and Time Multiscale, pp. 209-214.

Vargas, Ricardo Emanuel Federal Univ. of Espirito Santo

Vaz Vargas Munaro, Celso Jose 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.

ZHU, 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 Slit (I), Invited Talk.

Matsumoto, Hideyuki AIST

Yoshikawa, Shiro Tokyo Institute of Technology

MoBT3 Room 103
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

Challenges in the Discrete-Time Identification of LTI Multiscale Systems: A Critical Overview, pp. 221-226.

Pinnamaraju, Vivek Shankar IIT Madras

Tangirala, Arun K. Indian Inst. of Tech. Madras

14:30-14:50	MoBT3.2
<i>Identification of LTV Systems with Cascade Control Loops Using Basis Function Approach</i> , pp. 227-232.	
Ku, ShaoWu	Zhejiang Univ
Chen, Junghui	Chung-Yuan Christian Univ
Chan, Lik Teck, Lester	Chung Yuan Christian Univ

14:50-15:10	MoBT3.3
<i>Parameter Identification Method for Process Control Systems Based on the Newton Iteration</i> , pp. 233-238.	
Xu, Ling	Jiangnan Univ
Ding, Feng	Jiangnan Univ
Liu, Yanjun	Jiangnan Univ
Li, Junhong	Nantong Univ
Chen, Jing	Jiangnan Univ

15:10-15:30	MoBT3.4
<i>Identification of FIR Models Using Basis Models of First-Order Plus Time Delays</i> , pp. 239-244.	
Shen, Wenyi	Department of Automation, Tsinghua Univ
GAO, Xinqing	Department of Automation, Tsinghua Univ
Yang, Fan	Tsinghua Univ
Jiang, Yongheng	Dept. of Automation, Tsinghua Univ
Ye, Hao	Tsinghua Univ
Huang, Dexian	Tsinghua Univ

15:30-15:50	MoBT3.5
<i>Modeling of Hemoglobin Response to Erythropoietin Therapy through Constrained Optimization</i> , pp. 245-250.	
Ren, Jia	Zhejiang Sci-Tech. Univ
McAllister, Jayson	Univ. of Alberta
Zukui, Li	Univ. of Alberta
Liu, Jinfeng	Univ. of Alberta
Simonsmeier, Ulrich	Cybernius Medical Ltd

15:50-16:10	MoBT3.6
<i>Parameter Identification for Breakage Distribution Function of Bauxite Based on State Transition Algorithm</i> , pp. 251-256.	
Wang, Yalin	Central South Univ
Peng, Kai	Central South Univ
Yuan, Xiaofeng	Central South Univ
Li, Ling	Central South Univ. of Information Science An
Chen, Guanyu	Central South Univ. of Information Science An

MoBT4	Room 201
Design and Control of Separation Processes (Invited Session)	
Chair: Chien, I-Lung	National Taiwan Univ
Co-Chair: Lee, Hao-Yeh	National Taiwan Univ. of Science & Tech
Organizer: Lee, Hao-Yeh	National Taiwan Univ. of Science & Tech
Organizer: Chien, I-Lung	National Taiwan Univ

14:10-14:30	MoBT4.1
<i>Using [EMIM][OAC] As Entrainer for Isopropyl Alcohol Dehydration Via Extractive Distillation (I)</i> , pp. 257-262.	
Chen, Hung-Hsing	National Taiwan Univ
Chen, Meng-Kai	National Taiwan Univ
Chien, I-Lung	National Taiwan Univ

14:30-14:50	MoBT4.2
<i>Performance of Reactive Distillation Columns with Multiple Reactive Sections for the Disproportionation of Trichlorosilane to Silane (I)</i> , pp. 263-268.	
Zang, Xinxiang	Beijing Univ. of Chemical Tech
Chen, Haisheng	Beijing Univ. of Chemical Tech
Huang, Kejin	Beijing Univ. of Chemical Tech

14:50-15:10	MoBT4.3
<i>Design and Control of Diphenyl Carbonate Reactive Distillation Using a Thermally Coupled Configuration (I)</i> , pp. 269-274.	
Chang, Hsiang-Ning	National Taiwan Univ. of Science and Tech
Lee, Hao-Yeh	National Taiwan Univ. of Science & Tech

15:10-15:30	MoBT4.4
<i>Simulation and Optimization of Structured Packing Replacement in Absorption Column of Natural Gas Dehydration Unit Using Triethylene Glycol (TEG) (I)</i> , pp. 275-281.	
Affandy, Sony Ardian	Chemical Engineering Department, Inst. Teknologi Sepuluh Nopce
Handogo, Renanto	Chemical Engineering Department, Inst. Teknologi Sepuluh Nopce
Purwo Sutikno, Juwari	Chemical Engineering Department, Inst. Teknologi Sepuluh Nopce
Chien, I-Lung	National Taiwan Univ

15:30-15:50	MoBT4.5
<i>Dynamics and Control of Totally Reboiled Reactive Distillation Columns (I)</i> , pp. 282-287.	
Wang, Tengfei	Beijing Univ. of Chemical Tech
Chen, Haisheng	Beijing Univ. of Chemical Tech
Huang, Kejin	Beijing Univ. of Chemical Tech

15:50-16:10	MoBT4.6
<i>Design and Control of Diphenyl Carbonate Reactive Distillation Processes Using Arrangements with Heat-Integrated Stages (I)</i> , pp. 288-293.	
Alcántara-Avila, J. Rafael	The Univ. of Tokushima
Terasaki, Masataka	Tokushima Univ
Lee, Hao-Yeh	National Taiwan Univ. of Science & Tech
Chen, Jun-Lin	National Taiwan Univ. of Science & Tech
Cabrera-Ruiz, Julián	Univ. De Guanajuato
Sotowa, Ken-ichiro	Univ. of Tokushima
Horikawa, Toshihide	The Univ. of Tokushima

MoPO	Ball Room
Poster Session (Interactive Session)	
Chair: Ward, Jeffrey Daniel	National Taiwan Univ
Co-Chair: Pan, Tianhong	Jiangsu Univ

16:10-16:50	MoPO.1
<i>Robust Preliminary-Summation-Based Principal Component Analysis for Non-Gaussian Processes with Outliers (I)</i> , pp. 294-299.	
Wang, Youqing	Beijing Univ. of Chemical Tech

16:10-16:50	MoPO.2
<i>Online Flooding Prognosis in Packed Columns by Monitoring Parameter Change in EGARCH Model (I)</i> , pp.	

300-305.					
Liu, Yi		Zhejiang Univ. of Tech		Fatani, Sultan	Saudi Aramco
Hseuh, Bo-Fan		National Tsing Hua Univ		Patwardhan, Rohit	Saudi Aramco
Gao, Zengliang		Zhejiang Univ. of Tech		Lopez Andreu, Miguel	Saudi Aramco
Yao, Yuan		National Tsing Hua Univ			
16:10-16:50				16:10-16:50	MoPO.11
<i>Active Learning Dynamic Soft Sensor with Forward-Update Scheme (I)</i> , pp. 306-311.					
Wu, Qing-Yang		Chung Yuan Christian Univ		HSU, HSIAO-CHING	ChangChun Plastics. Co. Ltd
Chan, Lik Teck, Lester		Chung Yuan Christian Univ		Wang, San-Jang	National Tsing Hua Univ
Chen, Junghui		Chung-Yuan Christian Univ		Ou, John Di-Yi	National Tsing Hua Univ
				Wong, David Shan Hill	National Tsing Hua Univ
16:10-16:50				16:10-16:50	MoPO.12
<i>Tensor-Based Ultrasonic Signal Processing for Defect Detection in Fiber Reinforced Polymer (FRP) Structures (I)</i> , pp. 312-317.					
You, Renchun		Xiamen Univ		<i>Software Integration for Online Dynamic Simulation Applications</i> , pp. 360-364.	
Yao, Yuan		National Tsing Hua Univ		Mitchell, Matthew	The Univ. of Auckland
Shi, Jia		Xiamen Univ		Abeykoon Udugama, Isuru	Univ. of Auckland
				Sampath Bandara	
16:10-16:50				Currie, Jonathan	AUT Univ
<i>Parameter Optimization of Simple Adaptive Control Via Differential Evolution (I)</i> , pp. 318-323.					
Takagi, Taro		National Inst. of Tech. Maizuru Coll		Yu, Wei	The Univ. of Auckland
Ito, Minoru		National Inst. of Tech. Maizuru Coll		16:10-16:50	MoPO.13
Mizumoto, Ikuro		Kumamoto Univ		<i>Design of a Data-Oriented Cascade Control System</i> , pp. 365-370.	
16:10-16:50				Kinoshita, Takuya	Hiroshima Univ
<i>Empirical Trajectories for Batch Crystallization Control with Constraints</i> , pp. 324-329.					
Hsieh, Hsiang-Feng		National Taiwan Univ		Yamamoto, Toru	Hiroshima Univ
Ward, Jeffrey Daniel		National Taiwan Univ		Samavedham, Lakshminarayanan	National Univ. of Singapore
16:10-16:50				16:10-16:50	MoPO.14
<i>R2R Controller Design Using T-S Fuzzy Model and Extended State Observer</i> , pp. 330-335.					
Wang, Haiyan		Jiangsu Univ		<i>OS-L1-ELM: Online Sequential L1-Regularized-ELM Based on ADMM</i> , pp. 371-376.	
Tan, Fei		Jiangsu Univ		Li, Dazi	Beijing Univ. of Chemical Tech
Sheng, Biqi		China Maritime Pol. Acad		Liu, Zhiyin	Beijing Univ. of Chemical Tech
Pan, Tianhong		Jiangsu Univ		16:10-16:50	MoPO.15
Fu, Haijun		Jiangsu Univ		<i>Process Design of Aqueous Ammonia-Based Post-Combustion CO2 Capture</i> , pp. 377-382.	
16:10-16:50				Liu, Jialin	Tunghai Univ
<i>A Power Plant Coordinated Control System Using MPC</i> , pp. 336-341.					
Luo, Jia		Inst. of Electrical Power Res. Guangdong Power Grid, Gu		Chen, Ding-Sou	China Steel Corp
Zhu, Yucai		Zhejiang Univ		16:10-16:50	MoPO.16
Chen, Shihe		Inst. of Electrical Power Res. Guangdong Power Grid, Gu		<i>Design and Control of a Plant-Wide Process for the Production of Epichlorohydrin</i> , pp. 383-388.	
Jiang, Pengfei		Zhejiang Univ		Huang, Chien-Chih	Department of Chemical Engineering, National Tsing Hua Univ
Wu, Le		Inst. of Electrical Power Res. Guangdong Power Grid, Gu		Wang, San-Jang	National Tsing Hua Univ
Xiao, Yuwen		Hengyi Electrical Power Ltd, Foshan, Guangdong Province		Wong, David Shan Hill	National Tsing Hua Univ
16:10-16:50				16:10-16:50	MoPO.17
<i>Control of Two Batch Crystallization Processes with Apparent Growth-Rate Dispersion</i> , pp. 342-347.					
Chen, William		National Taiwan Univ		<i>An Automated Approach for Supertargeting of Heating Medium System</i> , pp. 389-394.	
Cho, Hung-Chih		National Taiwan Univ		Pitchaimuthu, Diban	Univ. of Nottingham Malaysia Campus
Ward, Jeffrey Daniel		National Taiwan Univ		Foo, Dominic	Univ. of Nottingham Malaysia Campus
16:10-16:50				16:10-16:50	MoPO.18
<i>A Novel Single-Input Two-Output Strategy for Split Range Control</i> , pp. 348-353.					
				<i>Regional Energy Planning Using Mathematical Optimisation</i> , pp. 395-399.	
				Syu, Wan-Syuan	National Taipei Univ. of Tech
				Lee, Jui-Yuan	National Taipei Univ. of Tech
				16:10-16:50	MoPO.19
<i>Contribution of Production Support System to Reinforce Process Resilience in the Chemical Industry</i> , pp. 400-405.					
				Eguchi, Hajime	Nagoya Inst. of Tech
				Nyambayar, Davaadorj	Nagoya Inst. of Tech

Koshijima, Ichiro	Nagoya Inst. of Tech
16:10-16:50	MoPO.20
<i>Design of a Data-Oriented Evolutionary Controller for a Nonlinear System</i> , pp. 406-411.	
Fu, Qiu hao	Hiroshima Univ
Koiwai, Kazushige	Hiroshima Univ
Yamamoto, Toru	Hiroshima Univ
16:10-16:50	MoPO.21
<i>Model Predictive Control and Optimization of Vacuum Pressure Swing Adsorption for Carbon Dioxide Capture</i> , pp. 412-417.	
Du, Wenli	East China Univ. of Science and Tech
Alkebsi, Khalil Abdulghani Mutahar	East China Univ. of Science and Tech
16:10-16:50	MoPO.22
<i>Transient Response Analysis of High Pressure Steam Distribution Networks in a Refinery</i> , pp. 418-423.	
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
<i>Iterative Learning State Estimation for Batch Process</i> , pp. 424-429.	
Zhao, Zhonggai	Institute of Automation, Jiangnan Univ
Qi, Pengcheng	Jiangnan Univ
Liu, Fei	Jiangnan Univ
16:10-16:50	MoPO.24
<i>A Simple PID Controller for a Magnetic Bearing with Four Poles and Interconnected Magnetic Flux</i> , pp. 430-435.	
Tshizubu, Christian	Univ. Federal Fluminense
Santisteban, José Andrés	Univ. Federal Fluminense
16:10-16:50	MoPO.25
<i>Dynamic Optimization of Semi-Batch Acetone-Butanol-Ethanol Fermentation with In-Situ Pervaporation Membrane Separations</i> , pp. 436-441.	
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, Jinsong	Tsinghua Univ	
Organizer: Chang, Chuei-Tin	National Cheng Kung Univ	
10:10-10:30	TuAT1.1	
<i>A Hybrid Modeling Strategy for Synthesizing Diagnostic Tests in Sequential Material and Energy-Transfer Operations (I)</i> , pp. 442-447.		
FONG, SHIH-TING	National Cheng Kung Univ	
Wang, Chung Jung	National Cheng Kung Univ	
Chang, Chuei-Tin	National Cheng Kung Univ	
10:30-10:50	TuAT1.2	
<i>Agent Based Fault Detection Using Negative Selection Algorithm for Chemical Processes (I)</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	
<i>Model-Based Monitoring of Fouling in a Heat Exchanger (I)</i> , pp. 453-456.		
Yamashita, Yoshiyuki	Tokyo Univ. of Agriculture and Tech	
11:10-11:30	TuAT1.4	
<i>Review on Chemical Process Fault Detection and Diagnosis (I)</i> , pp. 457-462.		
Ming, Liang	Tsinghua Univ	
Zhao, Jinsong	Tsinghua Univ	
11:30-11:50	TuAT1.5	
<i>Fault-Tolerant Design of Membrane Modules for Organic Mixture Separation (I)</i> , pp. 463-468.		
Adi, Vincentius Surya Kurnia	National Chung Hsing Univ	
Laxmidewi, Rosalia	Independent Scholar	
Chang, Chuei-Tin	National Cheng Kung Univ	
11:50-12:10	TuAT1.6	
<i>Unsafe Situations Avoidance Systems using ICS Sandbox and backup systems for Plant Operations (I)</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 Jide	Univ. of Cape Town	
Organizer: Foo, Dominic	Univ. of Nottingham Malaysia Campus	
10:10-10:30	TuAT2.1	
<i>Retrofitting Industrial Heat Exchanger Network Based on Pinch Analysis (I)</i> , pp. 469-474.		
Li, Bao-Hong	Dalian Nationalities Univ	
Chang, Chuei-Tin	National Cheng Kung Univ	
10:30-10:50	TuAT2.2	

Optimum Water Network Design for Multipurpose Batch Plants with an Electrodialysis Central Regeneration Unit (I), pp. 475-480.

Bazolana, Nsunda Christie Univ. of the Witwatersrand
Majozi, Thokozani School of Chemical and Metallurgical Engineering, Univ. Of

10:50-11:10 TuAT2.3

Use of Confidence Region in the Optimal Design of a Separation Process in the Presence of Uncertainties, pp. 481-486.

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

11:10-11:30 TuAT2.4

A Systematic Approach to Modeling Organic Rankine Cycle Systems for Global Optimization, pp. 487-492.

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

11:30-11:50 TuAT2.5

Process Design and Simulation of Industrial Scale Biofuel Production Via Pyrolysis of Saccharina Japonica, pp. 493-498.

Brigljevic, Boris Pukyong National Univ
Liu, J. Jay Pukyong National Univ

11:50-12:10 TuAT2.6

Synthesis of Flexible Multi-Period Heat Exchanger Networks for a Changing Utility Cost Scenario, pp. 499-504.

Isafiade, Adeniyi Jide Univ. of Cape Town

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

Fictitious Reference Iterative Tuning of Cascade Control Systems for Non-Minimum Phase Systems (I), pp. 517-522.

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

Lee, In-Beum	POSTECH
11:30-11:50	TuAT3.5
<i>Design of a Performance-Driven PID Controller for a Nonlinear System</i> , pp. 529-534.	
Liao, Yuntao	Hiroshima Univ
Kinoshita, Takuya	Hiroshima Univ
Koiwai, Kazushige	Hiroshima Univ
Yamamoto, Toru	Hiroshima Univ

11:50-12:10	TuAT3.6
<i>PID Control Loop Performance Assessment and Diagnosis Based on DEA-Related MCDA</i> , 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
<i>Beyond the Theory - How Can Academia Contribute to the Advanced Process Control of Industrial Processes?</i> , pp. 541-546.	
munir, M. Tajammal	The Univ. of Auckland
Abeykoon Udugama, Isuru Sampath Bandara	Univ. of Auckland
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
<i>Distributed Fault Detection and Isolation of Nonlinear Systems Using Output Feedback</i> , 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
<i>Design of a Performance-Driven PID Controller</i> , 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

<i>A Modified Recursive Locally Weighted NIR Modeling for Fermentation Process</i> , pp. 559-564.	
Chen, Lingyi	Jiangnan Univ
Zhao, Zhonggai	Institute of Automation, Jiangnan Univ
Liu, Fei	Jiangnan Univ

14:00-14:20	TuBT1.2
<i>On Initialization of the Kalman Filter</i> , pp. 565-570.	
Zhao, Shunyi	Univ. of Alberta
Huang, Biao	Univ. of Alberta

14:20-14:40	TuBT1.3
<i>Improved Compound Controller for Active Power Filter</i> , pp. 571-576.	
Wang, Yifan	Jiangsu Univ
Zheng, Hong	Jiangsu Univ
Wang, Ruoyin	Jiangsu Univ
wen, zhu	Jiangsuuniversity

14:40-15:00	TuBT1.4
<i>Output-Related Feature Representation for Soft Sensing Based on Supervised Locality Preserving Projections</i> , pp. 577-582.	
Yuan, Xiaofeng	Central South Univ
Wang, Yalin	Central South Univ
Yang, Chunhua	Central South Univ
Gui, Weihua	Central South Univ
Jiang, Qingchao	Key Lab. of Advanced Control and Optimization for Chemical

15:00-15:20	TuBT1.5
<i>A Novel Algorithm for Targeted Metabolite Profiling Using NMR Spectrum</i> , pp. 583-588.	
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
<i>Multi-Objective Complexity Reduction for Set-Based Fault Diagnosis</i> , pp. 589-594.	
Savchenko, Anton	Univ. of Magdeburg
Andonov, Petar	OvGU Magdeburg
Rumschinski, Philipp	Robert Bosch Automotive Steering GmbH
Findeisen, Rolf	Univ. of Magdeburg

14:00-14:20	TuBT2.2
<i>Statistical Online Model Quality Monitoring for Linear Closed-Loop Control System</i> , 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
<i>Application of the Improved Multivariate Empirical Mode Decomposition to Plant-Wide Oscillations Characterization</i> , pp. 601-605.	

Lang, Xun	Zhejiang Univ
Zhong, Dan	Zhejiang Univ
Xie, Lei	Zhejiang Univ
Chen, Junghui	Chung-Yuan Christian Univ
Su, Hongye	Zhejiang Univ

14:40-15:00 TuBT2.4

Handling Class Imbalance and Multiple Inspection Objectives in Design of Industrial Inspection System, pp. 606-611.

Yousefian, Ali	Seoul National Univ
Liu, J. Jay	Pukyong National Univ

15:00-15:20 TuBT2.5

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

Yang, Fan	Tsinghua Univ
Guo, Cen	Tsinghua Univ

TuBT3 Room 103
Control Applications (Regular Session)

Chair: Wu, Wei	National Cheng Kung Univ
Co-Chair: Jang, Shi-Shang	National Tsing-Hua Univ

13:40-14:00 TuBT3.1

A Real-Time Streamline-Based Obstacle Avoidance System for Curvature-Constrained Nonholonomic Mobile Robots, pp. 618-623.

Pei-Li, Kuo	Acad. Sinica
Chung-Hsun, Wang	Acad. Sinica
Chou, Han-Jung	IIS, Acad. Sinica
Liu, Jing-Sin	Acad. Sinica

14:00-14:20 TuBT3.2

Efficient Operating Condition of Side Stream Simulated Moving Bed Chromatography for Ternary Fluid Mixtures, pp. 624-629.

Oh, Tae Hoon	Seoul National Univ
Oh, Se-Kyu	Seoul National Univ
Lee, Jong Min	Seoul National Univ

14:20-14:40 TuBT3.3

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

Kang, Lixia	Xi'an Jiaotong Univ
Liu, Yongzhong	Xi'an Jiaotong Univ

14:40-15:00 TuBT3.4

Evaluation of Gas-Liquid Contact Area and Liquid Holdup of Random Packing Using CFD Simulation, pp. 636-641.

Kang, Jia-Lin	National Tsing-Hua Univ
Chen, Wei-Fu	National Tsing Hua Univ
Wong, David Shan Hill	National Tsing Hua Univ
Jang, Shi-Shang	National Tsing-Hua Univ

15:00-15:20 TuBT3.5

Modeling and Optimization of a Fast Fluidized Bed Reactor for Carbonation Reactions, pp. 642-647.

Chen, Jhao-Rong	National Cheng Kung Univ
Wu, Wei	National Cheng Kung Univ

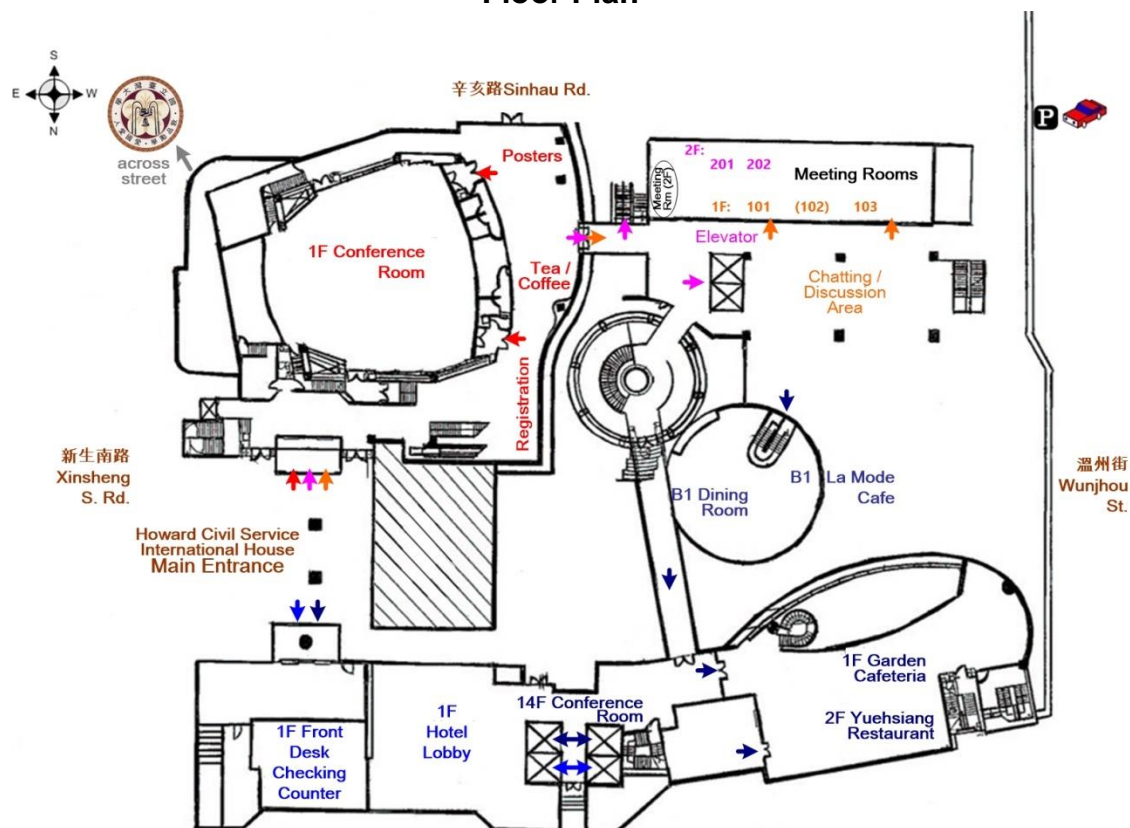
Venue

Howard Civil Service International House, Taipei, Taiwan

福華文教會館

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

Floor Plan



Workshop	09:00-17:00	28 May	2F 201 (Lunch: 2F Yuehsiang)
Registration	14:00-18:00		1F Conference Room
Welcome Reception	18:00-20:00		14F Conference Room
AdCONIP Sessions	09:00-17:40	29 May	1F Conference Room; 101; 103; 201
Lunch	12:40-13:40		2F Yuehsiang Restaurant
Banquet	18:00-20:00		2F Yuehsiang Restaurant
AdCONIP Sessions	09:00-16:50	30 May	1F Conference Room; 101; 103
Lunch	12:10-13:10		2F Yuehsiang Restaurant
Dinner (Optional)	18:00-20:00		1F Garden Cafeteria (show ticket)

