香港大學
THE UNIVERSITY OF HONG KONG

APIEMS 2018
CONFERENCE HANDBOOK

APIEMS

The 19th Asia Pacific Industrial Engineering

And Management Systems Conference

Date: 5 - 8 December 2018

Venue: The University of Hong Kong

Regal Hongkong Hotel, Causeway Bay, Hong Kong

Scan for HKU   Scan for Program

Contents

Welcome Message

On behalf of the organizers of the 19th Asia Pacific Industrial and Engineering Management Systems Conference (APIEMS2018), we would like to welcome all the participants and friends to this conference at The University of Hong Kong.

Following a series of successful meetings in Asia-Pacific countries, the APIEMS2018 Conference is organized by HKU and sponsored by Asia Pacific Industrial Engineering and Management Society. The APIEMS2018 continues the series of APIEMS conference to provide a forum for exchanging ideas and information about latest developments in the field of industrial engineering and management system among professionals from Asia-Pacific countries. Experts and educators use this platform to carry out in-depth analysis and discussion upon the theoretical and practical issues related to the new opportunities and challenges in industrial engineering and management system.

Our technical program is rich and includes 4 keynote speeches, an editor forum with editors from 5 famous journals and around 250 technical papers split into several parallel sessions. Besides, open dialogs are also organized for participants to renew friendships, extend networks, and jointly explore current and future research directions. It is hoped that this conference contributes to the development and innovation of industrial engineering and management system field.

Lastly, we would like to thank all the conference participants for their contributions which are the foundation of this conference. We wish all participants of the conference an enjoyable and fruitful experience.

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Conference Organizations

Conference Chairs

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Chair professor and Head

Department of Industrial and Manufacturing Systems Engineering

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Department of Industrial Engineering and Decision Analytics

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Kenichi Nakashima, Kanagawa University, Japan

Kim Hua Tan, Nottingham University, Malaysia

Kin Keung Lai, The University of Hong Kong, Hong Kong

Kinya Tamaki, Aoyama Gakuin University, Japan

Kuo-Ming Wang, Yuan Ze University, Taiwan

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Mao Jiun Wang, National Tsing Hua University, Taiwan

Mitsuo Gen, Waseda University, Japan

Mooyoung Jung, UNIST, Korea

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Rosa Abbou, University of Nantes, France

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Sha'ri bin Mohd Yusof, Universiti Teknologi Malaysia, Malaysia

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IEPGA	Ms. Mandy Wang	68105132

Emergencies

Police, Fire, Ambulance   999

Conference Map and Conference Venue

Go to the Exit A2 of HKU station and take the lift to the HKU Footbridge (FB). Then go ahead and walk to Haking Wong Building on Dec 5th. On Dec. 8th, please go along the University Street to K.K. Leung Building for parallel sessions and Knowles Building for closing ceremony. More details about the venue can be found at http://www.maps.hku.hk/
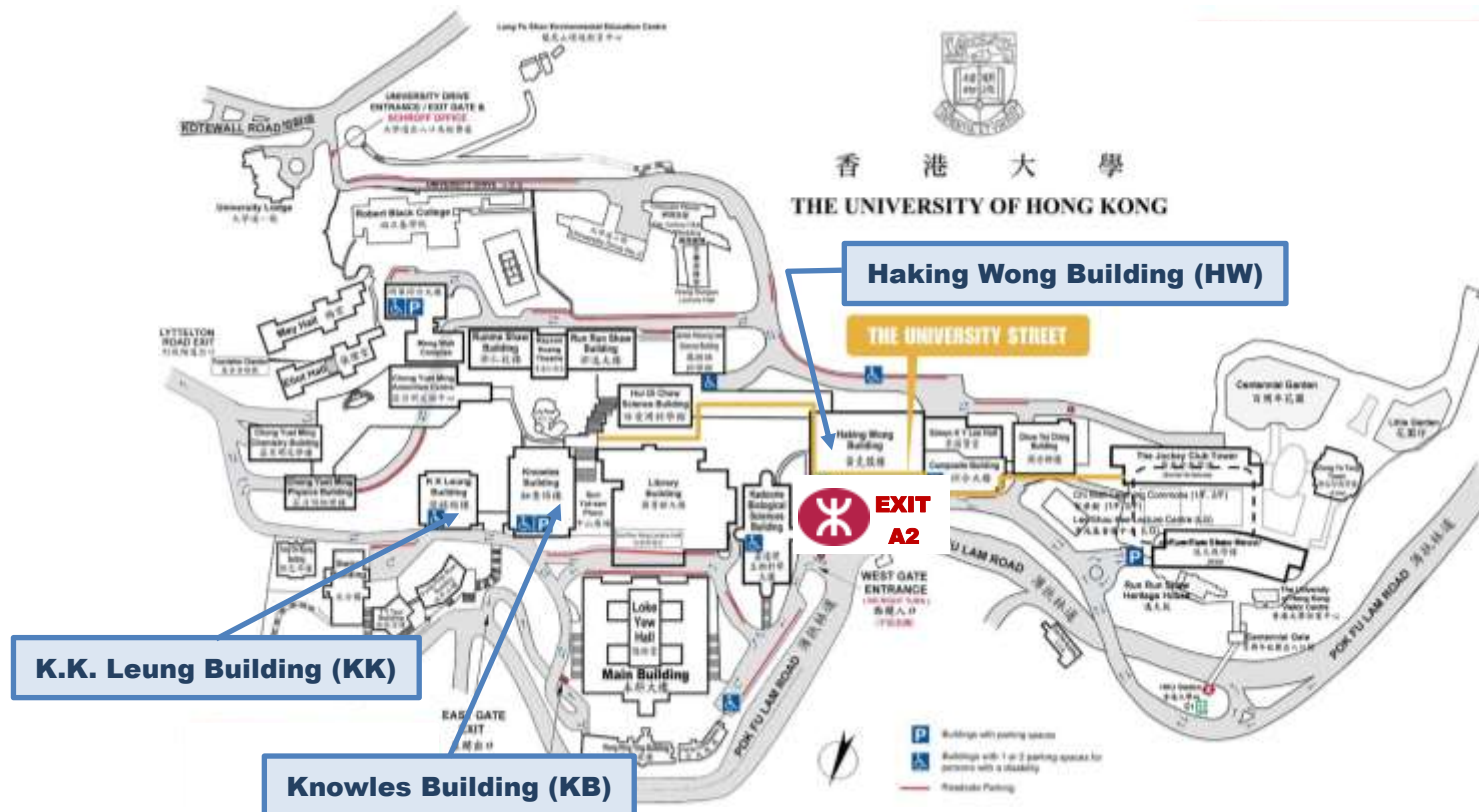
Venue - Haking Wong Building (Dec 5th), K.K. Leung Building and Knowles Building (Dec 8th)

Regal Hongkong Hotel

Address: 88 Yee Wo St, Causeway Bay, Hong Kong

Website: https://www.regalhotel.com/regal-hongkong-hotel/en/home/home.html

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To HKU: 5-min walk to the **Exit F1** of **Causeway Bay** MTR Station, then take the Island Line towards Kennedy Town for 6 stops. Get off at the **HKU** MTR station, and go to the **Exit A2** to HKU campus.
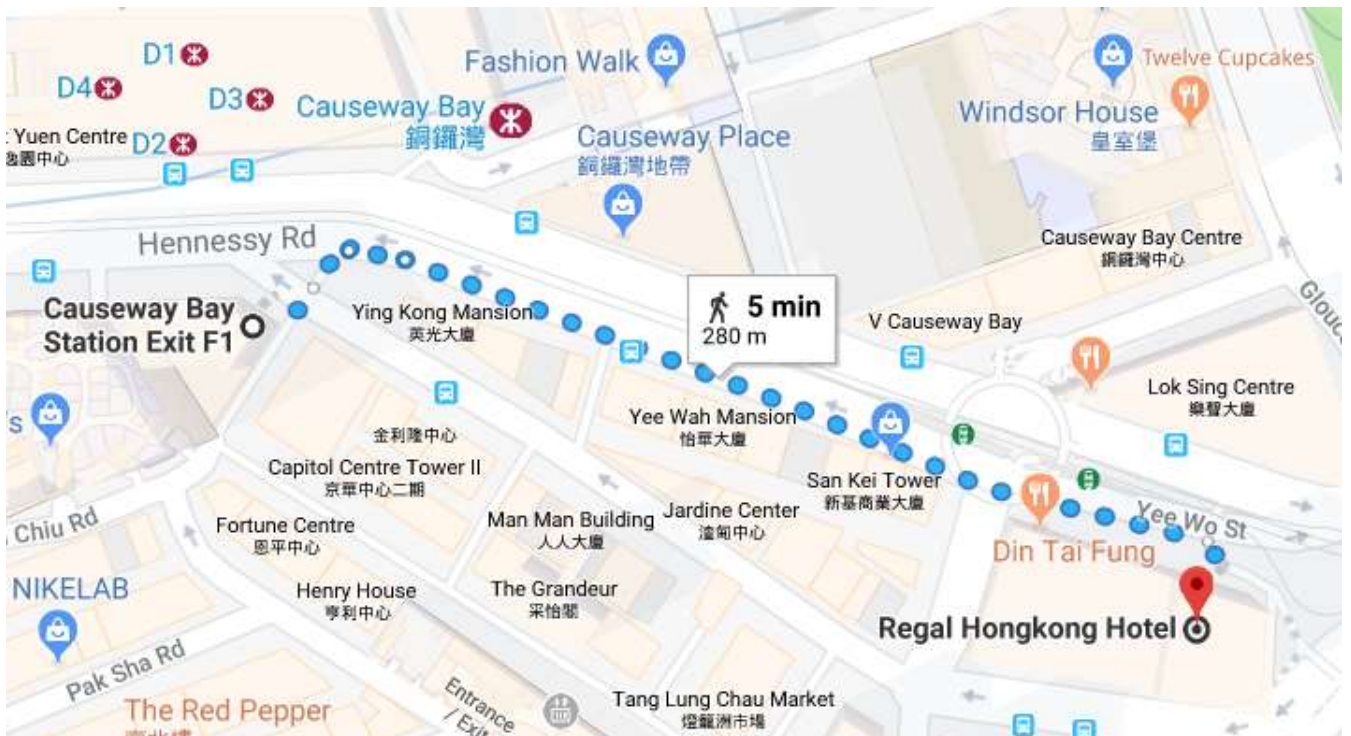
Keynote Speeches

Professor Christopher Tang

UCLA University Distinguished Professor
Edward Carter Chair in Business Administration
UCLA Anderson School

Title: Making Supply Chain Transparent for a Better World: Information and Analysis

Abstract: Companies are gaining more supply chain visibility to reduce their supply chain risks, but few are disclosing what they know with the public. Should a firm disclose its supply chain information to the public? What are the risks and opportunities? I plan to present some recent research and case-based studies to illustrate how supply chain transparency can improve our world: planet, people and profit.

About the speaker: Dr. Tang is a University Distinguished Professor and the holder of the Edward W. Carter Chair in Business Administration at the UCLA Anderson School of Management. He served as Dean at the NUS Business School, and as Senior Associate Dean at the UCLA Anderson School.

Known as a world renowned thought leader in global supply chain management who has published over 130 research articles and 6 books, Chris consulted with over 10 international companies including HP and IBM, taught courses at various universities including Stanford and UC Berkeley; and delivered over 200 keynote speeches and seminars.

Dr. Tang is a fellow of Institute of Operations and Management Sciences (INFORMS), Production and Operations Management Society (POMS), and Manufacturing and Service Operations Management Society (MSOM). Currently, he serves as Editor-in-Chief for a premier journal Manufacturing & Service Operations Management (M&SOM).

Professor Jacob Jen-Gwo Chen

IIE Fellow and WASP Fellow
Board Director and Vice Chairman, Hon Hai/Foxconn
Technology Group

Title: The New FOXCONN Way

Abstract: As the leader of manufacturing services and No.1 in numbers of producing 3C products, e.g., smartphone, tablet, notebook, PC, TV, printer, server, networking, set-top box, gaming console, communication equipment, Foxconn has been known as "the King of EMS" and it has been transformed to the leader of intelligent industrial internet. Indeed, the first listed company in China market in industrial internet is the Foxconn Industrial Internet Co Ltd., a subsidiary company of Foxconn. The presentation will cover the vision, chronicle of development including organization and systems, and applications of Industrial Engineering (IE) in SCM, Productivity, Quality and other areas in Foxconn and IE's important and irreplaceable role in Foxconn's intelligent industrial internet development and implementation.

About the speaker: Dr. Jacob Chen is the Board Director and Vice Chairman of Hon Hai/Foxconn Technology Group, the Chairman of Flnet International E-Commerce, and the Founding President of the Foxconn University (Foxconn IE Academy, Corporate University of Foxconn). After receiving his Ph.D. degree in Industrial Engineering from the University of Oklahoma, he accepted a faculty position at the Department of Industrial Engineering, the University of Houston and served as department chairman for few years before taking the Deanship of the College of Science and Engineering at the University of Texas – Pan American in 1998. He joined with Hon Hai/Foxconn in 2001 as the Special Assistant to Chairman. With the rapid growth of Hon Hai/Foxconn, Dr. Chen was promoted to Vice President, Senior Vice President, General Manager of different Business Groups and current position as Vice Chairman of Hon Hai/Foxconn Group.

Dr. Chen has published more than 120 referred articles and supervised 25 Ph.D., 33 M.S. students during his academic career. For professional service, Dr. Chen served as the President of the International Society of Industrial Ergonomics and Occupation Safety in 1996, received the Institute of Industrial Engineers (IIE) Excellence in Productivity Improvement Award in 2006, and is the Fellow of the IIE and the World Academy of Productivity Science. Dr. Chen also served as the adjunct professor at various universities, such as, Tsing Hua University, Huazhong University of Science and Technology, TianJin University, and ChongQing University. Dr. Chen takes a new initiative to work with leading universities and colleges establishing degree programs in the Foxconn University since 2001. Foxconn employees could continue their study toward Associate, B.S., M.S., and Ph.D. Degrees. More than 25,000 Foxconn employees have received their degrees and have more than 25,000 still study.

Professor Lihui Wang

Professor and Chair of Sustainable Manufacturing
KTH Royal Institute of Technology, Stockholm, Sweden

Title: Cloud-Enabled Big Data-Driven Adaptive Process Planning for Machining

Abstract: This presentation covers the concept, approach and the latest development of a cloud-enabled and big data-driven process planning system for machining operations. It applies a closed-loop decision-making approach that enables collaborative and adaptive process planning based on real situations for real machines. To better leverage available resources (both hard and soft), a cloud platform is developed with decision modules for resource monitoring, collaborative process planning, setup planning, process simulation and remote machining. Big data is used to facilitate the decision process. On-board optimisation is another challenge of this work. The ultimate goal is to enable process planning anywhere in the cloud, while machining a part somewhere else, in form of cloud-based services.

About the speaker: Lihui Wang is a Professor and Chair of Sustainable Manufacturing at KTH Royal Institute of Technology, Stockholm, Sweden. His research interests are focused on distributed process planning, cyber-physical production systems, cloud manufacturing, big data analytics, real-time monitoring and remote control, and human-robot collaborations. Professor Wang is actively engaged in various professional activities. He is the Editor-in-Chief of International Journal of Manufacturing Research, Editor-in-Chief of Robotics and Computer-Integrated Manufacturing, Editor of Journal of Intelligent Manufacturing, and Associate Editor of International Journal of Production Research and Journal of Manufacturing Systems. He has published 8 books and authored in excess of 430 scientific publications. Professor Wang is a Fellow of CIRP, SME and ASME, and a registered Professional Engineer in Canada.

Professor Zhen He

Professor, College of Management and Economics
Chair, Department of Industrial Engineering
Tianjin University, P R China

Title: Quality and Innovation: Contradictory or Complementary

Abstract: Today a company will soon die without quality and it cannot survive in long run without innovation. But there are a lot of debates about the relationship between quality and innovation. The presentation highlights the key role of quality and innovation in the economic transformation in China which is in the state of "New Normal". The research of correlation between quality and innovation and some other research topics are addressed. Empirical studies shows that implementing quality initiatives such as Six Sigma or Lean Six Sigma will improve quality and promote innovation. And a company pursuing innovation may not harm quality. The presentation also discusses the necessity and future o research opportunities as of quality and innovation.

About the speaker: Dr. Zhen He is a Changjiang Scholar chair professor in College of Management & Economics, Tianjin University. He is an Academician of International Academy for Quality (IAQ) and the recipient of NSFC (National Natural Science Foundation of China) Outstanding Young Scholar. He received his PhD in Management Science and Engineering from Tianjin University in 2001. As a PI he has conducted nearly 10 NSFC sponsored projects including 3 key projects. His main research interests include quality management and control, Six Sigma and Lean Production with over 100 journal papers and 5 books. He is also the area editor (Statistics, Quality, Reliability and Maintenance) of Computers and Industrial Engineering and editorial board member of several other journals.

Professor Yiming Rong

Southern University of Science and Technology, Shenzhen, China

Title: To be formed: Intelligent Manufacturing Institute at SUSTech

Abstract: Southern University of Science and Technology (SUSTech) is a public university established in 2011, funded by Shenzhen Municipality. Located in Shenzhen, SUSTech is widely regarded as a pioneer and innovator in collectively moving China's higher education forward to match China's ever-growing role in the international arena. Motivated by the implementation of intelligent manufacturing initiatives worldwide, Pearl River Delta is reinventing itself from World Factory to Global Innovator, which urgently needs for intensified fundamental research and innovative technology. Under these circumstances, SUSTech is striving to build a world-class Intelligent Manufacturing Institute, with closely integrated to Pearl River Delta's manufacturing industry. It emphasizes on the entire product lifecycle including intelligent design, intelligent manufacturing, and intelligent service, with integration and interaction between academic research supporting industrial application and industrial application feeding academic research.

About the speaker: Dr. Rong is a Chair Professor and Head of the Department of Mechanical and Energy Engineering at Southern University of Science and Technology (SUSTech). Before returning to China，he was a tenured professor at Worcester Polytechnic Institute (WPI), and was voted "John W. Higgins Professor of WPI" due to his outstanding contribution to the scientific research. He is the Fellow of American Society of Mechanical Engineers (ASME Fellow).

From 2010 to 2015, Dr. Rong was a Professor, Vice Chair of Academic Committee in Mechanical Engineering, and Director of Institute of Manufacturing Engineering at Tsinghua University. His research area involves the entire industrial chain of manufacturing industry, which starts from manufacturing technologies, and extends to the front-end design and back-end services with optimization of the whole manufacturing system. He has presided and co-presided over 50 scientific research projects, funded by the National Science Foundation, the Air Force Basic Research, the Department of Energy, Natural Science Foundation of China, 973 Project, 863 Project, and other major manufacturing companies (GM, Ford, Caterpillar, P&W, Ingersoll, etc.). He has published two academic books, more than three hundred papers and has17 patents, etc.

Preconference Program

	Wednesday, 5 December 2018
16:30 - 19:30	*Welcome Reception & Preconference Workshop -* **1/F, Haking Wong Building, HKU**
17:00 - 17:05	*Innovative Technology Forum -* **Room 105, 1/F, Haking Wong Building, HKU**
	Welcome Speech Prof. George Huang, iPark Project Coordinator
17:05 - 17:10	**Room 105, 1/F, Haking Wong Building, HKU**
	iPark Project Introduction Dr. XTR Kong, iPark Project Manager *"The Key Enabler Towards Logistics 4.0 - Intelligent Ecommerce Logistics Park Platform"*
17:10 - 17:15	**Room 105, 1/F, Haking Wong Building, HKU**
	Innovative Technology I Dr. Saijun Shao, iPark Pilot Manager *"Wearable-enabled Digital Supply Network: New Technologies and Practices"*
17:15 - 17:20	**Room 105, 1/F, Haking Wong Building, HKU**
	Innovative Technology II Dr. Zhiheng Zhao, iPark Technical Manager *"Asset Tracking for E-commerce Logistics"*
17:30-18:00	**Room 105, 1/F, Haking Wong Building, HKU**
	Light Meals & Demonstration Smart Manufacturing, iPark, Smart Construction

Conference Day-1 Program

Day 1: Thursday, 6 December 2018	
07:30 - 08:30	*APIEMS Fellow Meeting* – **Café Rivoli, Regal Hongkong Hotel, Causeway Bay**
08:00 - 16:30	*Registration* – **Regal Ballroom**
09:00 - 09:20	*Opening Ceremony* - **Regal Ballroom** (MC: Prof. George Huang) *Welcome Speech* Prof. Francis Lau, Associate Dean of Engineering, HKU Prof. Chi-Hyuck Jun, President of APIEMS
09:20 - 10:00	**Regal Ballroom** (MC: Prof. Fugee Tsung) *Keynote Speech 1* Prof. Christopher Tang *"Making Supply Chain Transparent for a Better World: Information and Analysis"*
10:00 - 10:40	**Regal Ballroom** (MC: Prof. Fugee Tsung) *Keynote Speech 2* Prof. Jacob Chen *"The New FOXCONN Way"*
10:40 - 11:10	*Coffee Break - Monaco Room, B/1*
11:10 - 11:50	**Regal Ballroom** (MC: Prof. George Huang) *Keynote Speech 3* Prof. Lihui Wang *"Cloud-Enabled Big Data-Driven Adaptive Process Planning for Machining"*

	Regal Ballroom (MC: Prof. George Huang)						
11:50 - 12:30	*Keynote Speech 4* Prof. Zhen He *"Quality and Innovation: Contradictory or Complementary"*						
12:30 - 13:30	*Lunch - Regal Palace, 3/F*						
13:30 - 15:00	**Parallel Sessions**						
	Regal Ballroom	**Forum Room II**	**Forum Room III**	**Victoria Room I**	**Victoria Room II**	**Victoria Room III**	**Victoria Boardroom**
	Workshop Uncertainty Theory & Application	**Session 1** Transportation	**Session 2** Optimization Technique I	**Special Session I** Sustainability and Supply Chain	**Session 3** Sustainable Management I	**Session 4** Management of Technology and Innovation	**Session 5** Health Care System I
15:00 - 15:30	*Coffee Break - Monaco Room, B/1 & outside of Victoria Room, 3/F*						
15:30 - 17:00	**Parallel Sessions**						
	Regal Ballroom	**Forum Room II**	**Forum Room III**	**Victoria Room I**	**Victoria Room II**	**Victoria Room III**	**Victoria Boardroom**
	Special Session II Sustainability and Manufacturing	**APIEMS Board Meeting (16:00-17:00)**	**Session 6** Optimization Technique II	**Session 7** Quality Engineering and Management	**Session 8** Sustainable Management II	**Session 9** Ergonomics and Human Factors I	**Session 10** Health Care System II
18:00 - 20:00	*Conference Dinner* - **Maxim's Palace Chinese Restaurant** Venue: Shop B13-B18, B/F Shun Tak Centre, Connaught Road Central, Sheung Wan *(Please refer to Page 43 for recommended activities after dinner.)*						

Conference Day-2 Program

	Day 2: Friday, 7 December 2018			
08:00 - 16:00	*Registration* - **Regal Ballroom**			
08:30 - 10:00	*Editor Forum* – **Regal Ballroom** (MC: Prof. Christopher Tang)			
	Editor in Chief Forum Prof. Alexandre Dolgui *Editor-in-Chief of International Journal of Production Research* Prof. Andrew Kusiak *Editor-in-Chief of Journal of Intelligent Manufacturing* Prof. Jiuh-Biing Sheu *Editor-in-Chief of Transportation Research Part E* Prof. Lihui Wang *Editor-in-Chief of Robotics and Computer-Integrated Manufacturing* Prof. Christopher Tang *Editor-in-Chief of Manufacturing and Service Operations Management*			
	Parallel Sessions			
	Forum Room II	**Victoria Room I**	**Victoria Room II**	**Victoria Room III**
	IFPR-APR Board Meeting	**Session 37** Business Analysis I	**Session 38** Business Analysis II	**Session 39** Ergonomics and Human Factors V
10:00 - 10:20	*Coffee Break - Monaco Room, B/1 & outside of Victoria Room, 3/F*			

	Parallel Sessions						
	Regal Ballroom	**Forum Room II**	**Forum Room III**	**Victoria Room I**	**Victoria Room II**	**Victoria Room III**	**Victoria Boardroom**
10:20 - 11:50	**Special Session III** Healthcare Systems	**Session 11** Industrial Automation and Green Manufacturing	**Session 12** Financial Models and Engineering I	**Special Session IV** Marketing Analysis I	**Session 13** Simulation	**Session 14** Ergonomics and Human Factors II	**Session 15** Inventory Modeling and Management
12:00 - 13:00	*Lunch - Regal Palace, 3/F*						
	Parallel Sessions						
	Regal Ballroom	**Forum Room II**	**Forum Room III**	**Victoria Room I**	**Victoria Room II**	**Victoria Room III**	**Victoria Boardroom**
13:00 - 14:30	**Special Session VII** Assistive Technology I	**Session 16** Scheduling and Sequencing I	**Session 17** Financial Models and Engineering II	**Special Session V** Marketing Analysis II	**Session 18** Reliability and Maintenance I	**Session 19** Ergonomics and Human Factors III	**Session 20** Supply Chain Management I
14:30 - 15:00	*Coffee Break - Monaco Room, B/1 & outside of Victoria Room, 3/F*						
	Parallel Sessions						
	Regal Ballroom	**Forum Room II**	**Forum Room III**	**Victoria Room I**	**Victoria Room II**	**Victoria Room III**	**Victoria Boardroom**
15:00 - 16:30	**Special Session VIII** Assistive Technology II	**Session 21** Scheduling and Sequencing II	**Session 22** Financial Models and Engineering III	**Special Session VI** Marketing Analysis III	**Session 23** Reliability and Maintenance II	**Session 24** Ergonomics and Human Factors IV	**Session 25** Supply Chain Management II

Conference Day-3 Program

	Day 3: Saturday, 8 December 2018					
	Parallel Sessions					
	KK LG103	**KK LG105**	**KK LG106**	**KK LG107**	**KK LG110**	**KK LG111**
08:30 - 10:00	**Session 26** Decision Modeling and Theory I	**Session 27** Logistics Management	**Session 28** Product Design and Development	**Session 29** Big Data and Applications I	**Session 30** Data Mining I	**Session 31** Artificial Intelligence I
	Parallel Sessions					
	KK LG103	**KK LG105**	**KK LG106**	**KK LG107**	**KK LG110**	**KK LG111**
10:00 - 11:30	**Session 32** Decision Modeling and Theory II	**Session 33** Other Related Topics in IE/MS I	**Nominations for Best Paper**	**Session 34** Big Data and Applications II	**Session 35** Data Mining II	**Session 36** Artificial Intelligence II
11:30 - 11:50	*Coffee Break - KB G/F*					
11:50 - 12:10	**KB 223, HKU** (MC: Prof. George Huang)					
	Invited Talk					
	Prof. Yiming Rong					
	"Intelligent Manufacturing: Key Technologies and Practices"					
12:10 - 13:00	*Closing Ceremony* – **KB 223, HKU** (MC: Prof. George Huang)					
	Conferment of Best Paper Award					
	Introduction of New Board and Fellow					
	Announcement of APIEMS 2019					

Remark: Please refer to Page 6 for venue maps of Knowles Building (KB) and K.K. Leung Building (KK).

Session Details

Day 1: 6 Dec. 2018 (13:30 - 15:00)	**Workshop: Uncertainty Theory & Application** *Chair: Jin Peng* *Room: Regal Ballroom*	
	Logistics network optimization with uncertain data Jin Peng	
	Uncertainty, risk, and Behavior Jinwu Gao	
	The risk path selection problem in uncertain network Shengguo Li	
	Cooperative uncertain differential game Yi Zhang	
57	**A Beam Search Heuristic for the Unrestricted Container Relocation Problem** Kun-Chih Wu and Ching-Jung Ting	
76	**Segmentation of Coffee Plantation Area in Satellite Images Using Fourier Features** Du-Ming Tsai, Wan-Ling Chen and Wei-Yao Chiu	

Day 1: 6 Dec. 2018 (13:30 - 15:00)	**Session 1: Transportation** *Chair: Titi Iswari* *Co-Chair: Yijia Wang* *Room: Forum Room II*	
310	**A Metaheuristic Approach for the Vehicle Routing Problem with Simultaneous Pick-Up and Delivery (VRP-SPD)** Titi Iswari, Stephen Sanjaya Budi and Paulina Kus Ariningsih	
315	**Ambulance Drone Location Optimization Based on Survival Probability** Ke Wang, Xuejie Ren and Lindu Zhao	
326	**Shuttle Bus Route Design with Travel Time Dependent Demand** Hyunjoon Kim and Byung-In Kim	
361	**Bloodmobile routing for donated blood collection system in Ho Chi Minh city** Do Sy Hoang, Ha Thi Xuan Chi, Nguyen Hoang Huy, Do Vinh Truc and Nguyen Thi Nhung	
278	**Solving Aircraft Landing Scheduling Problem with Latest Landing Time** He Pan, Tsui-Ping Chung and Hongda Dou	
100	**Genetic Algorithm for Vehicle Routing Problem with Mixed Pickup and Delivery with Time Windows, Duration Time and Rest Area** Kitttitach Kamsopa, Kanchana Sethanan and Thitipong Jamrus	

Day 1: 6 Dec. 2018 *(13:30 - 15:00)*	**Session 2: Optimization Technique I** *Chair: Chang Ping-Yu* *Co-Chair: Xin Wang* *Room: Forum Room III*

370	**Investigate the Convenient Store Location Selection based on the Geographic Information System (GIS)** Chang Ping-Yu and Yang Yu-Ning
203	**Heuristic Method for Minimizing Makespan in Machining-Assembly Flowshop with Flexible Flow Lines at a Machining Stage** Kazuki Matsuo, Kazuko Morizawa and Naoki Hirabayashi
217	**Workload Balancing for a Fleet of Unmanned Aerial Vehicles** Ming-Xia Huang, Jong-Jang Lin, Wen-Liang Chang, Ruey-Huei Yeh and Chin-Chung Nien
369	**Pricing Strategy for Smart Locker** Shih-Kang Yu and Pei-Fang Tsai
279	**A Study on Logistics Distribution Routing Optimization** under the Urgency of Customer Time Demands Jianxin Wang, Ming K Lim, Jiayao Hu, Yu Yang and Shun Fung Chiu
382	**Critical Path Optimization for the Shipbuilding Industry** Yoojin Na, Byung-In Kim, Minseok Song and Jongwon Kim

Day 1: 6 Dec. 2018 *(13:30 - 15:00)*	**Special Session I: Sustainability and Supply Chain** *Chair: Prof. Kim Hua Tan* *Co-Chair: Dr. Keisuke Nagasawa* *Room: Victoria Room I*

340	**Can-order Policy in Joint Replenishment for Deteriorating Items** Keisuke Nagasawa, Katsumi Morikawa, Katsuhiko Takahashi and Daisuke Hirotani
330	**Maintaining Halal Integrity: The Case of Halal Logistics** Yusrizal Yunan, Mohd Helmi Ali and Kim Hua Tan
3	**Optimal Operation and Supply Chain Coordination in a Closed-Loop Supply Chain considering** Quality of Recyclable Parts, Carbon Emission and Cap-and-Trade Policy Etsuko Kusukawa and Yoshihiko Nakayama
141	**The reduction of Carbon Emissions in the Supply Chain: A systematic Literature Review** Tshianeo Tracey Tshivhase and Yasutaka Kainuma
359	**The effects of sustainable uncertainty on the relationship between supply chain integration and operational performance** Mohd Helmi Ali and Kim Tan
134	**Does big data aim to improve sustainable supply chain management?** Ming-Lang Tseng

Day 1: 6 Dec. 2018 (13:30 - 15:00)	**Session 3: Sustainable Management I** Chair: Moch. 'Alimul Akbar Rafsanjani Co-Chair: Daqiang Guo Room: Victoria Room II

337	**Muslim Ablution Eco Water Tap Conceptual Design for Islamic Boarding School in Indonesia** Moch. 'Alimul Akbar Rafsanjani, Wildan Trusaji and Dradjad Irianto
368	**Solar Panels Replacement Decision using Genetic Algorithm** Yi-Ching Wang and Chui-Yu Chiu
44	**Development of Forecasting Method Concerning Water Demands -Proposed by Neural Network** Kosuke Kamata, Yukio Maruyama and Hisashi Yamamoto
61	**Development of Forecasting Method Concerning Water Demands in the Saitama City Waterworks Service Area - Examination of Forecasting Error** Yukio Maruyama and Hisashi Yamamoto
90	**Apply Game Theory to Achieve the Optimal Strategy in Demand Response** Ying-Lien Chen, Ming-Chuan Chiu, Yu-Ching Lee and Hsin-Wei Hsu
391	**A clustering approach to forecasting short-term photovoltaic power generation** Dong Yeon Jeong, Young Myoung Ko, Changhyup Oh, Seung Min Baik, Minseok Kim, Yong-Ju Cho, Sehwan Ahn and Hyemin Choe

Day 1: 6 Dec. 2018 (13:30 - 15:00)	**Session 4: Management of Technology and Innovation** Chair: Jian-Song Chen Co-Chair: Zhongyuan Lyn Room: Victoria Room III

301	**Understanding Elders Acceptance of Intelligent Robot Services: An Extended TAM and UTAUT Model** Jian-Song Chen and Ling-Lang Tang
237	**Knowledge Management and Open Innovation for Improving Social Performance of Small and Medium Industry: A Conceptual Model** Amelia Kurniawati, T.M.A. Ari Samadhi, Iwan Inrawan Wiratmadja, Indryati Sunaryo and Rocky Reynaldo
73	**The Impact of Open Innovation Preparation on Performance: A Systematic Literature Review** Augustina Asih Rumanti, Tma Ari Samadhi, Iwan Inrawan Wiratmadja, Indryati Sunaryo and Rocky Reynaldo
163	**Exploring Regional Digital Divide among Tribes in Taiwan** Wei-Ling Luo, Chien-Lung Hsu, Huan-Chung Li and Ssu-Han Chen
198	**A Study on How to Provide Tourist Information via Weblog** Paula Yoshioka, Miku Takada, Chiaki Itakura, Karen Iwase and Masahide Yamamoto
101	**Exploring Effect of Photos on Fundraising Performance Using Deep Learning Model** Ya-Jhu Huang, Yi-Ching Liaw, Cheng-Hsin Chiang and Ssu-Han Chen

	Session 5: Health Care System I
Day 1: 6 Dec. 2018 *(13:30 - 15:00)*	*Chair: Meilinda Fitriani Nur Maghfiroh* *Co-Chair: Yue Gao* *Room: Victoria Boardroom*

344	**Disaster Healthcare Response through Mobile Health Clinic Routing** Meilinda Fitriani Nur Maghfiroh and Shinya Hanaoka
223	**Changes in Blood Pressure and Heart Rate during Low Inversion Angle** Yu-Wen Tseng and Dengchuan Cai
233	**Influence of Temperature on Blood Pressure and Heart Rate** Pei-Yi Liao and Dengchuan Cai
239	**Healthcare Processes Supported by Blockchain: A Literature Review** Deoksang Lee, Elena Gorbacheva, Minseok Song, Se Young Jung and Sooyoung Yoo
37	**Identifying the Risk Factors of Diabetes for High-tech Employees Using Data-driven Techniques and Case Study** Chien-Chih Wang and Ya-Ju Chang
162	**Personal Identification for Odor of Breath with Machine Learning** Yusuke Kosuda, Takashi Hasuike and Noriaki Koide

	Special Session II: Sustainability and Manufacturing
Day 1: 6 Dec. 2018 *(15:30 - 17:00)*	*Chair: Dr. Etsuko Kusukawa* *Co-Chair: Dr. Tetsuo Yamada* *Room: Regal Ballroom*

1	**Optimal Pricing Strategies for a Retailer and Two Manufacturers under Nash and Stackelberg Game Strategies considering Customer Purchasing Preferences** Masahiro Yamamoto and Etsuko Kusukawa
2	**Optimal Operation and Supply Chain Coordination in a Closed-Loop Supply Chain with Loss Averse Attitude for Uncertainties in Product Demand and Collection Quantity of Used Products** Tomomi Imai, Masanari Yamamoto and Etsuko Kusukawa
135	**Life Cycle Option Selection of Disassembly Parts for Recovery Rate and Cost Considering Survival Rate** Shota Hasegawa, Tetsuo Yamada and Stefan Bracke
55	**Management Traits Associated with Sustaining Kaizen Activities over the Long Term** Jun Yamaguchi and Hirokazu Kono
164	**Modelling Indonesia's Coal Production with Primary Energy Substitution to Secure National Energy Demand using System Dynamics** Firly Baskoro, Katsuhiko Takahashi, Katsumi Morikawa and Keisuke Nagasawa
26	**The Defect analysis on the Recall of Passenger Vehicles** Chia-Fen Chi and Martin Octavianus Astardi

	Session 6: Optimization Technique II
Day 1: 6 Dec. 2018 *(15:30 - 17:00)*	Chair: Felipe Baesler Co-Chair: Yan Wang Room: Forum Room III

9	**A Novel Application of Multi-objective Evolutionary Algorithm for Practical Optimizations through Problem Formulation and Post-optimal Evolution** Jaekyu Yoo and Yoshiaki Shimizu
10	**Multi-objective Optimization and Post-optimal Analysis on Multiple Car Structure Design toward Energy Conservation and Mass-customization** Yoshiaki Shimizu and Jaekyu Yoo
67	**Investigation on Performance for Solving Asymmetric Traveling Salesman Problem of Ant System Based on Consistency and Discrepancy of Subjective Ranking** Kotaro Uneme, Tomoko Sakiyama and Ikuo Arizono
136	**Optimal Allocation of Debris Collection Depots in Large-scale Disaster** Fumiya Matsuura and Yasutaka Kainuma
374	**Using Taguchi Methods to Optimize VPES Process Parameters** Chao Hsuan Wang, Chao Chieh Chan, Li Cheng Shen and Chien Yi Huang
77	**Simulation Optimization for Operating Room Scheduling** Felipe Baesler

	Session 7: Quality Engineering and Management
Day 1: 6 Dec. 2018 *(15:30 - 17:00)*	Chair: Ei Ei Lwin Co-Chair: Qiqi Chen Room: Victoria Room I

349	**Key Factors for Enhancing the 4Es-Based Customer Experience Offerings** Ei Ei Lwin, Duangthida Hussadintorn Na Ayutthaya and Pisut Koomsap
38	**Development of a Novel Approach Based on Mahalanobis Taguchi System to Determine the State of Health for Lithium Battery** Chien-Chih Wang and Chia Ying Li
286	**The Integrated Quality Control Model with Product Inspection and Process Improvement** Chung-Ho Chen
32	**A Fundamental Study on Inspection Method focusing on Difference in Visibility of Defects according to Irradiation Angle of Light Source in Visual Inspection** Ryosuke Nakajima, Yuuki Kojima, Takuya Hida and Toshiyuki Matsumoto
81	**Research of Computer System Quality Transition Process Based on Quality Sense Values by System Engineers** Kazuo Kihara and Hisashi Yamamoto
49	**Evaluation of Service Quality Gap Using C&E Matrix and FMEA Techniques in Traditional Appliance Retail** Chien-Chih Wang and Yu-Xuan Chen

	Session 8: Sustainable Management II
Day 1: 6 Dec. 2018 *(15:30 - 17:00)*	*Chair: Ming-Chuan Chiu* *Co-Chair: Mingxing Li* *Room: Victoria Room II*

91	**A Power Mix and Dispatch Model Considering Climate and Environmental Impacts: An Empirical Case in Taiwan** Min-Ching Wu, Hsin-Wei Hsu, Meng-Ying Lee and Ming-Chuan Chiu
343	**Taxonomy of Information Strategy and it's Fit Relationship with Business Strategy** Yue-Yang Chen and Hui-Ling Huang
156	**A Stochastic Programming Model for Total Optimization of Electricity Market Considering Renewable Energy** Jing Sun, Mashaki Koike and Koichi Nakade
187	**Developing Fuzzy Seasonality Deep Belief Network for Air pollutions Forecasting** Kuo-Ping Lin, Yu-Ming Lu and Ching-Hsin Wang
166	**Development of Anomaly Detection System for Factory Products using AnoGAN** Ito Takaya, Nambo Hidetaka, Kasahara Takehiro, Yonezawa Yuji and Ueda Yoshihiro
79	**Long-term mine planning and metallurgical plant location for a rare earth project** Cristian D. Palma, Sebastián Irribarra and Pablo Gonzalez-Brevis

	Session 9: Ergonomics and Human Factors I
Day 1: 6 Dec. 2018 *(15:30 - 17:00)*	*Chair: Atsushi Sugama* *Co-Chair: Yijia Wang* *Room: Victoria Room III*

308	**Rapid Entire Body and Upper Limb Assessment as a basis of Design and Development of Manicurist Chair** Ma. Maeca Joy Libres, Marl Jerelle Maderse, Jamelyn Redondo and Philip Ermita
316	**Musculoskeletal Disorder Assessment in Garment Industry Using Reba Tool: A Basis for Productivity Improvement** Clytemnestra Adlawan, Eldrick Almario, John Martine Burgos, Veronica Semana and Philip Ermita
321	**Assessment of Lighting for Classroom Among Selected Secondary Schools: A Basis for Students' Effective Learning** Jezza Alyssa Cahende, Alyssa Bianca Manaois, Mikaela Herradura and Philip Ermita
375	**Transient Contrast Vision Performance during Adaptation Phase in Demographic Structure of Taiwan** Hsuan-Hsuan Lu and Rudy Ying-Yin Huang
394	**Effects of Falling Patterns on Head Impact Loads Caused by Occupational Falls from Stepladders** Atsushi Sugama
92	**Effect of Lumbar Posture on Back Muscle Flexion-Relaxation Phenomenon while Sitting** Yi-Lang Chen, Pei-Yu Kang, Wei-Cheng Lin and Ying-Hua Liao

Day 1: 6 Dec. 2018 (15:30 - 17:00)	**Session 10: Health Care System II** *Chair: Andrea N. Wang* *Co-Chair: Xin Wang* *Room: Victoria Boardroom*
74	**Evaluating the Effect of Regular Running on Postural Stability in Adolescents** Chien-Chih Wang and Hsin-Tzu Chang
110	**A Study of Sleep Disorder Detection System for Solitary Person using Deep Learning** Suthipat Swangarom, Takuya Tajima, Takehiko Abe and Kimura Haruhiko
122	**Analysis of Behavioral Understanding Support System for Children with Developmental Disorders** Toru Saitou, Sakiko Ogoshi, Yuuiti Takaku, Hitoshi Nishi and Yasuhiro Ogoshi
129	**Evaluation the Effects of Dual-task on Postural Stability Using Biodex Balance System** Chien-Chih Wang and Yi-Fang Lin
312	**Users' Review Mining-based Method to Improve Acceptance Model for Chinese Medical Health Apps** Peihan Wen, Zhiqi Yuan, Yaqi Peng and Wenxiao Chen
388	**Enhanced Recovery Process After Surgery: A Health Quality Improvement Case Study** Andrea N. Wang and Michael Wang

Day 2: 7 Dec. 2018 (08:30 - 10:00)	**Session 37: Business Analysis I** *Chair: Shunichi Ohmori* *Co-Chair: Kwansuk Oh* *Room: Victoria Room I*
214	**Optimal Manufacturing Allocation in a Global Supply Chain** Takahiro Ueda, Noriyuki Suyama, Tetsuma Furuhata, Yacob Khojasteh and Yasutaka Kainuma,
246	**The forward-reserve allocation problem in warehouse order picking considering the family-grouping** Shunichi Ohmori, Kagehisa Nakayama and Kazuho Yoshimoto
219	**A data-driven approach for the strategic safety-stock placement** Shunichi Ohmori and Kazuho Yoshimoto
157	**Configurable Platform Planning Model Considering Complexity in Manufacturing and Assembly Processes** Kwansuk Oh, Daeyoung Kim and Yoo S. Hong
327	**Personnel-adjusted Added Value (PAV) as an External Evaluation Index** Hiroki Iwamoto and Hideo Suzuki
287	**The Effect of Online Consumer Socialization on Buying Intentions** Zaryab Sheikh, Liu Yezheng, Tahir Islam, Ikram Ullah Khan and Zahid Hameed

	Session 38: Business Analysis II
Day 2: 7 Dec. 2018 *(08:30 - 10:00)*	Chair: Hisashi Kurata Co-Chair: Sanghyun Oh Room: Victoria Room II

40	**How does the Razor-and-Blade Business Model Work When Cost-Conscious Consumers Prefer Low-priced Generic Items** Hisashi Kurata
355	**Case-based Identification of Value Strategy Set for Business Model Evolution: A Customer Value Perspective** Sanghyun Oh, Daeyoung Kim and Yoo Suk Hong
291	**Framework for Creating Service Quality Model in Telecommunication Service** Sakda Luangsakultong, Kitisak Ploypanichcharoen and Ussanee Purintrapiban
389	**Improving the Efficiency of Comps Selection Process in Investment Valuation: Interactive Machine Learning Approach** Yuki Hayashi, Daishi Sagawa and Kenji Tanaka
395	**User Experience Evaluation of a Wearable Smart Safety Airbag** Dohyeon Ryu, Min-Gi Kim, Ki-Hun Kim, Kwang-Jae Kim, Min-Sun Kim and Jung-Min Yun
175	**Classification of English sentences by the degree of difficulty using machine learning** Toshihiko Shimauchi, Ryo Oguri, Hiromi Ban, Hidetaka Nambo and Haruhiko Kimura

	Session 39: Ergonomics and Human Factors V
Day 2: 7 Dec. 2018 *(08:30 - 10:00)*	Chair: Hidetaka Nambo; Co-Chair: Natsuki Takeyama Room: Victoria Room III

115	**Sleeping support system using light stimulation and Electroencephalogram (EEG) for person with developmental disorders** Kana Kobayashi, Sakiko Ogoshi, Toru Saitoh, Yuuiti Takaku, Nishi Hitoshi, Yasuhiro Ogoshi and Yoshinori Mitsuhashi
65	**Temperature and Humidity Estimation from Bioelectric Potential of Living Plants by Deep Learning** Hidetraka Nambo and Takeo Nakano
114	**Forecasting Amount of Photovoltaics (PV) Power Generation Using Long Short-Term Memory(LSTM)** Katsutoshi Maeda, Takahiro Komatsu, Takeaki Katsuki, Yasutoshi Takemoto and Sakiko Ogoshi
144	**Support system with humanoid robot for student unwilling to attend school** Hitoshi Nishi, Mizuki Yamagishi, Kouta Okuda, Toru Saitou and Sakiko Ogoshi
215	**The Case study using Collaborative support system for children with developmental disorders** Sakiko Ogoshi, Toru Saitou, Yuuiti Takaku, Nishi Hitoshi, Yasuhiro Ogoshi, Yoshinori Mitsuhashi, Masahiro Asahara, Sinzou Ishigami and Takashi Oyabu
363	**Logistics and Supply Chain Management of Luxury Products e-Commerce in China** Yiu Man Wong

	Special Session III: Healthcare Systems
Day 2: 7 Dec. 2018 *(10:20 - 11:50)*	*Chair: Masato Takanokura* *Co-Chair: Mari Ito* *Room: Regal Ballroom*

102	**Rehabilitation Staff Scheduling Problem Considering Mental Work Load in Elderly Daytime Care Facility** Ryohei Matsumoto, Tetsuo Yamada and Masato Takanokura
173	**A Study on Vehicle Routing and Scheduling for Pick-up Service on an Elderly Day Care Facility in Japan** Masato Takanokura, Daisuke Kitayama and Mitsuharu Ogiya
241	**Examination-order Scheduling Based on Throughput of Examinations in Medical Checkup** Mari Ito, Shizuka Hara, Mirai Tanaka and Ryuta Takashima
13	**Sleep Induction Factor Evaluation Using Data Envelopment Analysis Considering Bedroom Environment and Lifestyle** Kaoru Kuramoto, Satoshi Kumagai and Takahiro Ohno
54	**A Study of Factors Influencing Expectation and Satisfaction with Hospital Care among Outpatients** Hiroki Kozu, Yukio Maruyama, Tsuyoshi Yuyama and Tomoya Hasegawa
88	**Development of a Simplified OWAS Evaluation System using Work Posture Image** Takato Okada, Takuya Hida and Toshiyuki Matsumoto

	Session 11: Industrial Automation and Green Manufacturing
Day 2: 7 Dec. 2018 *(10:20 - 11:50)*	*Chair: Daisuke Hirotani* *Co-Chair: Daqiang Guo* *Room: Forum Room II*

346	**Exact Solution Technique to Balance for Self-Balancing Production Line with Worker and Station Dependent Speed** Daisuke Hirotani, Katsumi Morikawa, Keisuke Nagasawa and Katsuhiko Takahashi
371	**A Multi-Class Model for Classifying Defective Pixels on TFT-LCD Panels Based on Automatic Optical Inspection** Yung-Chia Chang, Hsien-Mi Meng and Ju-Yi Ye
222	**A Study on Automatic Classification of Query Documents Considering Question Contents** Keisuke Okubo, Gendo Kumoi and Masayuki Goto
300	**Co-Evolution Theory Based Collaborative Conceptual Embodiment CAD System** Fariz Muharram Hasby and Dieter Roller
133	**Optimization of Spray Drying Process for Dye Powders based on Taguchi Approach** Pornchai Poonakeaw and Natthavika Chansri
87	**Method for Discriminating the Gripping Position of Steering Wheel during Car Driving** Akiko Watanabe, Takuya Hida and Toshiyuki Matsumoto

	Session 12: Financial Models and Engineering I
Day 2: 7 Dec. 2018 *(10:20 - 11:50)*	*Chair: Preeti Goyal* *Co-Chair: Yan Wang* *Room: Forum Room III*

320	**Banking the Unbanked: The Fintech Revolution** Preeti Goyal and Ahindra Chakrabarti
324	**Structural Changes and Market Liquidity: Evidence from Indian Stock Market** Preeti Goyal, Ahindra Chakrabarti and Rish Dev Ratan
377	**Prediction of Financial Distress for Chinese Listed Companies based on AI-Logistic model: Evidence from Manufacturing Sector** Dawen Yan, Kaixin Wang, Kin Keung Lai and Guotai Chi
205	**Measuring the Momentum Effect in Stock Markets with Hurst Exponent** Tsubasa Ando and Takashi Hasuike
298	**Forecasting Gold Price with an EEMD-ICA-based Multi-scale Integration Model** Lu Xian and Kin Keung Lai
143	**Change Point Detection on Financial Time Series Using LSTM based Recurrent Neural Network** Dongkyu Kwak, Sondo Kim, Woojin Chang and Sungyoon Choi

	Special Session IV: Marketing Analysis I
Day 2: 7 Dec. 2018 *(10:20 - 11:50)*	*Chair: Dr. Kazuhiro Takeyasu* *Co-Chair: Dr. Koumei Suzuki* *Room: Victoria Room I*

6	**Simplified Machine Diagnosis Techniques with Impact Vibration using n-th Moment of Absolute Deterioration Factor** Kazuhiro Takeyasu
11	**Principal Component Analysis on the Twitter Data in the Restaurant Industry** Koumei Suzuki, Yuki Higuchi and Kazuhiro Takeyasu
12	**Forecasting the Daily Transaction Data Utilizing a Day of the Week Index in the Case of The Nail Web Site** Tomohiro Watanabe and Kazuhiro Takeyasu
15	**Brand Selection in the Airline Ticket Purchasing Case from the Viewpoint of the Feeling of Luxury** Yuki Higuchi and Kazuhiro Takeyasu
16	**Hypothesis Testing for the Questionnaire Investigation on the Needs and Images at Fuji City in Shizuoka Prefecture** Daisuke Suzuki, Nao Ogamo, Akane Okubo, Yuki Higuchi and Kazuhiro Takeyasu
17	**An Analysis of the Questionnaire Investigation on the Images at Fuji City** Kazuhiro Takeyasu, Shiori Abe, Yuki Higuchi, Akane Okubo and Daisuke Suzuki

	Session 13: Simulation
Day 2: 7 Dec. 2018 *(10:20 - 11:50)*	**Session 13: Simulation** *Chair: Anh Pham* *Co-Chair: Zhongyuan Lyn* *Room: Victoria Room II*

347	**A Simulation Approach for Analyzing Aircraft Turnaround Operations** Anh Pham, Luong Nhieu and Phong Ho
350	**Understanding the Impact of Information Sharing in Blanket Order by System Dynamics Simulation** Paulina Ariningsih and Sharfina Azyyati
255	**On Velocity of Information Diffusion via Influencers in SNS Connection Map - Simulation Model considering the Properties of SNS Participants** Ehara Taisuke, Kaoru Kuramoto and Satoshi Kumagai
276	**Forecasting Incoming Calls for the Release of a New Cell Phone Promotional Package** Thanyawan Chanpanit and Apinanthana Udomsakdigool
294	**Analysis of Diffusion Processes of Social Network using Simulation** Kang Won Lee
70	**Analysing Distributed Energy Supply Systems Using the Discrete Event Simulation Approach** Tomaž Kramberger, Bojan Rupnik, Dušan Kragelj and Bojan Rosi

	Session 14: Ergonomics and Human Factors II
Day 2: 7 Dec. 2018 *(10:20 - 11:50)*	**Session 14: Ergonomics and Human Factors II** *Chair: Yeh-Chun Juan* *Co-Chair: Yue Gao* *Room: Victoria Room III*

213	**Comparing Peoples' Hospitality Toward Others in Urban and Rural Areas** Yukina Ishikawa, Ryoma Hasegawa, Ippei Matsuo, Taichi Utsuno and Yuto Murase
218	**Mining and Comparison of Elderly Habits-Hyperglycemia Rules by Using Association Analysis and Decision Tree Analysis** Yeh-Chun Juan, Yun-Ren Huang and Yi-Xuan He
225	**A Study of Applying EEG to Explore Learning Process of Junior High School Students with Different Textbooks Design** Yi-Chuan Chiu, Hsing-Hung Lin and Yung-Tsan Jou
268	**Determining Driver's Most Preferred Seat Positions though Preference Mapping** Sukyeong Kim and Woojin Park
295	**A Preliminary Investigation on the Effects of Sternum Strap on Hiking Backpacks for Female Users** An-Che Chen, Chieh-Yu Chen, Cai-Ni Jhan, Chia-Ying Yu and Shih-Tzu Liu
393	**Hand dimension measurements for double handle of hand tools** Dengchuan Cai and Chuan-Yu Chang

	Session 15: Inventory Modeling and Management
Day 2: 7 Dec. 2018 (10:20 - 11:50)	Chair: Bo Li Co-Chair: Qiqi Chen Room: Victoria Boardroom

319	**Optimizing A Single-Product Production-Inventory System Under Constant Absolute Risk Aversion** Bo Li and Antonio Arreola-Risa
358	**Decision for an Inventory System with Two Demand Types** The Jin Ai, Ririn Diar Astanti and Huynh Trung Luong
7	**Development of a Vendor-Managed Inventory Model for Single Vendor-Multiple Retailers System** Huynh Trung Luong and Mohamed Mufeeth Al Musni
59	**Improving Supply Chain Efficiency: A Vendor-Managed Inventory Framework for the Construction Industry** Chuan-Jun Su, Esteban Eduardo Vides Meza, Shi-Feng Huang, Yi Li and Hsuan-Tzu Su
293	**Research on Warehouse Routing Network Design Based on Logistics AGV's "Goods-to-man" Picking Mode** Juntao Li, Lirui Sun, Xingzhen Wu and Liu Kai
290	**Redeploying Excess Inventories for Service Parts Management** Daniel Y. Mo, Danny C. K. Ho, Yue Wang and Eugene Y. C. Wong

	Special Session VII: Assistive Technology I
Day 2: 7 Dec. 2018 (13:00 - 14:30)	Chair: Yuko Shimomura Co-Chair: Mingxing Li Room: Regal Ballroom

33	**Development of a System that Even Beginner Volunteers can Translate Japanese into Braille** Yuko Shimomura, Hiroyuki Kawabe, Shuichi Seto and Hidetaka Nambo
34	**Detection and Classification of Cells in Old Braille Book by Image Processing Technique** Hiroyuki Kawabe, Hidetaka Nambo, Shuichi Seto and Yuko Shimomura
53	**Measurement of Standing Point Under Different Conditions of Door Opening Movement for Fall Prevention** Kaori Sato, Yuko Shimomura, Masanobu Igarashi, Yuki Igarashi, Takumi Nakamura and Yumi Osawa
48	**Scanning and recognition experiment for restoration of degraded Braille books** Shuichi Seto, Hidetaka Nambo, Yuko Shimomura and Hiroyuki Kawabe
46	**Drawing Training for the Otaku Generation** Hiroki Wada, Takehiro Ido, Hiroshi Arai, Yuko Shimomura and Hiroyuki Kawabe
126	**Fascination of Special Subsidiary Companies and Consideration of Inclusive design** Katsutoshi Maeda, Takahiro Komatsu, Sakiko Ogoshi, Yasuhiro Ogoshi, Seiichiro Miura and Hitoshi Nishi

Day 2: 7 Dec. 2018 *(13:00 - 14:30)*	**Session 16: Scheduling and Sequencing I** *Chair: Nita P.A Hidayat* *Co-Chair: Yijia Wang* *Room: Forum Room II*

341	**A Batch Scheduling Model for The Shop with m Heterogeneous Batch Processors Producing Multiple Items to be Delivered at Different Due Dates** Nita P.A Hidayat, Wisnu Aribowo, Andi Cakravastia, T.M.A Ari Samadhi and Abdul Hakim Halim
356	**Sublot Optimization with Sequence-Dependent Setups and Transfer Times in Job Shop Production** Mohammad Miradj Isnaini and Anas Ma'Ruf
209	**Dual Resource Constrained Job Shop Scheduling with Automated Operations** Katsumi Morikawa, Keisuke Nagasawa and Katsuhiko Takahashi
269	**A Flow Shop Batch Scheduling and Operator Assignment Model with Learning-Forgetting and Fatigue-Recovery Effects to Minimize Total Actual Flow Time** Dwi Kurniawan, Andi Cakravastia Raja, Suprayogi and Abdul Hakim Halim
275	**Batch Scheduling for Unique and Common Components in a Hybrid Assembly Differentiation Flow Shop to Minimize Total Actual Flow Time** Rahmi Maulidya, Rachmawati Wangsaputra, Suprayogi and Abdul Hakim Halim
396	**Close-looped digital twin system on cargo loading planning operations** Eugene Y. C. Wong and Daniel Y. Mo

Day 2: 7 Dec. 2018 *(13:00 - 14:30)*	**Session 17: Financial Models and Engineering II** *Chair: Norio Hibiki* *Co-Chair: Xin Wang* *Room: Forum Room III*

30	**Asset Allocation with Factor-based Risk Parity Strategy** Hirotaka Kato and Norio Hibiki
31	**A Study on Optimal Limit Order Strategy using Multi-Period Stochastic Programming considering Nonexecution Risk** Shumpei Sakurai and Norio Hibiki
36	**Estimation Decay Kernel of Transient Market Impact Using Multi-Dimentional Hawkes Process** Tomoki Okada and Norio Hibiki
39	**An Optimal Execution Model with S-shaped Temporary and Transient Market Impacts** Yuhei Ono and Norio Hibiki
94	**Construction of Multi-Factor Model in Chinese Stock Market** Yuxi Yang and Takashi Hasuike
372	**Development of Credit Risk Assessment Decision Support System using Python Web Framework** Yung-Chia Chang, Yi-Hsuan Huang, Kuei-Hu Chang, Hung-Chih Chiu, Chih-Cheng Chen, Wan-Jo Lin, Yen-Wei Tseng and Yi-Chun Su

	Special Session V: Marketing Analysis II
Day 2: 7 Dec. 2018 *(13:00 - 14:30)*	*Chair:* Kazuhiro Takeyasu *Co-Chair: Akane Okubo* *Room: Victoria Room I*

18	**Bayesian Network Analysis for the Questionnaire Investigation on the Impression at Fuji Shopping Street Town** Kazuhiro Takeyasu, Marina Miyake, Tsuyosi Aburai, Akane Okubo and Daisuke Suzuki
19	**Bayesian Network Analysis for the Questionnaire Investigation on Tourists' Behavior** Tsuyoshi Aburai, Mayu Kubota, Akane Okubo and Kazuhiro Takeyasu
20	**Multivariate Analysis for the Questionnaire Investigation on the Needs at Yoshiwara Shopping Street in Fuji City** Kazuhiro Takeyasu, Naomi Maruyama, Yuki Yuki Higuchi, Akane Okubo and Daisuke Suzuki
21	**Multivariate Analysis for the Questionnaire Investigation on the Needs at Fuji Shopping Street in Fuji City** Akane Okubo, Yuki Higuchi, Daisuke Suzuki and Kazuhiro Tkakeyasu
22	**Questionnaire Investigation on the Needs at Fuji Shopping Street Town and its Sensitivity Analysis Utilizing Bayesian Network** Daisuke Suzuki, Akane Okubo, Tsuyosi Aburai and Kazuhiro Takeyasu
113	**A Study on Estimation of the Location of Wi-Fi Access point –Case Study of Nagasaki City** Hiroyoshi Shimizu, Takashi Hasuike and Yu Ichifuji

	Session 18: Reliability and Maintenance I
Day 2: 7 Dec. 2018 *(13:00 - 14:30)*	*Chair: Kuan-Han Chen* *Co-Chair: Daqiang Guo* *Room: Victoria Room II*

242	**Maintenance Policy for a Civilian Unmanned Aerial Vehicle** Kuan-Han Chen, Chia-Wen Chang, Wen-Liang Chang, Ruey-Huei Yeh and Chin-Chung Nien
250	**Evaluating Response Reliability of Power Plant During Severe Accident** Masaaki Suzuki
392	**Design and Development of Dry Wall Sander** Dengchuan Cai and Chuan-Yu Chang
29	**Optimization Problems of Consecutive-2-out-of-n: G System with a Random Number of Components** Lei Zhou, Hisashi Yamamoto, Taishin Nakamura, Xiao Xiao and Toshio Nakagawa
333	**A Social-conscious Scheduling Model of Dual Resources Constrained Identical Parallel Machine to Minimize Makespan and Operator Workload Balance** Muhammad Akbar and Takashi Irohara
360	**A Dynamic Weighted Resampling Method and Its Application in Fault Diagnosis** Jing Liu, Xue Cao, Haipeng Ji and Runliang Dou

Day 2: 7 Dec. 2018 (13:00 - 14:30)	**Session 19: Ergonomics and Human Factors III** *Chair: Fucheng Wu* *Co-Chair: Zhongyuan Lyn* *Room: Victoria Room III*
103	**A Study on the Effect of Inspectors' Noticing Resource on Defect Detection in Visual Inspection** Fucheng Wu, Ryosuke Nakajima, Takuya Hida and Toshiyuki Matsumoto
127	**The Legibility of Chinese Characters with Various Stroke Numbers – A Preliminary Study** Chun-Ju Liu, Kang-Hung Liu and Chien-Chi Chang
146	**Why people continue to use mobile application: An empirical study integrating network externalities and cost-benefit theory** Hui-Chen Ho and Hsi-Peng Lu
150	**The Effect of Markerless Camera Setup for Joint Angle Estimation** Yi-Wei Fan, Pin-Ling Liu and Chien-Chi Chang
154	**Design of Experiments for Analyzing Factors Affecting to Paint Fineness in the Grinding Process** Kriengkrai Pholchan, Jiraporn Pradabwong and Natthavika Chansri
202	**An Analytical Model for Customer Purchasing Behavior Based on a Generative Model of RFM Measures** Yuri Nishio, Haruka Yamashita and Masayuki Goto

Day 2: 7 Dec. 2018 (13:00 - 14:30)	**Session 20: Supply Chain Management I** *Chair: Wirachchaya Chanpuypetch* *Co-Chair: Yue Gao* *Room: Victoria Boardroom*
364	**Collaborative Supply Chain Management for Sustaining Community-Based Enterprises in Rural Thailand** Wirachchaya Chanpuypetch and Ganda Boonsothonsatit
232	**A Closed-Loop Supply Chain Model for Electronic Products Considering Product Returns Quality in Recovery Success** Christine Lois Fernandez, Jan Kenneth Mati-Ong and Dennis Cruz
285	**Determine the Discount Rate for Quantities Discount Strategies in a Decentralized Retail Network** Ping-Yu Chang and Nah-Chih Sun
282	**An Improved Malaysian Automotive Industry Resin Supply Chain Framework** Rosdan Rosman and Sha'Ri Mohd. Yusof
305	**Blockchain-Based Tracking and Tracing Platform for Pharmaceutical Supply Chain** Jun Zhang, Hanyang Guo, Qingqing Chang and Zhi Li
387	**A Dynamic Model of Consumer Behavior - Purchase, Consumption and Inventories** Susumu Imai, Yuta Kikuchi and Hiroto Suzuki

Day 2: 7 Dec. 2018 (15:00 - 16:30)	**Special Session VIII: Assistive Technology II** *Chair: Fangying Ren* *Co-Chair: Yan Wang* *Room: Regal Ballroom*	
93	**Study on Routing and Scheduling Problem for International Chemical Tankers** Fangying Ren, Kazuho Yoshimoto and Shunichi Ohmori	
145	**Proposal for ambulance nodes optimum arrangement at second medical area using M/G/c queue** Haruka Ohba and Shinya Mizuno	
228	**The Situated Learning for Education of Engineers with Inclusive Design Mind** Sakiko Ogoshi, Seiichiro Mirua, Katutoshi Maeda, Hitoshi Nishi and Takahiro Komatsu	
85	**Optimization of Medical Image Data Using Edge Detection Techniques: A Case Study** Mehedi Hasan Talukder, Mitsuhara Ogiya and Masato Takanokura	
116	**Sound Effect on Sleeping and Wake-up on Indoor Environment using IoT and Brain Machine Interface** Natsuki Takeyama, Sakiko Ogoshi, Toru Saitou, Yuichi Takaku, Nishi Hitoshi, Yasuhiro Ogoshi and Yoshinori Mitsuhashi	
283	**Exploring USR Strategy in Higher Education: Using Fuzzy Hybrid MADM Approach** Hsin-Yi Lin, Ya-Yuan Chang and Ming-Tsang Lu	

Day 2: 7 Dec. 2018 (15:00 - 16:30)	**Session 21: Scheduling and Sequencing II** *Chair: Calvin Yu* *Co-Chair: Qiqi Chen* *Room: Forum Room II*	
43	**Multi-project Scheduling with Minimum Makespan Under Limited Multiple Resources** Calvin Yu and Ya-Ling Hsieh	
47	**Optimal Assignment of Three Special Workers in Reset Limited-cycle Multiple Periods with Variable Target Processing Time** Xiao Wen Zhao, Hisashi Yamamoto and Jing Sun	
104	**Flexible Flow Shop Scheduling with Tooling Limitations in Sugarcane Cultivation** Kongkidakhon Worasan, Kanchana Sethanan, Thitipong Jamrus and Karn Moonsri	
161	**Computing Collision Probability in a Series-Parallel Machines Model** Eishi Chiba and Taiki Otsuka	
80	**A Numerical Study of Evolutionary Algorithms for Facility Rearrangement Problem** Atsushi Suzuki, Hisashi Yamamoto and Masaaki Ohba	
323	**A Scheduling Model for Full Maintenance of Automated Teller Machines** Carlos Manuel Ilagan, Angelia Danielle Trinidad, John Lorenz Wee and Charlle Sy	

	Session 22: Financial Models and Engineering III
Day 2: 7 Dec. 2018 *(15:00 - 16:30)*	Chair: Seungmo Ku Co-Chair: Mingxing Li Room: Forum Room III

140	**Dynamic Topology of Stock Market using Network Growth Model** Seungmo Ku, Poongjin Cho, Sungyoon Choi and Woojin Chang
97	**Network Analysis on Korean Stock Market Using Joint Histogram Distance Metric** Sungyoon Choi, Ji Hwan Park, Seungmo Ku and Woojin Chang
318	**An Empirical Study on Technical Readiness for Agency Banking in Myanmar** Zaw Zaw Aung and Aung Htet Maung
365	**Does the Ease of Starting a New Business Affect Country's Financial Vulnerability? Evidence from Eight European Economies** Anggita Leviastuti
105	**Analysis of cryptocurrency exchanges using Complexity-entropy causality plane with Weighted permutation entropy** Sondo Kim, Jungyoon Song, Dohyun Ku and Woojin Chang
325	**Lease contract for a fleet of dump trucks considering availability target** Hennie Husniah, Racmawati Wangsaputra, Andi Cakravastia and Bermawi P. Iskandar

	Special Session VI: Marketing Analysis III
Day 2: 7 Dec. 2018 *(15:00 - 16:30)*	Chair: Kazuhiro Takeyasu Co-Chair: Yijia Wang Room: Victoria Room I

24	**Factor Analysis for the Questionnaire Investigation on the Needs at Yoshiwara Shopping Street in Fuji City** Kiyohisa Ogita, Daisuke Suzuki, Akane Okubo, Yuki Higuchi and Kazuhiro Takeyasu
272	**Simplified Machine Diagnosis Techniques Under The Impact Vibration** Kanna Nakajima and Kazuhiro Takeyasu
249	**Decreasing Characteristics of Passenger on Airplane due to Hokuriku Shinkansen Opening of Business** Junko Nakamura, Liu Aijun and Takashi Oyabu
216	**A Functional Study on Tourism Associations in Japan** Nanami Mizuguchi, Yauen Tei and Risa Iwasaki
170	**Proposal of Indicator Assumed by Zero-Inflated Poisson Distribution for Brand and Category Management** Masao Ueda
95	**Recommendation System by Collaborative Filtering Considering Diverse Information** Manami Kawasaki and Takashi Hasuike

	Session 23: Reliability and Maintenance II
Day 2: 7 Dec. 2018 *(15:00 - 16:30)*	*Chair: Takahiro Uchiyama* *Co-Chair: Xin Wang* *Room: Victoria Room II*

41	**Optimal Design of Network Systems Considering Reliability Constraint** Yoshihiro Murashima, Hisashi Yamamoto, Tomoaki Akiba, Natsumi Takahashi and Xiao Xiao
42	**Optimization Design of Network System Using Simulated Annealing** Xuan Sun, Hisashi Yamamoto and Koji Shingyochi
191	**Machine Repair Priority for Assembly Lines with Consideration of Production Delays** Takahiro Uchiyama, Kimitoshi Sato, Hideki Katagiri and Kenichi Nakashima
177	**Multi-objective Robust Optimization for the Design of Biomass Co-firing Networks** Jayne Lois San Juan and Charlle Sy
322	**An Optimization Model for the Design of an Off-Grid Micro-Hydro Power Plant** Juan Carlo Hernandez, Carlos Jan Peñas, Adrianne Ressa Tiu and Charlle Sy
138	**Safety Culture Investigation in Indonesian Ship Building Industries: Identifying The Influence of Cultural Background Towards The Safety Climate** Ilma Mufidah, Bernard Jiang and Shu-Chiang Lin

	Session 24: Ergonomics and Human Factors IV
Day 2: 7 Dec. 2018 *(15:00 - 16:30)*	*Chair: Hirotomo Oshima* *Co-Chair: Daqiang Guo* *Room: Victoria Room III*

155	**A Fundamental Study on Automation of Visual Inspection by Deep Learning** Hirotomo Oshima, Tomoaki Yamazaki and Keisuke Shida
160	**Creation of Traffic Selection Model for Regional Next Generation Mobility Study Support Methodology Development** Masayasu Akagi, Takashi Hasuike and Yusuke Goto
171	**A Study on the Method for Evaluation of Learning Level Based on Brain Activity** Naoki Motohama, Tomoaki Yamazaki and Keisuke Shida
178	**The Investigation of Virtual Reality Training Effect in a Simulated Chemical Experiment** Szu-Yu Lee, Chang-Yan Lin and Chien-Chi Chang
357	**Exploring the Influence of Users' Different Emotions on Satisfaction and Intention to Use** Wen-Yau Liang
299	**The Effect of Mobile Payment on Behavioral Intention and Follow-up Recommended Usage: An Application of Modified UTAUT2 Model** Ling-Lang Tang, Yi-Hsuan Kuo and Yu-Shan Chou

	Session 25: Supply Chain Management II
Day 2: 7 Dec. 2018 *(15:00 - 16:30)*	*Chair: Huynh Trung Luong* *Co-Chair: Zhongyuan Lyn* *Room: Victoria Boardroom*

8	**Analyzing the Effect of Supply Disruption on Supply Contract Arrangement** Huynh Trung Luong and Supanan Konsue
68	**Collaborative Bargaining Solution for Contract Problem in Tandem Supply Chain Composed of Three Members with Only Limited Information of Demand** Takatoshi Suehiro, Ikuo Arizono and Yasuhiko Takemoto
159	**Supply Chain Integration for Halal Food Integrity in Japan** Daisuke Kitayama, Mitsuhara Ogiya, Masato Takanokura, Siti Hawa Radin Eksan and Mohd Helmi Ali
165	**A Multi-Period Approach of Heterogeneous Product Mix to a Pharmaceutical Supply Chain Model** Samuel Chen, Dennis Cruz and Charlle Sy
169	**A Comparative Study of Supply Contracts based on the Service-Dominant Logic** Roberto Andres Alcivar Espin, Yon-Chun Chou and Kai-You Huang
378	**Physical Internet enabled bulky goods urban delivery system: a case study in customized furniture industry** Hao Luo and Siyu Tian

	Session 26: Decision Modeling and Theory I
Day 3: 8 Dec. 2018 *(08:30 - 10:00)*	*Chair: Huang Lily* *Co-Chair: Yue Gao* *Room: KK LG 103*

338	**Patent Valuation Based on a Multi-criteria Analysis Model** Huang Lily and Yen Jerome
210	**Analysis of Instance Space of Strict Hedonic Games** Masaya Tanaka and Shao Chin Sung
211	**A Multi-period Operator Assignment Model in Reconfigurable Manufacturing Cells** Takayuki Kataoka, Katsumi Morikawa and Katsuhiko Takahashi
270	**Determining Rental Charges by a Port Authority Considering Container Handling Prices by Terminals** Yanjie Zhou, Sang-Hei Choi and Kap Hwan Kim
284	**A Manufacturer-Buyer Model with Random Breakdowns** Gary C. Lin and Dah-Chuan Gong
192	**Optimal Production Policy for a Closed-Loop Supply Chain System with Disruption Risks** Zheng Cong, Kimitoshi Sato, Hirohisa Hirai and Kenichi Nakashima

	Session 27: Logistics Management
Day 3: 8 Dec. 2018 *(08:30 - 10:00)*	*Chair: Koichi Nakade* *Co-Chair: Yan Wang* *Room: KK LG 105*

258	**Optimal Ordering Policy of Products with Short Sales Periods under Multiple Deliveries and Disposals in One Day** Ryo Terashima and Koichi Nakade
254	**Quality Management Practices among Small and Medium-Sized Food Processing Enterprises of Pakistan** Khairur Rijal Jamaludin, Syed Ali Raza Shah, Hayati Habibah Abdul Talib and Sha'Ri Mohd Yusof
83	**Adjacent Route Coordinated Strategy for Vehicle Routing Problem with Stochastic Demand** Koji Okanoya, Shunichi Ohmori and Kazuho Yoshimoto
106	**Decision on Optimal-Mode for Home Delivery & Pickup Service Using Public Transportation** Kazuhiro Sugai, Shunichi Ohmori and Kazuho Yoshimoto
257	**(N, S) Policy in an M/G/1 Type Production System with Waiting Time Information** Ryuta Ito and Koichi Nakade
266	**A Hybrid Discrete Harmony Search Algorithm for Scheduling of Machines and Automated Guided Vehicles in FMS Environment** Yun-Chia Liang, Manuel Antonio Mojica Baltodano and Angela Hsiang-Ling Chen

	Session 28: Product Design and Development
Day 3: 8 Dec. 2018 *(08:30 - 10:00)*	*Chair: Jia-Nian Zheng* *Co-Chair: Qiqi Chen* *Room: KK LG 106*

352	**Production Planning and Decision Support System with Product Classification in the LED Industry** Jia-Nian Zheng and Chen-Fu Chien
381	**Customer's PIE: A New Integration Approach for Customer Experience Co-Creation** Duangthida Hussadintorn Na Ayutthaya and Pisut Koomsap
231	**Design and Development of Soda Maker** Yuting Hsiao and Dengchuan Cai
182	**Optimization of Gas Metal Arc Welding Process based on Taguchi Approach on Stainless Steel SUS 409L** Voradate Ruktam and Natthavika Chansri
302	**Mapping Customer Needs in Natural Language to Product Specifications by Using Word Embeddings** Yue Wang and Raymond Wenlong Zhao
304	**Customer service system based on multi-robot coordination** Yunhui Shen, Waiming Wang, Zhi Li, Ying Zheng and Zongyao Zheng

	Session 29: Big Data and Applications I
Day 3: 8 Dec. 2018 *(08:30 - 10:00)*	Chair: Chao-Lung Yang Co-Chair: Mingxing Li Room: KK LG 107

385	**Data Preprocessing Framework for Weather-Sensitive Road Identification: A Case Study in Jakarta** Chao-Lung Yang, Arnold Samuel Chan, Hendri Sutrisno and Budhi Sholeh Wibowo
274	**Big Data-Based Similarity Network Model for Cloud Manufacturing Services** Peihan Wen, Qian Zhang, Pan Wang and Jawad Ul Hassan
72	**Predictive Market Trend Analytics for Innovative Products: Driverless Car Case Study** Chuan-Jun Su, Ang-Han Li, Shi-Feng Huang, Yi Li and Guan-Hong Shih
367	**Survey of Businss Aspects of Cloud Services: Pricing, Strategy, and Operations** Bo Li
383	**Pareto Analysis for Quality Control based on Text Mining** Ivana Carissa Sutanto, Ririn Diar Astanti and The Jin Ai
334	**Exploitation of Cost-effective Edge Computing Systems at Logistic Centers in IIoT** Madhurima Peram, Sandhya Mishra, George Q Huang and Saurabh Pratap

	Session 30: Data Mining I
Day 3: 8 Dec. 2018 *(08:30 - 10:00)*	Chair: Taek-Ho Lee Co-Chair: Yijia Wang Room: KK LG 110

280	**A Comparison of Collaborative Filtering Algorithms for Binary Purchase Data** Taek-Ho Lee and Chi-Hyuck Jun
174	**Variable Interaction Selection for Multi-Task Learning** Junyong Jeong and Chi-Hyuck Jun
64	**Statistical Property of Image Difference Signal affected by LSB Matching** Tadakazu Sakakura and Hidetaka Nambo
148	**Link Prediction Analysis in the Weighted Causal Network of the Global Currency Market** Ji Hwan Park, Jae Wook Song, Minhyuk Lee and Woojin Chang
149	**Practice of Predicting Product Quality through Long Short-Term Memory Networks Using Manufacturing Process Data** Tomoaki Yamazaki and Keisuke Shida
120	**Human Activity Based Indicators of Sustainability in the Manufacturing Process** Tariku Tamiru Belis and Chiuhsiang Joe Lin

	Session 31: Artificial Intelligence I
Day 3: 8 Dec. 2018 *(08:30 - 10:00)*	*Chair: Usharani Hareesh Govindarajan* *Co-Chair: Xin Wang* *Room: KK LG 111*

345	**Excessive Topic Generation: A Pre-processing Method for Collective Intelligence and Relationship Mining** Usharani Hareesh Govindarajan, Amy J.C. Trappey, Charles V. Trappey, Li-Chia Yeh and Amitabh Singh Bafila
376	**Using Machine Learning Methods to Detect Physical Conditions with Postural Balance** Yu Che Chan, Chin Mei Chou, Shih Hsiung Chou and Che Jung Yang
380	**Exploring the Commodity Lighting's Random Forest Prediction Model and Statistical Analysis Results in Different Illuminance Combination** Yi Hua Huang and Chinmei Chou
206	**Collision-free Routing for Multiple Drones** Ivan Kristianto Singgih, Byung-In Kim and In Hye Bang
281	**Set Covering Location Problem Considering Drones** Dongwook Kim, Kyungsik Lee and Ilkyeong Moon
289	**Similar Trademark Image Retrieval with Hybrid Matching** Shun Tsuchida and Takahiro Hayashi

	Session 32: Decision Modeling and Theory II
Day 3: 8 Dec. 2018 *(10:00 - 11:30)*	*Chair: Qian Zhang* *Co-Chair: Daqiang Guo* *Room: KK LG 103*

121	**Alternative Approaches to Constructing an Income Composite Index for Targeted Poverty Alleviation Efficiency** Qian Zhang, Kin Keung Lai and Yelin Fu
220	**Developing A Hybrid Response Model for Marketing Insurance Products** Jen-Ying Shih
96	**A Study of Optimal Product Categories Allocation in a Supermarket** Genshin Ninomiya, Shunichi Ohmori, Masao Ueda and Kazuho Yoshimoto
119	**Improvement of the Agent Based Simulation for Purchase Behavior at Supermarket Considering Dynamic Changes of Wandering** Kosei Shimizu, Shunichi Ohmori, Masao Ueda and Kazuho Yoshimoto
130	**Virus Optimization Algorithm for Stochastic Combined Economic and Emission Dispatch Problems** Josue Rodolfo Cuevas Juarez, Yun-Chia Liang and Angela Hsiang-Ling Chen
208	**GA-Based Algorithm for finding Quasi-Pareto Solution Set of a Bi-Objective Network Design Problem** Natsumi Takahashi, Shao-Chin Sung, Tomoaki Akiba and Hisashi Yamamoto

Day 3: 8 Dec. 2018 (10:00 - 11:30)	**Session 33: Other Related Topics in IE/MS I** *Chair: Yue-Yang Chen* *Co-Chair: Zhongyuan Lyn* *Room: KK LG 105*
292	**Evaluating Camouflage Design Across Countries using Camouflage Similarity Index (CSI)** Yogi Tri Prasetyo and Chiuhsiang Joe Lin
71	**Determination of Tool Replacement Time under Multiple Quality Characteristics** Chi-Chieh Chen and Chen-Ju Lin
45	**Business Performance of Price Leader Company in Hi-Tech Component Market** Sidi Wu, Seung-Jin Ryu and Jiahua Weng
297	**A student information system providing a function for generating a photo roster from a group photo** Genki Yamamoto and Takahiro Hayashi
317	**A Feasibility Study on Applying Dating Simulation Game Models in Training and Education** Zaw Zaw Aung and Pinar Guler
131	**Study on how to utilize digital technique for the PDCA circle in small and medium-sized enterprises** Masahiro Shibuya, Kenichi Iida and Koki Mikami

Day 3: 8 Dec. 2018 (10:00 - 11:30)	**Nominations for Best Paper** *Chair:* *Co-Chair: Yue Gao* *Room: KK LG 106*
28	**Upper and Lower Bounds for Reliability of Connected-(1,2)-or-(2,1)-out-of-(m,n):F Lattice System** Taishin Nakamura, Hisashi Yamamoto, Takashi Shinzato and Tomoaki Akiba
75	**Design and Evaluation of the Joint Venture Formation in EPC Projects** Nobuaki Ishii, Yuichi Takano and Masaaki Muraki
207	**A Model to Detect Unique Customers Based on Time-series Log Data** Xiaoyan Zhang, Haruka Yamashita, Gendo Kumoi and Masayuki Goto
267	**A Batch Scheduling Model for a Three-Stage Flowshop with Job and Batch Processor to Minimize Total Actual Flowtime** Pratya Poeri Suryadhini, Sukoyo, Suprayogi and Abdul Hakim Halim

	Session 34: Big Data and Applications II
Day 3: 8 Dec. 2018 *(10:00 - 11:30)*	Chair: Masahide Yamamoto Co-Chair: Yan Wang Room: KK LG 107

176	**Comparing Visitors' Characteristics and Behaviors in Hot Springs through Mobile Phone Users' Location Data** Masahide Yamamoto
183	**Elderly Fall-Risk Prediction Study from Inertial Sensor Time Series Data using Deep Learning Algorithms** Tomas Mendoza and Tien-Lung Sun
186	**Analysis of Consumer Panel Data Based on Discriminant Non-negative Matrix Factorization** Tsubasa Ano, Haruka Yamashita and Masayuki Goto
190	**A Study of the Application of Canonical Correlation Forests to Text Classification** Shuhei Nakano, Kenta Mikawa and Masayuki Goto
25	**Relationship between SNS Data and Number of Tourists** Ayako Sawada
117	**Detection of change in educational support system using natural language processing and improving** Ryota Yamada, Toru Saitou, Sakiko Ogoshi, Yuichi Takaku and Yasuhiro Ogoshi

	Session 35: Data Mining II
Day 3: 8 Dec. 2018 *(10:00 - 11:30)*	Chair: Kenta Mikawa Co-Chair: Qiqi Chen Room: KK LG 110

153	**An Analysis of Web Access Log Data Based on Graph Mining Method** Ryota Kawabe, Haruka Yamashita and Masayuki Goto
180	**Proposal for an l1 regularized Factorization Machine** Kenta Mikawa, Manabu Kobayashi, Masayuki Goto and Shigeichi Hirasawa
195	**Consumer Purchasing Behavior Analysis Model for Purchase History Data Stored in Credit Card** Ryotaro Shimizu, Haruka Yamashita, Masayuki Goto and Ranna Tanaka
196	**A Pattern Analysis Model Based on Users' Action Series on a Portal Site for Job-hunting** Yuuki Sugiyama, Gendo Kumoi, Masayuki Goto and Takashi Sakurai
348	**Predicting the Outcome Probability of the Soccer Match based on the Estimation of Time-varying Team Performance** Tsuneshi Obata and Shizue Izumi
123	**Education Material for Cognitive of the Characteristics by Radio Frequency Identifier and Image Processing** Kotoko Tanaka, Sakiko Ogoshi, Toru Saitou, Yuichi Takaku, Yasuhiro Ogoshi, Masahiro Asahara and Kinuyo Aoyama

Day 3: 8 Dec. 2018 (10:00 - 11:30)	**Session 36: Artificial Intelligence II** *Chair: Hyung Jin Ko* *Co-Chair: Tianrong Chen* *Room: KK LG 111*
109	**Black-Litterman Approach for Cryptocurrency Portfolios with Machine Learning** Hyung Jin Ko, Yun Young Lee, Jae Wook Lee, Bum Ho Son and Su Jin Pyo
147	**Construct a Novel Monitoring System for Classifying the Abnormal Voice Frequency Signals** Chih-Hung Jen, Yu-Ming Lu, Shu-Kai S. Fan and Wan-Ting Chen
56	**Generating Korean Font using Conditional Adversarial Networks** Sungyoon Lee, Jaewook Lee, Hoki Kim, Junyoung Byun, Woojin Lee and Saerom Park
98	**Applications of Instance-based Entropy Fuzzy Support Vector Machine in Peer-to-peer Lending Market** Poongjin Cho, Seungmo Ku, Dongkyu Kwak, Hyunju Lee and Woojin Chang
303	**Digital image authentication system based on blockchain technology** Xiaoyi Hu, Hanyang Guo and Zhi Li
273	**Face or Vase: Using Genetic Algorithm to Deceive a Neural Network for Face Recognition** Praditya Ajidarma and Dradjad Irianto

Social Event

Conference Dinner

Date: Thursday, 6 December 2018
Time: 18:00 – 20:00
Location: Maxim's Palace Chinese Restaurant, Sheung Wan
Address: Shop B13-B18, B/F Shun Tak Centre, Connaught Road Central, Hong Kong
By MTR: Sheung Wan MTR station **Exit D**

Recognized as among the finest banquet venues in Hong Kong, Maxim's Palace boasts magnificent decoration making it ideal for casual dining and formal occasions. Renowned for its Guangdong-style dim sum and dishes - with over 100 kinds served every day - Maxim's Palace is sure to offer a classic Chinese yamcha and dining experience.

Travel Tips

Transportation

Public transport is the best way to get around in Hong Kong. The north side of Hong Kong Island and most of Kowloon are well connected by the MTR, Hong Kong's clean and efficient rapid transit railway system, while the extensive bus system enables you to explore the south side of Hong Kong Island and the New Territories.

Sightseeing at Victoria Harbour

Victoria Harbour is known for its panoramic night view and skyline, particularly in the direction towards Hong Kong Island where the skyline of skyscrapers is superimposed over the ridges behind. One of the best places to view the harbour is the promenade of Tsim Sha Tsui on the Kowloon side.

Shopping at Causeway Bay

Causeway Bay or East Point is one of Hong Kong's major shopping districts. It includes the 13-storey Japanese department store Sogo, Times Square, and Hysan Place. Hong Kong is one of the most famous shopping paradises in the world. However, the real shopping heaven of the city should be Causeway Bay. There gathers numerous shopping malls and various boutiques.

Dining at Lan Kwai Fong

Lan Kwai Fong is one of Hong Kong's most popular nightlife hot spots and home to over 90 restaurants and bars. The atmosphere ranges from stylish wine pairings to raucous jelly shots and the food on offer is as diverse as the clientele. This center of late-night revelry is so renowned that its official street sign is more photographed than many of the celebrities who haunt its clubs. Mostly, the area is crowded with people, eager to shake off the working day or week.

Bird's Eye View at Victoria Peak

Standing on this highest place of Hong Kong Island, you can enjoy a fantastic bird's eye view of towering skyscrapers, Victoria Harbor and the skyline of the city. In particular, the sunset view of panorama is quite riveting. Several ways can take you to the peak but undoubtedly the best way is to take a classic tram with 100-year history. However, the weather will affect a lot. Sunny days will give you a clearer view.