



Department of Industrial Engineering, Pusan National University  
Pusan National University Street No.63(Jangjeon-dong)2, Geumjeong-gu, Busan, Korea  
<http://www.ie.pusan.ac.kr> TEL : +82-51-510-1435, FAX : +82-51-512-7603

# IJE 2013

17th International Conference on  
Industrial Engineering : Theory, Applications and Practice  
Pusan National University,  
Busan, Korea  
October 6-9, 2013

## The Role of Industrial Engineers for Creative Innovation

### Hosted by

Department of Industrial Engineering, Pusan National University  
Korea Institute of Industrial Engineers

### Organized by

Department of Industrial Engineering, Pusan National University

### Sponsored by

Pusan National University  
Institute of Logistics Innovation and Networking, Pusan National University



# CONTENTS

## WELCOME ADDRESSES

Congratulatory Address  
Welcome Addresses

## CONFERENCE SCHEDULE

Master Schedule  
Conference Room Layout  
Program  
Author Index  
Keynote Speakers

## GENERAL INFORMATION

Organization  
Location  
Tour Schedule  
Industry Tour Information

## CONFERENCE HOST

Department of Industrial Engineering Pusan National university  
Pusan National University Street No.63 (Jangjeon-dong)2, Geumjeong-gu, Busan, Korea  
Homepage : <http://www.ie.pusan.ac.kr/>

# CONGRATULATORY ADDRESS



**Kim Ki-Seob**  
President of Pusan National University

It is my honor and pleasure to congratulate on a grand opening of the 17th Annual International Conference on Industrial Engineering: Theory, Applications and Practice. I heartly welcome all of you, domestic and foreign scholars and experts from all over the world to Busan.

Today, we have honoured guests who came to grace this conference, Dr. Anil Mital, a chairprofessor at the University of Cincinnati and Dr. Gyu-Gab Cho, an honorary professor at Pusan National University. I thank for their attending. I would also like to express my gratitude to Dr. Kaphwan Kim, Director of Korean Institute of Industrial Engineering and a professor at Pusan National University, Dr. Ilkyeong Moon, a professor at Seoul National University, and everyone else who has dedicated to arranging this event. I greatly appreciate the researchers who have taken care of discussion and presentation on their excellent research results as well.

I think the field of industrial engineering has been playing a dominant role as a conductor of industrial orchestra leading an advanced knowledge economy society in that not only it covers the industrial engineering filed but also it deals with methods on how to organize, plan, and manage every component consisting of various complex systems.

I firmly believe the industrial engineering is one of the most essential field of study in terms of correspondence to the needs of convergence and fusion era in the 21st century. I expect it will do a critical role which can meet the demands in this era of fusion since it is also combined with diverse field of studies such as human, management, mathematics, IT, and data processing.

# CONGRATULATORY ADDRESS

Under the circumstance in which the needs for integration of knowledge is getting increased over integration of technology, it seems perfectly opportune for International Journal of Industrial Engineering to hold the international conference with the theme of 'The Role of Industrial Engineers for Creative Innovation', inviting prominent scholars from around the world - China, Japan, Taiwan, Thailand, Malaysia, Indonesia, Germany, USA, and so on.

The Conference is intended to bring together, in one place, developments in Industrial Engineering areas that are of interest to both researchers and practitioners.

International Journal of Industrial Engineering: Theory, Applications, and Practices has been indexed by various databases including SCI and has grown up as one of representative journals in the industrial engineering fields. The journal emphasizes use of engineering design and analysis and strives to maintain a balance between research and applications.

Through sincere and enthusiastic discussion in this conference, I hope you could extend comprehensive academic exchanges and strengthen personal bonds. I also hope that you will have some time to enjoy the beautiful city of Busan and bring a wonderful memory with you.

I wish all of you the best of health and happiness and the International Conference on Industrial Engineering its continued success.

Thank you.



**Anil Mital**  
Founding Editor-in-Chief Emeritus



**Arun Pennathur**  
Editor-in-Chief

## Dear Friends and Colleagues :

Welcome to the 17th International Conference of the International Journal of Industrial Engineering – Theory, Applications, and Practice (IJIE), being held in collaboration with the Korean Institute of Industrial Engineers. We would like to take this opportunity to thank the Korean IIE for collaborating with IJIE and Professors K.H. Kim, S.W. Lee, I. Moon and other PC and OC members for organizing and hosting this conference. Let us hope that over the next few days we get to interact with each other and benefit from our interactions.

We also thank you for your continued support of IJIE; with your continued support, the journal is now in its 20th year of publication. The journal began in print form as a quarterly in 1994. In 2008, we became a completely online journal. Since we went online, the volume of submissions has become nearly 12 times of what it used to be when IJIE was still in the print form. We currently have in process nearly 250 manuscripts in various stages of processing. Through this phenomenal growth and evolution though, IJIE has continued its emphasis on promoting theory but with an emphasis on design, application and practice. The journal has also continued to be non-profit, with volunteers such as yourself supporting the peer review and editing processes.

One major accomplishment we are very proud of is the continued access to opportunities IJIE provide authors from all over the world for publication of their research - we boast authors from nearly every major country across the globe. We have authors from several South American countries such as Chile, Colombia, Peru; and we have authors from

many countries with advanced industrial engineering programs such as Korea, the USA, and Taiwan, among many others.

Indeed, our impact may be truly measured by the research we have developed among authors and the access we continue to provide them for their research. We publish works of not only established authors, we pride ourselves in supporting authors who would otherwise not have access to a quality forum to publish their work.

We have continued to add new emphasis areas for IJIE – as focus areas, we now have added healthcare systems engineering, energy systems optimization and modeling, industrial engineering educational theory and practice, resource optimization including manufacturing processes and designs that minimize energy and water consumption, carbon emission and related industrial engineering concepts, and technology interface design. We will continue to stay relevant and responsive to changes in IE theory, practice and design. We invite you to propose Special Issues in these new and emerging topics, or in other topics that you see as important and emerging.

To continue to encourage and promote the creativity of our authors, we are pleased to take this opportunity to announce the 2012 ANIL AND CHETNA MITAL AWARD FOR THE BEST PAPER PUBLISHED IN THE INTERNATIONAL JOURNAL OF INDUSTRIAL ENGINEERING to Drs. Chao-Ton Su, Chia-Jen Chou, Sheng-Hui Hung and Pa-Chun Wang from Taiwan for their original paper "Adopting the Healthcare Failure Modes and Effects Analysis to Improve the Blood Transfusion Process" that appeared in the August 2012 issue of IJIE.

As with any growth, there are growing pains, and we are not without our shares. Given the tremendous growth in volume of manuscripts submitted to IJIE and given the limited resources we have, we are always seeking volunteers who can provide service to the journal as reviewers, editorial board members, and editors. It is very difficult to find reviewers who can provide quality reviews of manuscripts in a timely manner, so we seek your help in volunteering to review for IJIE. If you are an author who would like to review for the journal, we encourage you to register in your online account profile as a reviewer. We invite colleagues who can serve as editors for the journal in all IJIE interest and scope areas editors are specialists in their field, and can shape the topical direction and relevance for IJIE by editing special issues in their areas of expertise, inviting other colleagues in their area of expertise to contribute to the journal, and improving the overall quality and quantity of manuscripts we review and publish in IJIE. So, if you are interested in providing service to IJIE as a reviewer, editorial board member, or an editor, please contact us with your vita indicating your interest and expertise areas. We will be soon migrating to a new, more stable and secure server for the journal. Hopefully, this will make your experience with the journal a seamless one.

Thank you again for your continued support for our journal. We look forward to sharing your work with industrial engineering audiences all over the world.

## WELCOME ADDRESS



**Prof. Kaphwan Kim**

Conference Co-Chair  
President of Korean Institute of  
Industrial Engineers  
Pusan National University, KOREA



**Prof. Ilkyeong Moon**

Conference Co-Chair  
Seoul National University, KOREA

It is very meaningful to hold the 17th Annual International Conference on Industrial Engineering - Theory, Applications, and Practice - (IJIE 2013 Busan Conference) in beautiful port city, Busan. And, with our whole heart, we welcome you, honorable special guests, speakers, and participants from foreign countries and local industries and academia. We hope this conference will provide all the global family of industrial engineering professionals with a meeting to share and exchange research interests and applications that are of interests to both researchers and practitioners.

An important outcome of this conference is sharing expert's knowledge and state of the art research results on the various issues industrial engineering. Moreover, this conference will provide a good opportunity to globalize the networking of the researchers and practitioners in industrial engineering. We hope it will be a catalyst for making breakthrough in utilization and upgrading of industrial engineering activities. Today, as the industrial systems become to be more complex, traditional approach of industrial engineering no longer suffices. Instead of classical way, development of new theory and its application in practices becomes a critical tool for the success of industrial engineering in the global industries. Thus, this conference is established to disseminate significant research results, technical and methodological applications, case studies, and surveys concerned with industrial engineering to both researchers and practitioners.

We would like to thank Prof. Mital and Prof. Pennathur for their enormous efforts to make this conference successful. Many thanks go to Korean Institute of Industrial Engineers, Pusan National University, International Advisory Committee members, and Organizing Committee members, too numerous to name all, for their support and participation.

We believe this conference would be the good reference to the all participants. Once again, we would like to thank you for your contribution to this conference and wish that you could enjoy this conference and the beautiful city of Busan.

Thank you so much.

*IJIE 2013*

# CONFERENCE SCHEDULE

Master Schedule  
Conference Room Layout  
Program  
Author Index  
Keynote Speakers



# MASTER SCHEDULE

## OCT. 6 (SUN) 2013

16:00-18:00	Registration (3 <sup>rd</sup> Floor, Main Administration Building)
18:00-19:30	Welcome Reception (Multi-purpose Hall, 3 <sup>rd</sup> Floor, Main Administration Building)

## DAY 1 – OCT. 7 (MON) 2013

08:00-08:30	Registration (3 <sup>rd</sup> Floor, Main Administration Building)				
08:30-09:50	Opening Ceremony (Grand Hall)				
	Welcome Address				
	Ki-Seob Kim (President of Pusan National University)				
	Prof. Anil Mital (Founding Editor-in-Chief of IJIE)				
	Keynote Speech I (Chair: Prof. Shi W. Lee)				
	Prof. Hans-Otto Guenther (Department of Production Management, TU Berlin, Germany)				
	Title : Sustainable Development of Global Supply Chains : Optimization Framework and Industry Application				
09:50-10:10	Coffee Break				
10:10-11:30	Session MA1 (Rm 301)	MB1 (Rm 302)	MC1 (Rm 303)	MD1 (Rm 304)	ME1 (Rm 306)
	Advanced Research on Logistics/Supply Chain Management I (SS1)	Service and Manufacturing Supply Chains in Taiwan I (SS4)	Information Technology Applications	Mathematical Dependability Modeling I (SS6)	Quality Improvement and Operations Management
11:30-13:20	Lunch (6 <sup>th</sup> Floor, NC Department Store)				
13:20-14:40	Session MA2 (Rm 301)	MB2 (Rm 302)	MC2 (Rm 303)	MD2 (Rm 304)	ME2 (Rm 306)
	Advanced Research on Logistics/Supply Chain Management II (SS1)	Service and Manufacturing Supply Chains in Taiwan II (SS4)	Supply Chain Design and Management	Mathematical Dependability Modeling II (SS6)	Supply Chain Management with Competition and Alliance I (SS8)

14:40-15:00	Coffee Break				
15:00-16:20	Session MA3 (Rm 301)	MB3 (Rm 302)	MC3 (Rm 303)	MD3 (Rm 304)	ME3 (Rm 306)
	Advanced Research on Logistics/Supply Chain Management III (SS1)	Human Factors Analysis	DEA and Fuzzy Applications	Mathematical Dependability Modeling III (SS6)	Supply Chain Management with Competition and Alliance II (SS8)
16:20-16:40	Coffee Break				
16:40-18:00	Session MA4 (Rm 301)	MB4 (Rm 302)	MC4 (Rm 303)	MD4 (Rm 304)	ME4 (Rm 306)
	Advanced Research on Logistics/Supply Chain Management IV (SS1)	Recent Developments on Financial Engineering I (SS7)	Industrial and Economic Strategy	Soft Computing and Applications	Supply Chain Management with Competition and alliance III (SS8)
18:30-20:30	Banquet (Hotel Nongshim)				

# MASTER SCHEDULE

## DAY 2 – OCT. 8 (TUE) 2013

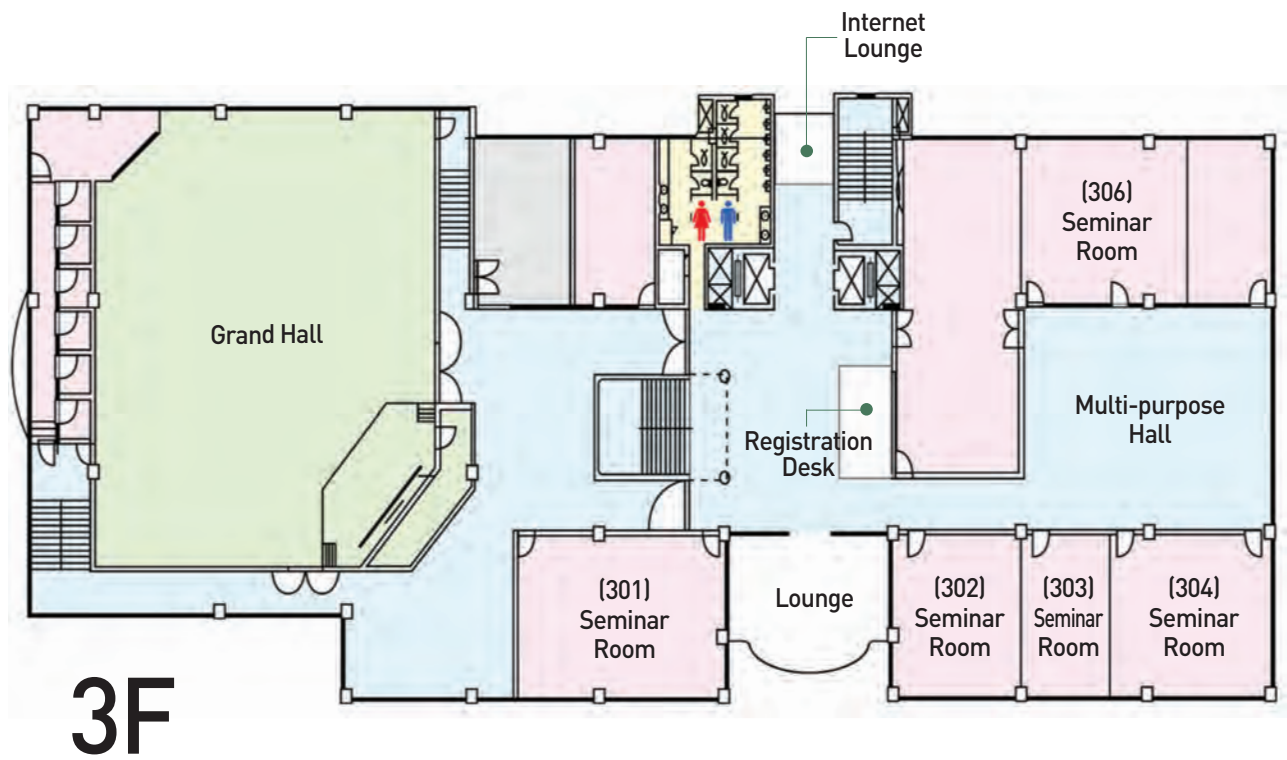
08:00-08:30	Registration (3 <sup>rd</sup> Floor, Main Administration Building)				
08:00-12:00	City Tour		07:30-12:00	Industry Tour Hyundai Motor Company, Ulsan Hyundai Heavy Industries Co., Ltd., Ulsan	
12:00-13:20	Lunch (6 <sup>th</sup> Floor, NC Department Store)				
13:20-14:05	Keynote Speech II (Chair: Prof. Won Young Yun) (Grand Hall) Prof. Tadashi Dohi (Department of Information Engineering, Hiroshima University, Japan) Title: Recent Advancement of Software Reliability Engineering				
14:15-15:00	Keynote Speech III (Chair: Prof. Shi W. Lee) (Grand Hall) Prof. Geraldo Ferrer (School of Business and Public Policy, Naval Postgraduate School, USA) Title: Modeling Disaster Relief Logistics for an Island Earthquake				
15:00-15:20	Coffee Break				
15:20-16:40	Session TA1 (Rm 301)	TB1 (Rm 302)	TC1 (Rm 303)	TD1 (Rm 304)	TE1 (Rm 306)
	Data Mining Algorithms and Their Applications (SS3)	Recent Developments on Financial Engineering II (SS7)	BPM and Process Mining (SS2)	Technology Management and Policy	Human Performance Analysis
16:40-17:00	Coffee Break				
17:00-18:20	Session TA2 (Rm 301)	TB2 (Rm 302)	TC2 (Rm 303)	TD2 (Rm 304)	TE2 (Rm 306)
	Manufacturing and Production Engineering	Work Measurement	Production System Engineering	Human Factors Design	Manufacturing Process

## DAY 3 – OCT. 9 (WED) 2013

08:30-09:00	Registration (3 <sup>rd</sup> Floor, Main Administration Building)			
09:00-10:20	Session WA1 (Rm 301)	WB1 (Rm 302)	WD1 (Rm 304)	WE1 (Rm 306)
	Manufacturing Intelligence & Service I (SS5)	Optimization in Industrial Applications I	System Management and Reliability	Service System Analysis
10:20-10:40	Coffee Break			
10:40-12:00	Session WA2 (Rm 301)	WB2 (Rm 302)	WD2 (Rm 304)	WE2 (Rm 306)
	Manufacturing Intelligence & Service II (SS5)	Optimization in Industrial Applications II	Industrial Applications	Logistics and Inventory Applications

# CONFERENCE ROOM LAYOUT

## 3RD FLOOR, MAIN ADMINISTRATION BUILDING



Room	Oct. 7	Oct. 8	Oct. 9
Grand Hall	Opening Ceremony Keynote Speech I	Keynote Speech II Keynote Speech III	
301	MA1, MA2, MA3, MA4	TA1, TA2	WA1, WB2
302	MB1, MB2, MB3, MB4	TB1, TB2	WB1, WB2
303	MC1, MC2, MC3, MC4	TC1, TC2	
304	MD1, MD2, MD3, MD4	TD1, TD2	WD1, WE2
306	ME1, ME2, ME3, ME4	TE1, TE2	WE1, WE2

# PROGRAM

## PROGRAM SCHEDULE

DAY 1	MONDAY, OCTOBER 7 2013		10:10 - 11:30
Session MA1	ADVANCED RESEARCH ON LOGISTICS/SUPPLY CHAIN MANAGEMENT I (SS1)		
	Session Chair : Prof. Yacan Wang (Beijing Jiaotong University, China)		Room : 301
1	Comparison Time Related Data Mining Model in Traffic Prediction Analysis	Huiyu Zhou	Department of Economic Engineering, Beijing Jiaotong University, China
2	Research and Application of Web Text Classification Based on SVM	Hui Zhu, Jiayi Yao, Hailing Wei	School of Economics and Management, Beijing Jiaotong University, China
3	Application of Measurement System Analysis (MSA) in an Auto-parts Enterprise	Guo Chunfang, Guan Zhongliang, Hu Pengchao	School of Economics and Management, Beijing Jiaotong University, China
4	Drivers and Obstacles of the Remanufacturing Industry in China: An Empirical Study	Yacan Wang <sup>1</sup> , Liang Zhang <sup>1</sup> , Chunhui Zhang <sup>1</sup> , Steffen Butzer <sup>2</sup>	<sup>1</sup> Department of Economics, Beijing Jiaotong University, China; <sup>2</sup> Chair Manufacturing and Remanufacturing Technology, Bayreuth University, Germany
5	Investment under Uncertainty: Real Options for Venture Capitalist	Luo Shen, Lin Xiaoyan	Department of Economics, Beijing Jiaotong University, China
Session MB1	SERVICE AND MANUFACTURING SUPPLY CHAINS IN TAIWAN I (SS4)		
	Session Chair : Prof. Jei-Zheng Wu (Soochow University, Taiwan)		Room : 302
1	Extended Warranty Design Among Competing Retailers in a Supply Chain	Ling Chieh Kung	Department of Information Management, National Taiwan University, Taiwan
2	Integrating Physiological Techniques and Questionnaire to Measure and Improve Usability: An Empirical Study on Health Management Motion Sport Game	Wei Ying Cheng, Po Hsin Huang, Ming Chuan Chiu	Department of Industrial Engineering and Engineering Management, National Tsing-Hua University, Taiwan
3	Applying Service Platform Design to Develop Full-service Provider for Foundry Services Industry	Jr Yi Chiou, Ming Chuan Chiu	Department of Industrial Engineering and Engineering Management, National Tsing-Hua University, Taiwan
4	A New Methodology to Develop Business Model of Product Service System	Ming Yu Kuo, Yu Ting Chen, Jr Yi Chiou, Ming Chuan Chiu, Tsai Chi Kuo	Department of Industrial Engineering and Engineering Management, National Tsing-Hua University, Taiwan
5	An Integrated Model of Scenario Planning and Decision Tree Analysis for Financial Planning: A Case of Smart Phone New Product Development in Taiwan	Jei Zheng Wu, Chiao Ying Wu	Department of Business Administration, Soochow University, Taiwan



PROGRAM

Session MC1	INFORMATION TECHNOLOGY APPLICATIONS		
	Session Chair : Prof. Gyu M. Lee (Pusan National University, Korea)	Room : 303	
1	The Interconnected Roles of B2B and B2C Customer Orientation in Pursuing Different Operational NPD Objectives	Dinush Chanaka Wimalachandra, Björn Frank, Takao Enkawa	Department of Industrial Engineering and Management, Tokyo Institute of Technology, Japan
2	Modeling and Analysis of Zone-Based Registration Schemes in Wireless Mobile Networks	Janghyun Baek <sup>1</sup> , Jihee Jung <sup>1</sup> , Yongsun Choi <sup>2</sup> , Jong Hun Park <sup>3</sup>	<sup>1</sup> Dept. of Industrial & Information Systems Engineering Research Center of Industrial Technology, Chonbuk National University, Korea; <sup>2</sup> Dept. of Systems & Management Engineering, Inje University, Korea; <sup>3</sup> Dept. of Business Administration, Catholic University of Daegu, Korea
3	Using Social Network Analysis to Measure Influence and Rank of Efficient Ports	Byunghak Leem <sup>1</sup> , Heuiju Chun <sup>2</sup>	<sup>1</sup> Department of Business Administration, Busan University of Foreign Studies, Korea; <sup>2</sup> Department of Statistics and Information Science, Dongduk Womens' University, Korea
4	System Engineering Approach to Build an Information System for Emergency Cesarean Deliveries in Small Hospitals	Gyu M. Lee <sup>1</sup> , Kenneth H. Funk <sup>2</sup> , Seung C. Kim <sup>3</sup> , Tae Jun Jang <sup>1</sup>	<sup>1</sup> Department of Industrial Engineering, Pusan National University, Korea; <sup>2</sup> School of Mechanical, Industrial and Manufacturing Engineering, Oregon State University, USA; <sup>3</sup> Department of Obstetric and Gynecology, Pusan National University, Korea
5	Attaining Platform Leadership in Business Ecosystem: A Case of the Mobile ERP Solution Industry in Korea	Gyesik Oh <sup>1</sup> , Hyejin Lee <sup>1</sup> , Yoo S. Hong <sup>1</sup> , Kwang Jae Kim <sup>2</sup> , Kwangtae Park <sup>3</sup> , Taesun Yook <sup>4</sup> , Dong Wook Kim <sup>4</sup>	<sup>1</sup> Department of Industrial Engineering, Seoul National University, Korea; <sup>2</sup> Department of Industrial and Management Engineering, POSTECH, Korea; <sup>3</sup> Korea University Business School (KUBS), Korea University, Korea; <sup>4</sup> IPS Business Division, SK Telecom, Korea
Session MD1	MATHEMATICAL DEPENDABILITY MODELING I (SS6)		
	Session Chair : Prof. Tetsushi Yuge (National Defense Academy, Japan)	Room : 304	
1	A Neural Network Approach to Reliability Assessment for a Cloud Computing	Yoshinobu Tamura <sup>1</sup> , Shigeru Yamada <sup>2</sup>	<sup>1</sup> Graduate School of Science and Engineering, Yamaguchi University, Japan; <sup>2</sup> Graduate School of Engineering, Tottori University, Japan
2	Confidence Interval of Optimal Software-testing Resource-allocation Policy	Bing Wu, Xiao Xiao, Tadashi Dohi	Department of Information Engineering, Graduate School of Engineering, Hiroshima University, Japan
3	Applying Parametric Bootstrap Methods for a Block Replacement Problem with Minimal Repair	Yasuhiro Saito <sup>1</sup> , Tadashi Dohi <sup>1</sup> , Won Young Yun <sup>2</sup>	<sup>1</sup> Department of Information Engineering, Hiroshima University, Japan; <sup>2</sup> Department of Industrial Engineering, Pusan National University, Korea
4	The Effective Measures of Network for Optimizing Two-objective Network	Natsumi Takahashi <sup>1</sup> , Tomoaki Akiba <sup>2</sup> , Hisashi Yamamoto <sup>1</sup> , Koji Shingyochi <sup>3</sup>	<sup>1</sup> Department of Management Systems Engineering, Tokyo Metropolitan University, Japan; <sup>2</sup> Department of Management Information Science, Chiba Institute of Technology, Japan; <sup>3</sup> Department of Career Planning and Information Studies, Jumonji University, Japan
5	Development of Kano-quality Function Deployment (QFD) Model Integration and Multi Objective Fuzzy Goal Programming for Customer Satisfaction	Moses L. Singgih, Ricko I. Wicaksana, Udisubakti Ciptomulyono	Manufacturing System Laboratory, Department of Industrial Engineering, Sepuluh Nopember Institute of Technology, Indonesia

Session ME1	QUALITY IMPROVEMENT AND OPERATIONS MANAGEMENT		
	Session Chair : Prof. Dong-Joon Park (Pukyong National University, Korea)	Room : 306	
1	Quality Improvement of Medium / Small-sized TFT-LCD in Bending Strength	Yu Hsiang Hsiao	Department of Business Administration, National Taipei University, Taiwan
2	Optimal Maintenance Model Based on Maintenance-free Operating Period for Multi-component Weapon Systems	Seongmin Moon <sup>1</sup> , Jinho Lee <sup>2</sup>	<sup>1</sup> ILS Technology Team, Defense Acquisition Program Administration, Korea; <sup>2</sup> Dept. of Management Science, Korea Naval Academy, Korea
3	Operation Assessment of ISO 14001:2004 Environmental Management System in Manufacturing Industry of South Eastern Korea	Dong Joon Park <sup>1</sup> , Byung Hwan Kang <sup>2</sup> , Ho Gyun Kim <sup>3</sup>	<sup>1</sup> Department of Statistics, Pukyong National University, Korea; <sup>2</sup> LRQA Korea Ltd, Korea; <sup>3</sup> Department of Industrial & Management Engineering, Dong-Eui University, Korea
4	A Comparative Study on RPN and ASIL From the Mutual Compensatory Perspective	Hyeon Ae Jang, Hyuck Moo Kwon	Department of System Management and Engineering, Pukyong National University, Korea
DAY 1	MONDAY, OCTOBER 7 2013		13:20 - 14:40
Session MA2	ADVANCED RESEARCH ON LOGISTICS/SUPPLY CHAIN MANAGEMENT II(SS1)		
	Session Chair : Dr. Huiyu Zhou (Beijing Jiaotong University, China)	Room : 301	
1	The Driving Mechanism of Local Government Factor on Real Estate Prices in China	Jingjuan Guo, Aibo Hao, Yipeng Ren	School of Economics and Management, Beijing Jiaotong University, China
2	Coal Lumps vs. Electronics Research on Chinese Bulk Energy Transport Decisions and Effects	Liu Xiuying, Lin Xiaoyan, Jiang Shangdong	School of Economics and Management, Beijing Jiaotong University, China
3	A Balanced Allocation Method for Minimum Spanning Tree Problem	Su Yeon Cho, Young Hae Lee, Dong Won Cho	Department of Industrial and Management Engineering, Hanyang University, Korea
4	Analysis of Outsourcing Strategies for Cost and Capacity Flexibility in Textile Supply Chain Management	Shaheen Sardar, Young Hae Lee	Department of Industrial and Management Engineering, Hanyang University, Korea
5	Core Issues in Sustainable Supply Chain Management: An Investigation into the Automotive Industry	Seyedeh Maryam Masoumi Katesari, Salwa Hanim Abdul Rashid, Ezutah Udony Oluğu	Centre for Product Design and Manufacturing Department of Mechanical Engineering, University of Malaya, Malaysia

PROGRAM

Session MB2	SERVICE AND MANUFACTURING SUPPLY CHAINS IN TAIWAN II (SS4)		
	Session Chair : Prof. Cheng-Hung Wu (National Taiwan University, Taiwan)		Room : 302
1	Applying Service Family Concept to Optimize Supply Chain Planning with a Taiwan Convenience Store Case Study	Hong Pin Tsai, Wen Bin Hsiao, Ming Chuan Chiu	Department of Industrial Engineering and Engineering Management, National Tsing-Hua University, Taiwan
2	Service Dissatisfaction Detection and Service Recovery using Logistic Regression Model : An Empirical Study on Health Management Motion Sport Game	Yi Jay Zhang, Siao Lun Luo, Po Hsin Huang, Ming Chuan Chiu	Department of Industrial Engineering and Engineering Management, National Tsing-Hua University, Taiwan
3	Application of Back-propagation Neural Network to the Forecast of Electricity Demand	Yi Chao Huang	Department of Industrial Management, National Taiwan University of Science & Technology, Taiwan
4	The Equilibrium Contract Rent and Reward Money Considering Product Homogeneity in Reverse Supply Chains	I Hsuan Hong <sup>1</sup> , Jr Fong Dang <sup>2</sup> , Kuan Wen Lin <sup>1</sup>	<sup>1</sup> Institute of Industrial Engineering, National Taiwan University, Taiwan; <sup>2</sup> Department of Industrial Engineering and Management, National Chiao Tung University, Taiwan
5	Dynamic Admission Control and Flexible Resource Allocation for Re-entrant Healthcare Service	Cheng Hung Wu, Yin Hsia Chou	Institute of Industrial Engineering, National Taiwan University, Taiwan
Session MC2	SUPPLY CHAIN DESIGN AND MANAGEMENT		
	Session Chair : Prof. Bongju Jeong (Yonsei University, Korea)		Room : 303
1	An Integrated Theoretical Framework for Designing Strategic Green Supply Chain	Seyedeh Maryam Masoumi Katesari, Salwa Hanim Abdul Rashid, Ezutah Udoncy Olugu, Raja Ariffin Raja Ghazilla	Centre for Product Design and Manufacturing Department of Mechanical Engineering, University of Malaya, Malaysia
2	Design of Global Closed-loop Supply Chain	Yasutaka Kainuma	Department of Engineering Management, Tokyo Metropolitan University, Japan
3	Effectiveness of an Exponential Smoothing Policy for a Multi-stage Single-item Production System with Advance Information Demand	Takayoshi Tamura <sup>1</sup> , Shuhei Hirao <sup>2</sup> , Tej S. Dhakar <sup>3</sup> , Katsuhisa Ohno <sup>1</sup>	<sup>1</sup> Faculty of Business Administration, Aichi Institute of Technology, Japan; <sup>2</sup> Faculty of Science and Engineering, Konan University, Japan; <sup>3</sup> Department of Quantitative Studies, Operations and Project Management, Southern New Hampshire University, USA
4	Analysis of Supply Chain Network by Rules of Origin in FTA Environment	Taesang Byun <sup>1</sup> , Jisoo Oh <sup>2</sup> , Bongju Jeong <sup>2</sup>	<sup>1</sup> Nexen Tire Inc., Sales Planning Team, Korea; <sup>2</sup> Department of Information and Industrial Engineering, Yonsei University, Korea
5	Order Picking in Fishbone Warehouse Layout under Different Storage Policies	Otto Dario Galvez, Ching Jung Ting	Department of Industrial Engineering and Management, Yuan Ze University, Taiwan

Session MD2	MATHEMATICAL DEPENDABILITY MODELING II (SS6)		
	Session Chair : Prof. Koji Shingyochi (Jumonji University, Japan)		Room : 304
1	Two Echelon Repair System with Priority Return Policy	Yosuke Aizu, Tetsushi Yuge, Shigeru Yanagi	Department of Electrical and Electronic Engineering, National Defense Academy, Japan
2	Simulation-based Optimal Inspection Schedules for One-shot Systems with Two Types of Units	Won Young Yun <sup>1</sup> , Li Liu <sup>1</sup> , Young Jin Han <sup>1</sup> , Dong Wook Rhee <sup>2</sup> , Chan Gyu Han <sup>3</sup>	<sup>1</sup> Department of Industrial Engineering, Pusan National University, Korea; <sup>2</sup> The 5th R&D Institute, Agency for Defense Development, Korea; <sup>3</sup> ILS R&D Center, LIGNex1 Co., Ltd., Korea
3	Condition-based Maintenance of Linear Consecutive-K-out-of-N: F System with Periodic Inspection	Alfonsus Julanto Endharta, Won Young Yun	Department of Industrial Engineering, Pusan National University, Korea
4	Revenue Management for Durable Goods through Trade-in Rebates	Jen Ming Chen, Yu Ting Hsu	Institute of Industrial Management, National Central University, Taiwan
Session ME2	SUPPLY CHAIN MANAGEMENT WITH COMPETITION AND ALLIANCE I (SS8)		
	Session Chair : Prof. Chulung Lee (Korea University, Korea)		Room : 306
1	Development of an Early Warning Model for Global Logistics System Risk Management Based on Principal Component Regression	Jean Betancourt Herrera, Yang Byung Park	Department of Industrial and Management Systems Engineering, College of Engineering, Kyung Hee University, Korea
2	A Study on Collaborative Pick-up and Delivery Routing Problem of Line-haul Vehicles in Express Delivery Services	Friska Natalia Ferdinand <sup>1</sup> , Young Jin Kim <sup>2</sup> , Hae Kyoung Lee <sup>1</sup> , Chang Seong Ko <sup>1</sup>	<sup>1</sup> Department of Industrial and Management Engineering, Kyungsung University, Korea; <sup>2</sup> Department of System Management and Engineering, Pukyong National University, Korea
3	A Collaborative Network Design Model for Strategic Alliance in Express Delivery Services	Friska Natalia Ferdinand <sup>1</sup> , Chang Seong Ko <sup>1</sup> , Ki Ho Chung <sup>2</sup> , Kap Hwan Kim <sup>3</sup>	<sup>1</sup> Department of Industrial and Management Engineering, Kyungsung University, Korea; <sup>2</sup> Department of Management Information Systems, Kyungsung University, Korea; <sup>3</sup> Department of Industrial Engineering, Pusan National University, Korea
4	The Impact of Relationship Strategies Coevolution on Survivability of Firms Inside Supply Networks	Mohamad Sofitra, Katsuhiko Takahasi, Katsumi Morikawa	Graduate School of Engineering, Hiroshima University, Japan

PROGRAM

DAY 1	MONDAY, OCTOBER 7 2013		15:00~16:20
Session MA3	ADVANCED RESEARCH ON LOGISTICS/SUPPLY CHAIN MANAGEMENT III(SS1)		
	Session Chair : Dr. Huiyu Zhou (Beijing Jiaotong University, China)		Room : 301
1	Adaptivity of Complex Network Topologies for Designing Resilient Supply Chain Network	Sonia Irshad Mari, Young Hae Lee, Muhammad Saad Memon	Department of Industrial and Management Engineering, Hanyang University, Korea
2	Optimum Multiple Rail Cranes with Interference Constraint in a Railway Station	Vu Anh Duy Nguyen, Won Young Yun	Department of Industrial Engineering, Pusan National University, Korea
3	Designing a Conceptual Model of Integration Between Corporate Social Responsibility and Supply Chain in Relationship to Sustainable Indicators	Sumarsono Sudarto <sup>1</sup> , Katsuhiko Takahashi <sup>2</sup> , Katsumi Morikawa <sup>2</sup>	<sup>1</sup> Department of Industrial Engineering, Faculty of Engineering, University of Indonesia, Indonesia; <sup>2</sup> Division of Electrical, Systems and Mathematical Engineering, Faculty of Engineering, Hiroshima University, Japan
4	An Application of the Can-order Policy for One-warehouse N-retailer Inventory System	Varaporn Pukcarnon, Paveena Chaovalitwongse, Naragain Phumchusri	Department of Industrial Engineering, Chulalongkorn University, Thailand
5	Sustainable Supply Chain Performance Measurement: Metrics and Models	Sujit Singh, Olugu Ezutah Udony	Department of Mechanical Engineering, Faculty of Engineering, University of Malaya, Malaysia
Session MB3	HUMAN FACTORS ANALYSIS		
	Session Chair : Prof. Seong Rok Chang (Pukyong National University, Korea)		Room : 302
1	An Empirical Study on Factors Affecting the Work Ability of Korean Workers	Yujeong Lee, Seong Rok Chang	Department of Safety Engineering, Pukyong National University, Korea
2	A Study on the Effect of Irradiation Angle of Light on Defect Detection in Visual Inspection	Ryosuke Nakajima, Keisuke Shida, Toshiyuki Matsumoto	Department of Management and Information Systems Engineering, Nagaoka University of Technology, Japan
3	The Effect of Object and Eyes Movement on Defects Detection in Visual Inspection	Masingita Vukeya <sup>1</sup> , Ryosuke Nakajima <sup>1</sup> , Keisuke Shida <sup>2</sup>	<sup>1</sup> Department of Management and Information Systems Engineering, Nagaoka University of Technology, Japan; <sup>2</sup> Department of Industrial and Systems Engineering, Aoyama Gakuin University, Japan
4	Train Drivers Alertness Monitoring using Electroencephalogram Patterns.	Nurul Izzah Abd Rahman, Siti Zawiah Md Dawal, Ardeshir Bahreininejad	Dept. of Mechanical Engineering, Faculty of Engineering, University of Malaya, Malaysia

Session MC3	DEA AND FUZZY APPLICATIONS		
	Session Chair : Prof. Jin Young Choi (Ajou University, Korea)		Room : 303
1	LAD-based Evolutionary Solution Procedure to Classification Problems	Hwang Ho Kim, Jin Young Choi	Department of Industrial Engineering Ajou University, Korea
2	Intregated Fuzzy AHP and Fuzzy Topsis Deployment in DEA-based Performance Measurement for Product Design and Development Projects: A Case Study	Patcharaporn Yanpirat <sup>1</sup> , Hathairat Thanutsatian <sup>2</sup>	<sup>1</sup> Department of Industrial Engineering, Faculty of Engineering, Kasetsart University, Thailand; <sup>2</sup> Graduate Program in Engineering Management, Faculty of Engineering, Kasetsart University, Thailand
3	CVP Analysis Based on the DEA-based Product Family Selection under the Producer-customer Perspective	Patcharaporn Yanpirat <sup>1</sup> , Posakorn Wangsattabongkoth <sup>2</sup> , Sansanee Supapa <sup>1</sup>	<sup>1</sup> Department of Industrial Engineering, Faculty of Engineering, Kasetsart University, Thailand; <sup>2</sup> Graduate Program in Engineering Management, Faculty of Engineering, Kasetsart University, Thailand
Session MD3	MATHEMATICAL DEPENDABILITY MODELING III (SS6)		
	Session Chair : Prof. Mitsuhiro Kimura (Hosei University, Japan)		Room : 304
1	Optimal Number of Web Server Resources for Job Applications	Syouji Nakamura <sup>1</sup> , Xufeng Zhao <sup>2</sup> , Toshio Nakagawa <sup>2</sup>	<sup>1</sup> Department of Life Management, Kinjo Gakuin University, Japan; <sup>2</sup> Department of Business Administration, Aichi Institute of Technology, Japan
2	Cost-reliability Optimal Software Testing-effort Expending Problems Based on a Two-dimensional Reliability Growth Model	Shinji Inoue, Shigeru Yamada	Department of Social Management Engineering, Graduate School of Engineering, Tottori University, Japan
3	Simulation Based Work Posture Design System for Reducing Workload and Work Time	Takuya Hida <sup>1</sup> , Kazuhiko Izumi <sup>2</sup> , Kazuki Miura <sup>1</sup> , Yasuhiro Kajihara <sup>1</sup>	<sup>1</sup> Department of Management Systems Engineering, Tokyo Metropolitan University, Japan; <sup>2</sup> Infosense Co., Japan
4	A Study on Estimating the Critical Stress Level of Explosives by Cumulative Shock Models	Mitsuhiro Kimura <sup>1</sup> , Kazuhiro Kimpara <sup>2</sup>	<sup>1</sup> Department of Industrial & Systems Engineering, Hosei University, Japan; <sup>2</sup> Graduate School of Engineering, Hosei University, Japan

PROGRAM

Session ME3	SUPPLY CHAIN MANAGEMENT WITH COMPETITION AND ALLIANCE II (SS8)		
	Session Chair : Prof. Chulung Lee (Korea University, Korea)		Room : 306
1	Integrated Guaranteed Service Time and Service Level Decision with Time Sensitive Demand	Ki Sung Hong <sup>1</sup> , Chulung Lee <sup>2</sup> , Anming Zhang <sup>3</sup>	<sup>1</sup> Graduate School of Information Management and Security, Korea University, Korea; <sup>2</sup> School of Industrial Management Engineering and Graduate School of Management of Technology, Korea University, Korea; <sup>3</sup> Sauder School Business, University of British Columbia, Canada
2	Airport Gate Assignment for Improving Terminal Internal Gate Efficiency	Jaehwan Lee <sup>1</sup> , Sha Xi <sup>2</sup> , Chulung Lee <sup>3</sup>	<sup>1</sup> Department of Industrial Management Engineering, Korea University, Korea; <sup>2</sup> Graduate School of Information Management and Security, Korea University, Korea; <sup>3</sup> Division of Industrial Management Engineering and Graduate School of Management of Technology, Korea University, Korea
3	The Impacts of RFID Implementation on Reducing Inventory Inaccuracy of Risk-averse Retailers	Lijing Zhu <sup>1</sup> , Ki Sung Hong <sup>1</sup> , Bomyung Kim <sup>2</sup> , Chulung Lee <sup>3</sup>	<sup>1</sup> Graduate School of Information Management and Security, Korea University, Korea; <sup>2</sup> Logistics Transportation Information System Laboratory, Korea University, Korea; <sup>3</sup> Division of Industrial Management Engineering and Graduate School of Management of Technology, Korea University, Korea
4	Implements of the Real-time Shard Information using RFID and Pull-based Supply Model in a Semiconductor Filter Industry	Sangjun Park <sup>1</sup> , Ki Sung Hong <sup>1</sup> , Chulung Lee <sup>2</sup>	<sup>1</sup> Graduate School of Information Management and Security, Korea University, Korea; <sup>2</sup> School of Industrial Management Engineering and Graduate School of Management of Technology, Korea University, Korea
DAY 1	MONDAY, OCTOBER 7 2013		16:40 - 18:00
Session MA4	ADVANCED RESEARCH ON LOGISTICS/SUPPLY CHAIN MANAGEMENT IV(SS1)		
	Session Chair : Dr. Huiyu Zhou (Beijing Jiaotong University, China)		Room : 301
1	Square Grid Map Heuristic for Capacitated Dynamic Vehicle Routing Problem with Multiple Depots	Kwankaew Meesuptaweekoon, Paveena Chaovalitwongse	Department of Industrial Engineering, Chulalongkorn University, Thailand
2	An Application of Capacitated Vehicle Routing Problem to Reverse Logistics of Disposed Food Waste	Hyunsoo Kim <sup>1</sup> , Jun Gyu Kang <sup>2</sup> , Wonsob Kim <sup>1</sup>	<sup>1</sup> Department of Industrial and Management Engineering, University of Kyonggi, Korea; <sup>2</sup> Department of Industrial and Management Engineering, Sungkyul University, Korea
3	Location Design for Emergency Medical Centers Based on Category of Treatable Medical Diseases and Center Capability	Young Dae Ko <sup>1</sup> , Byung Duk Song <sup>2</sup> , James R. Morrison <sup>2</sup> , Hark Hwang <sup>2</sup>	<sup>1</sup> Deloitte Analytics, Deloitte Anjin LLC, Deloitte Touche Tohmatsu Limited, Korea; <sup>2</sup> Department of Industrial and Systems Engineering, Korea Advanced Institute of Science and Technology, Korea
4	Simulation-based Vehicle Scheduling Approach to Real-time Inbound Supply Chain Control	Kiyoul Lee <sup>1</sup> , Mooyoung Jung <sup>1</sup>	<sup>1</sup> Department of Industrial and Management Engineering, POSTECH (Pohang University of Science and Technology), Korea; <sup>2</sup> School of Technology Management, UNIST (Ulsan National Institute of Science and Technology), Korea
5	Bayesian Analysis for the Evaluation of Risk Levels in Highway and Use Analysis Hierarchy Process (AHP) in the Choice of Routes	José Luis Rodríguez Álvarez <sup>1</sup> , Gerardo Grijalva Avila <sup>1</sup> , Sara Angélica Rodríguez Álvarez <sup>2</sup> , Arturo Soto Soto <sup>3</sup>	<sup>1</sup> Department of Manufacturing Engineering Technology, Universidad Politécnica de Durango, USA; <sup>2</sup> Department of Food Engineering, Instituto Tecnológico Superior de la Región de los Llanos, USA; <sup>3</sup> Department of Industrial Engineering, Instituto Tecnológico de Durango, USA

Session MB4	RECENT DEVELOPMENTS ON FINANCIAL ENGINEERING I (SS7)		
	Session Chair : Prof. Katsunori Ano (Shibaura Institute of Technology, Japan)		Room : 302
1	Optimal Execution in Illiquid Markets under the Absence of Price Manipulation	Seiya Kuno <sup>1</sup> , Masamitsu Ohnishi <sup>2</sup>	<sup>1</sup> Graduate School of Economics, Osaka University, Japan; <sup>2</sup> Center for the Study of Finance and Insurance, Osaka University, Japan
2	Interactive Portfolio Selection Problems with Investor's Subjective Feeling to Future Return and Risk	Takashi Hasuike <sup>1</sup> , Hideki Katagiri <sup>2</sup>	<sup>1</sup> Graduate School of Information Science and Technology, Osaka University, Japan; <sup>2</sup> Graduate School of Engineering, Hiroshima University, Japan
3	Dynamic Pricing with Customer Purchase Postponement	Kimitoshi Sato <sup>1</sup> , Katsushige Sawaki <sup>2</sup>	<sup>1</sup> Graduate School of Finance, Accounting and Law, Waseda University, Japan; <sup>2</sup> Graduate School of Social Informatics, Aoyama Gakuin University, Japan
Session MC4	INDUSTRIAL AND ECONOMIC STRATEGY		
	Session Chair : Prof. Yoo S. Hong (Seoul National University, Korea)		Room : 303
1	Calculation Method for Fluctuation Stock	Yamazaki Tomoaki <sup>1</sup> , Shida Keisuke <sup>2</sup> , Kanazawa Takashi <sup>3</sup>	<sup>1</sup> Department of Industrial and Systems Engineering, Aoyama Gakuin University, Japan; <sup>2</sup> Department of Management & Information Systems Engineering, Nagaoka University of Technology, Japan; <sup>3</sup> Department of Administration Engineering, Keio University, Japan
2	Research on the Crisis Management Strategy Based on Stakeholder Perspective	Mengni He	School of Economics and Management, Beijing Jiaotong University, China
3	Exploring Applicability of Cobacabana in Job Shop Environment	Jirapat Wanitwattanakosol <sup>1</sup> , Aicha Sekhari <sup>2</sup> , Apichat Sopadang <sup>3</sup> , Abdelaziz Bouras <sup>2</sup>	<sup>1</sup> College of Arts, Media and Technology, Chiang Mai University, Thailand; <sup>2</sup> Decision, Information for Production Systems laboratory, Université Lyon 2-IUT Lumière, France; <sup>3</sup> Department of Industrial Engineering, Chiang Mai University, Thailand



PROGRAM

Session MD4	SOFT COMPUTING AND APPLICATIONS		
	Session Chair : Prof. Hyerim Bae (Pusan National University, Korea)		Room : 304
1	A Tabu Search Heuristic for Multi-period Multi-site Assignment Problem with Joint Requirement of Multiple Resource Types	Siravit Swangnop, Paveena Chaovalitwongse	Department of Industrial Engineering, Chulalongkorn University, Thailand
2	Global Search of Genetic Algorithm Enhanced by Multi-basin Dynamic Neighbor Sampling	Misuk Kim <sup>1</sup> , Gyu Sik Han <sup>2</sup>	<sup>1</sup> Department of Industrial Engineering, Pohang University of Science and Technology, Korea; <sup>2</sup> Division of Business Administration, Chonbuk National University, Korea
3	A Hybrid Estimation Model of Design Specification of Ship Units	Hwaseop Lee, Soowoen Lee, Kwangyeol Ryu	Department of Industrial Engineering, Pusan National University, Korea
Session ME4	SUPPLY CHAIN MANAGEMENT WITH COMPETITION AND ALLIANCE III(SS8)		
	Session Chair : Prof. Chulung Lee (Korea University, Korea)		Room : 306
1	The Impact of Product Type to Green Investment Decision Policies in Manufacturer-retailer Supply Chains	Sha Xi <sup>1</sup> , Chulung Lee <sup>2</sup>	<sup>1</sup> Graduate School of Information Management and Security, Korea University, Korea; <sup>2</sup> Division of Industrial Management Engineering and Graduate School of Management of Technology, Korea University, Korea
2	The Retail Chain Design for Perishable Food: The Case of Pricing Strategy and Shelf Space Allocation	Shuai Yang <sup>1</sup> , Ki Sung Hong <sup>1</sup> , Chulung Lee <sup>2</sup>	<sup>1</sup> Graduate School of Information Management and Security, Korea University, Korea; <sup>2</sup> Division of Industrial Management Engineering and Graduate School of Management of Technology, Korea University, Korea
3	Maximizing the Profit of Commercial Facilities on International Airport with Gate Assignment	Seungyoon Ko <sup>1</sup> , Chulung Lee <sup>2</sup>	<sup>1</sup> Department of Industrial Management Engineering, Korea University, Korea; <sup>2</sup> Division of Industrial Management Engineering and Graduate School of Management of Technology, Korea University, Korea

DAY 2	TUESDAY, OCTOBER 8 2013		15:20 - 16:40
Session TA1	DATA MINING ALGORITHMS AND THEIR APPLICATIONS (SS3)		
	Session Chair : Prof. Seoung Bum Kim (Korea University, Korea)		Room : 301
1	A Focused Crawler Based on Relevance Analysis	Peng Xin <sup>1</sup> , Qin Qiuli <sup>1</sup> , He Saike <sup>2</sup>	<sup>1</sup> School of Economics and Management, Beijing Jiaotong University, China; <sup>2</sup> Chinese Acad Sci, Key Lab Complex Syst & Intelligence Sci, Inst Automat, China
2	Toll Fraud Detection of VOIP Services via an Ensemble of Novelty Detection Algorithms	Pilsung Kang, Kyoungil Kim, Nam Wook Cho	Department of Industrial & Information Systems Engineering, Seoul National University of Science and Technology, Korea
3	Prediction Modeling of Changes in Tooth Structure Caused by Orthodontic Treatment	Ji Hoon Kang <sup>1</sup> , Seoung Bum Kim <sup>1</sup> , Deok Won Lee <sup>2</sup>	<sup>1</sup> School of Industrial Management Engineering, Korea University, Korea; <sup>2</sup> Department of Oral and Maxillofacial Surgery, Kyung Hee University, Korea
4	Understanding HVAC Usage Logs for Energy Saving Decision Making	Jooseoung Park <sup>1</sup> , Seung Kyung Lee <sup>1</sup> , Seokho Kang <sup>1</sup> , Young Soo Kim <sup>1</sup> , Ji Young Kim <sup>2</sup> , Dong Seuk Choi <sup>2</sup> , Sungzoon Cho <sup>1</sup>	<sup>1</sup> Department of Industrial Engineering, Seoul National University, Korea; <sup>2</sup> Samsung Electronics Co., Korea
5	Selecting an Optimal Set of Keywords for Search Engine Advertising	Minhoe Hur, Songwon Han, Hongtae Kim, Sungzoon Cho	Department of Industrial Engineering, Seoul National University, Korea
Session TB1	RECENT DEVELOPMENTS ON FINANCIAL ENGINEERING II (SS7)		
	Session Chair : Prof. Katsunori Ano (Shibaura Institute of Technology, Japan)		Room : 302
1	An Economics Premium Principle under the Smooth Ambiguity Aversion	Yoichiro Fujii <sup>1</sup> , Hideki Iwaki <sup>2</sup> , Yusuke Osaki <sup>1</sup>	<sup>1</sup> Faculty of Economics, Osaka Sangyo University, Japan; <sup>2</sup> Faculty of Business Administration, Kyoto Sangyo University, Japan
2	Regret Choice and Equity Premium	Yoichiro Fujii <sup>1</sup> , Yutaka Nakamura <sup>2</sup>	<sup>1</sup> Faculty of Economics, Osaka Sangyo University, Japan; <sup>2</sup> Faculty of Graduate School of Systems and Information Engineering, University of Tsukuba, Japan
3	An Optimization-based Heuristic Approach for Capacitated Lot-sizing Model with Stochastic Demand: A Case Study of an ATM Network	Supatchaya Chotayakul <sup>1</sup> , John Kobza <sup>2</sup> , Juta Pichitlamken <sup>1</sup> , Peerayuth Charnsethikul <sup>1</sup>	<sup>1</sup> Department of Industrial Engineering, Kasetsart University, Thailand; <sup>2</sup> Department of Industrial Engineering, The University of Tennessee, USA



PROGRAM

Session TC1	BPM AND PROCESS MINING (SS2)		
	Session Chair : Prof. Dongsoo Kim (Soongsil University, Korea)		Room : 303
1	Sequential Execution Monitoring of Business Process for Proactive Preparation: A Regression Tree Based Approach	Bokyoung Kang <sup>1</sup> , Dongsoo Kim <sup>2</sup>	<sup>1</sup> Department of Industrial Engineering, Seoul National University, Korea; <sup>2</sup> Department of Industrial and Information Systems Engineering, Soongsil University, Korea
2	Comparison Between Actual and Planned Processes of Block Assembly Operation using Process Mining in Shipbuilding Industry	Dongha Lee <sup>1</sup> , Jaehun Park <sup>2</sup> , Hyerim Bae <sup>2</sup>	<sup>1</sup> Central R&D Institute Daewoo Shipbuilding & Marine Engineering Co., Ltd, Korea; <sup>2</sup> Department of Industrial Engineering, Pusan National University, Korea
3	Knowledge Discovery of Port Logistics Process using Partial Directed Acyclic Graph Composition	Riska Asriana Sutrisnowati <sup>1</sup> , Hyerim Bae <sup>2</sup> , Jaehun Park <sup>2</sup> , Iq Reviessay Pulshashi <sup>2</sup>	<sup>1</sup> Institute of Logistics Information Technology , Pusan National University, Korea; <sup>2</sup> Department of Industrial Engineering, Pusan National University, Korea
Session TD1	TECHNOLOGY MANAGEMENT AND POLICY		
	Session Chair : Dr. Nurcahyo Rahmat (Universitas Indonesia, Indonesia)		Room : 304
1	An Integrated Vikor & Dematel for Diagnosing Quality of Mobile Application Service under Fuzzy Environment	Daekook Kang, Yongtae Park	Department of Industrial Engineering, Seoul National University, Korea
2	Identifying the Dominant Service Functions in Mobile Applications: FP-tree Algorithm Approach	Yongyoon Suh, Yongtae Park	Department of Industrial Engineering, Seoul National University, Korea
3	Manufacturing Strategy: Content, Process and Implementation	Nurcahyo Rahmat, Maemunsyah T. Yuri	Department of Industrial Engineering, Universitas Indonesia, Indonesia
4	Production Polices in Hybrid MTO-MTS Production Environment	Sangyeon Park <sup>1</sup> , Jinmo Sung <sup>2</sup> , Bongju Jeong <sup>2</sup>	<sup>1</sup> Shinsegae I&C, Kyowon bldg, Korea; <sup>2</sup> Department of Information and Industrial Engineering, Yonsei University, Korea

Session TE1	HUMAN PERFORMANCE ANALYSIS		
	Session Chair : Prof. Hong-in Cheng (Kyungsung University, Korea)		Room : 306
1	Measuring Human Performance of Malaysian Train Drivers: A Factor Analysis	Jalil Azlis Sani <sup>1</sup> , Siti Zawiah Md Dawal <sup>2</sup> , Norhayati Mohmad Zakwan <sup>3</sup> , Mohd Faizal Mohideen Batcha <sup>1</sup>	<sup>1</sup> Faculty of Mechanical & Manufacturing Engineering, Universiti Tun Hussein Onn Malaysia (UTHM), Malaysia; <sup>2</sup> Centre for Product Design & Manufacturing (CPDM), Faculty of Engineering, University of Malaya, Malaysia; <sup>3</sup> Faculty of Management and Human Resource Development, Universiti Teknologi Malaysia, Malaysia
2	Measuring Human Performance of Malaysian Train Drivers: Developing Model using PLS Approach	Jalil Azlis Sani <sup>1</sup> , Siti Zawiah Md Dawal <sup>2</sup> , Norhayati Mohmad Zakwan <sup>3</sup> , Mohd Faizal Mohideen Batcha <sup>1</sup>	<sup>1</sup> Faculty of Mechanical & Manufacturing Engineering, Universiti Tun Hussein Onn Malaysia (UTHM), Malaysia; <sup>2</sup> Centre for Product Design & Manufacturing (CPDM), Faculty of Engineering, University of Malaya, Malaysia; <sup>3</sup> Faculty of Management and Human Resource Development, Universiti Teknologi Malaysia, Malaysia
3	A Study on Automation of Work Analysis using Image Analysis of Motion Picture in the Assembling Work	Takumi Nakano <sup>1</sup> , Ryosuke Nakajima <sup>2</sup> , Keisuke Shida <sup>3</sup>	<sup>1</sup> Graduate School of Management Information Technology Engineering, Nagaoka University of Technology, Japan; <sup>2</sup> Department of Industrial and Systems Engineering, Graduate school of Engineering, Aoyama Gakuin University, Japan; <sup>3</sup> Department of Management and Information systems Engineering, Nagaoka University of Technology, Japan
4	Low Back Biomechanical Stresses of Obese Workers During Manual Lifts of NIOSH Recommended Weight Limits	Devender Singh <sup>1</sup> , Woojin Park <sup>2</sup>	<sup>1</sup> Auburn University, USA; <sup>2</sup> Seoul National University, Korea
5	Real Time Information Assistant for Blind People using the Internet	Erdal Erdal <sup>1</sup> , Y. Batu Salman <sup>2</sup> , Hong In Cheng <sup>3</sup>	<sup>1</sup> Graduate School of Natural and Applied Sciences, Bahcesehir University, Turkey; <sup>2</sup> Software Engineering Department, Bahcesehir University, Turkey; <sup>3</sup> Department of Industrial and Management Engineering, Kyungsung University, Korea
DAY 2	TUESDAY, OCTOBER 8 2013		17:00 - 18:20
Session TA2	MANUFACTURING AND PRODUCTION ENGINEERING		
	Session Chair : Prof. Yang Woo Shin (Changwon National University, Korea)		Room : 301
1	A Control Strategy of Batch Processing Machines in Semiconductor Manufacturing	Mansoor Paramitha, Pyung Hoi Koo	Department of System Management and Engineering, Pukyong National University, Korea
2	Efficient Buffer Assignment Algorithm in Various Types of Layout Structures	Guan Wang <sup>1</sup> , Yang Woo Shin <sup>2</sup> , Dug Hee Moon <sup>1</sup>	<sup>1</sup> Department of Industrial and Systems Engineering, Changwon National University, Korea; <sup>2</sup> Department of Statistics, Changwon National University, Korea
3	U-shaped Assembly Line Balancing with Temporary Workers	Koichi Nakade, Akiyasu Ito, Syed Mithun Ali	Department of Civil Engineering and Systems Management, Nagoya Institute of Technology, Japan
4	An Automatic Assembly / Disassembly Procedure for Generating Maintenance Guideline	Gilhwon Heo <sup>1</sup> , Jungmin Choi <sup>1</sup> , Kisang Kwon <sup>2</sup>	<sup>1</sup> The 6th R&D Institute, Agency for Defense Development, Korea; <sup>2</sup> ILS R&D Center, LIGNex1 Co., Ltd., Korea

PROGRAM

Session TB2	WORK MEASUREMENT		
	Session Chair : Prof. Woojin Park (Seoul National University , Korea)		Room : 302
1	A Survey on Effects of the Positional Relationship of Product and Lighting and the Type of Lighting on Defects Detection	Kosuke Morita <sup>1</sup> , Ryosuke Nakajima <sup>2</sup> , Keisuke Shida <sup>3</sup>	<sup>1</sup> Department of Management and Information Systems Engineering, Graduate School of Engineering, Nagaoka University of Technology, Japan; <sup>2</sup> Department of Industrial and Systems Engineering, Graduate school of Engineering, Aoyama Gakuin University, Japan; <sup>3</sup> Department of Management and Information systems Engineering, Nagaoka University of Technology, Japan
2	A Fundamental Study on Work Measurement using an Acceleration Sensor and Angular Velocity Sensor	Note Yosuke <sup>1</sup> , Ryosuke Nakajima <sup>2</sup> , Keisuke Shida <sup>3</sup>	<sup>1</sup> Department of Management and Information Systems Engineering, Graduate School of Engineering, Nagaoka University of Technology, Japan; <sup>2</sup> Department of Industrial and Systems Engineering, Graduate school of Engineering, Aoyama Gakuin University, Japan; <sup>3</sup> Department of Management and Information systems Engineering, Nagaoka University of Technology, Japan
3	Ergonomics Risk Factor and Musculoskeletal Symptoms : A Case Study in Malaysian Manufacturing Industry	Mirta Widia, Siti Zawiah Md Dawal, Nukman Yusoff	Department of Mechanical Engineering, Faculty of Engineering, University of Malaya, Malaysia
4	Characterizing Discomfort Levels of Static Posture Holding Tasks for Population Level Discomfort Control	Jack Ogutu, Woojin Park	Seoul National University , Korea
Session TC2	PRODUCTION SYSTEM ENGINEERING		
	Session Chair : Prof. Gyu Sung Cho (Tongmyong University, Korea)		Room : 303
1	A Multi-period Capacity Scalability Model for Reconfigurable Manufacturing Systems	Zhou Jing Yu <sup>1</sup> , Jeong Hoon Shin <sup>2</sup> , Dong Ho Lee <sup>1</sup>	<sup>1</sup> Department of Industrial Engineering, Hanyang University, Korea; <sup>2</sup> IT Convergence based Manufacturing System Research Group, Korea Institute of Industrial Technology, Korea
2	Total Value Chain Cost Optimization: Xerox Consumable Supply Chain Case Study	Eun Suk Suh <sup>1</sup> , Heidi Grenek <sup>2</sup> , Brad Willard <sup>2</sup> , Robert Hildebrand <sup>2</sup>	<sup>1</sup> Seoul National University , Korea; <sup>2</sup> Xerox Corporation, Korea
3	Lower and Upper Bounds of Spatial Scheduling through the Relaxation	Bobae Kwon, Gyu M. Lee	Department of Industrial Engineering, Pusan National University, Korea
4	Analysis on Substituting the VNA Forklift Trucks for CB Forklift Trucks in Refrigerated Warehouses using Simulation Method	Gyu Sung Cho <sup>1</sup> , Ho Gyun Kim <sup>2</sup>	<sup>1</sup> Department of Port Logistics System, Tongmyong University, Korea; <sup>2</sup> Department of Industrial & Management Engineering, Dongeui University, Korea

Session TD2	HUMAN FACTORS DESIGN		
	Session Chair : Prof. Kun Hsi Liao (Taiwan Shoufu University , Taiwan)		Room : 304
1	The Fundamental Study on Automation of Work Analysis using Motion Capture Data	Kentaro Takata <sup>1</sup> , Ryosuke Nakajima <sup>2</sup> , Keisuke Shida <sup>3</sup>	<sup>1</sup> Department of Management and Information Systems Engineering, Graduate School of Engineering, Nagaoka University of Technology, Japan; <sup>2</sup> Management Technology Course, Graduate School of Science and Engineering, Aoyama Gakuin University, Japan; <sup>3</sup> Department of Management and Information systems Engineering, Nagaoka University of Technology, Japan
2	Developing an Affective Engineering Model for a Vehicle Exhaust Sound using Brand Awareness Characteristics	Ilsun Rhiu, Sanghyun Kwon, Myung Hwan Yun	Department of Industrial Engineering, Seoul National University, Korea
3	The Effect of Wrist Posture and Forearm Position on Control Capability of Hand-grip Strength	Kun Hsi Liao	Department of Product Development and Design, Taiwan Shoufu University, Taiwan
4	Human Centered Gesture Vocabulary Design for Gesture Based Interaction	Minseok Son <sup>1</sup> , Woojin Park <sup>1</sup> , Dongwook Hwang <sup>1</sup> , Jaemoon Jung <sup>2</sup> , Jungmin Park <sup>1</sup>	<sup>1</sup> Seoul National University, Korea; <sup>2</sup> Korea Institute of Science and Technology, Korea
5	Novelty Indexes for Evaluating Ideation Techniques	Dongwook Hwang, Woojin Park	Seoul National University, Korea
Session TE2	MANUFACTURING PROCESS		
	Session Chair : Dr. Chuckaphun Aramphongphun (Kasetsart University, Thailand)		Room : 306
1	The Environmental Impact Assessment of Different Cooling Methods in Machining Process	Zahari Bin Taha <sup>2</sup> , Mohd Hazwan Syafiq Bin Harun <sup>1</sup> , Hadi Abdul Salaam <sup>1</sup>	<sup>1</sup> Faculty of Mechanical Engineering, Universiti Malaysia Pahang, Malaysia; <sup>2</sup> Faculty of Manufacturing Engineering, Universiti Malaysia Pahang, Malaysia
2	Accuracy and Precision Improvement of Part's Dimensions in Plastic Injection Molding using Design of Experiments	Chuckaphun Aramphongphun, Weeraphol Dumkram	Department of Industrial Engineering, Faculty of Engineering, Kasetsart University, Thailand
3	Prediction of Tool Life in Engraving Process of Sidewall Tire Molds by using Response Surface Methodology	Chuckaphun Aramphongphun, Anusorn Kaewprakob	Engineering Management Program, Industrial Engineering Department, Kasetsart University, Thailand
4	A Method for Automatic Building of Simulation Models	Jeong Hoon Seo, Kap Hwan Kim	Department of Industrial Engineering, Pusan National University, Korea

PROGRAM

DAY 3	WEDNESDAY, OCTOBER 9 2013		09:00 - 10:20
Session WA1	MANUFACTURING INTELLIGENCE & SERVICE I (SS5)		
	Session Chair : Prof. Kwangyeol Ryu (Pusan National University, Korea)	Room : 301	
1	Semiconductor Fabrication Cycle Time and Throughput Optimization Strategies	Mohd Azizi Chik <sup>1</sup> , Kader Ibrahim Abdul Wahab <sup>1</sup> , Uda Hashim <sup>2</sup> , Jeng Feng Chin <sup>3</sup>	<sup>1</sup> Silterra Malaysia Sdn Bhd, Kulim High Tech Park, Malaysia; <sup>2</sup> Institute Of Nano Electronic Engineering (INEE), University Malaysia Perlis, Malaysia; <sup>3</sup> Department of Mechanical Engineering, Universiti of Sains Malaysia, Engineering Campus, Malaysia
2	Intelligent Defect Detection using Structured Support Vector Machine for Manufacturing Thin-film Transistor Liquid-crystal Display	Jungtae Mun <sup>1</sup> , Daewon Lee <sup>2</sup>	<sup>1</sup> Samsung Display, Korea; <sup>2</sup> School of Industrial Engineering, University of Ulsan, Korea
3	Production Planning and Control in Wafer Fabrication a Case Study in Silterra, Malaysia	Jeng Feng Chin <sup>1</sup> , Mohd Azizi Chik <sup>2</sup> , Syahril Ridzuan <sup>2</sup> , S. Rosli Ahmad <sup>2</sup> , Mohd Azrin Mat Latib <sup>2</sup> , Shahrul Kamarrudin <sup>1</sup>	<sup>1</sup> Department of Mechanical Engineering, University Sains Malaysia, Engineering Campus, Malaysia; <sup>2</sup> Department of Manufacturing Systems, SilTerra (M) Sdn. Bhd., Malaysia
4	Agent-based Production Management System for TFT-LCD Fab	Moonsoo Shin <sup>1</sup> , Kwangyeol Ryu <sup>2</sup>	<sup>1</sup> Department of Industrial and Management Engineering, Hanbat National University, Korea; <sup>2</sup> Department of Industrial Engineering, Pusan National University, Korea
5	Development of a Self-learnable Function Module for Fractal Manufacturing Systems	Sangil Lee, Kwangyeol Ryu	Department of Industrial Engineering, Pusan National University, Korea
Session WB1	OPTIMIZATION IN INDUSTRIAL APPLICATIONS I		
	Session Chair : Prof. Byung Hyun Ha (Pusan National University, Korea)	Room : 302	
1	A New Mathematical Model for Reliability Redundancy Optimization Problem of K-out-of-N G : System	Gakgyu Kim, Seong Woo Kim, Bong Kyoo Yoon	Department of Operations Research, Korea National Defense University, Korea
2	Product Design Optimization using Enviromental Impact Assesment for Sustainable Manufacturing	Mohd Hazwan Syafiq Bin Harun <sup>1</sup> , Zahari Bin Taha <sup>2</sup>	<sup>1</sup> Faculty of Mechanical Engineering, Universiti Malaysia Pahang, Malaysia; <sup>2</sup> Faculty of Manufacturing Engineering, Universiti Malaysia Pahang, Malaysia
3	Scheduling of Athletics Shoe Assembly Lines Considering Learning Effect	Junho Kim <sup>1</sup> , Chungkyun Han <sup>2</sup> , Byung Hyun Ha <sup>2</sup> , Won Young Yun <sup>2</sup>	<sup>1</sup> Department of Modernization, ChangShin Inc., Korea; <sup>2</sup> Department of Industrial Engineering, Pusan National University, Korea
4	Lower and Upper Bounds for Military Deployment Planning Considering Combat	Ivan Singgih, Gyu M. Lee	Department of Industrial Engineering, Pusan National University, Korea

Session WD1	SYSTEM MANAGEMENT AND RELIABILITY		
	Session Chair : Prof. Won Young Yun (Pusan National University, Korea)		Room : 304
1	Redundancy Optimization Considered Availability in a Multi-level System	Il Han Chung <sup>1</sup> , Won Young Yun <sup>2</sup> , Young Jin Han <sup>2</sup>	<sup>1</sup> Changwon Center, Defence Agency for Technology and Quality, Korea; <sup>2</sup> Department of Industrial Engineering, Pusan National University, Korea
2	Reliability Evaluation of Power Transmission Networks Considering Local Correlated Failures	Ping Chen Chang <sup>1</sup> , Yi Kuei Lin <sup>1</sup> , Lance Fiondella <sup>2</sup>	<sup>1</sup> Department of Industrial Management, National Taiwan University of Science & Technology, Taiwan; <sup>2</sup> Department of Electrical and Computer Engineering, University of Massachusetts Dartmouth, USA
3	VSI X Bar Control Chart using Surrogate Variable Applied to Nuclear Fuel Measurement System	Tae Hoon Lee <sup>1</sup> , Minkoo Lee <sup>2</sup>	<sup>1</sup> Nuclear Hydrogen Reactor Technology Development Division, Korea Atomic Energy Research Institute, Korea; <sup>2</sup> Department of Information and Statistics, Chungnam National University, Korea
Session WE1	SERVICE SYSTEM ANALYSIS		
	Session Chair : Prof. Daiki Min (Ewha Womans University, Korea)		Room : 306
1	A Multi-model Ensemble Approach to Process Optimization Considering Model Uncertainty	Linhan Ouyang <sup>1</sup> , Ma Yizhong <sup>1</sup> , Jai Hyun Byun <sup>2</sup>	<sup>1</sup> Department of Management Science and Engineering, Nanjing University of Science and Technology, China; <sup>2</sup> Department of Industrial and Systems Engineering and Engineering Research Institute, Gyeongsang National University, Korea
2	A Feasibility Analysis of the RPS Policy using Diffusion Analysis in Korea	Daiki Min <sup>1</sup> , Hoonyoung Koo <sup>2</sup>	<sup>1</sup> College of Business Administration, Ewha Womans University, Korea; <sup>2</sup> Graduate School of Business, Chungnam National University, Korea
3	Optimal Control of the M/G/1 Queueing System with Customers Reneging under N-policy	Siyeong Lim, Sun Hur	Department of Industrial and Management Engineering, Hanyang University, Korea
4	Control of G/Mx/1 Queueing System with N-policy and Customer Impatience	Siyeong Lim, Sun Hur	Department of Industrial and Management Engineering, Hanyang University, Korea

PROGRAM

DAY 3	WEDNESDAY, OCTOBER 9 2013		10:40 - 12:00
Session WA2	MANUFACTURING INTELLIGENCE & SERVICE II (SS5)		
	Session Chair : Prof. Kwangyeol Ryu (Pusan National University, Korea)		Room : 301
1	Integrated Sustainability Assessment: A Case Study of Screw Design	Zahari Bin Taha <sup>1</sup> , H. A. Salaam <sup>2</sup> , S. Y. Phoon <sup>1</sup> , T.M.Y.S. Tuan Ya <sup>3</sup>	<sup>1</sup> Faculty of Manufacturing Engineering, Universiti Malaysia Pahang, Malaysia; <sup>2</sup> Faculty of Mechanical Engineering, Universiti Malaysia Pahang, Malaysia
2	A Study of a Production Engineering Service Framework Based on the Manufacturing Execution System	Hyunjei Jo <sup>1</sup> , Sang Do Noh <sup>2</sup> , Kwangyeol Ryu <sup>3</sup> , Minseok Song <sup>4</sup> , Yongju Cho <sup>5</sup>	<sup>1</sup> Manufacturing Service Center, Korea Institute of Industrial Technology, Korea; <sup>2</sup> Department of Industrial Engineering, Sungkyunkwan University, Korea; <sup>3</sup> Department of Industrial Engineering, Pusan National University, Korea; <sup>4</sup> School of Technology Management, Ulsan National Institute of Science and Technology, Korea
3	Automated Modeling and Simulation for Concurrent Developments of a Production System	Yang Ho Park <sup>1</sup> , Sang Do Noh <sup>2</sup>	<sup>1</sup> Department of Industrial Engineering, Sungkyunkwan University, Korea; <sup>2</sup> Department of Systems Management Engineering, Sungkyunkwan University, Korea
4	Modeling and Simulation of Fuzzy Hybrid Petri Net for Mold Manufacturing Process	Hee Jin Lee <sup>1</sup> , Kwangyeol Ryu <sup>1</sup> , Ho Yeun Ryu <sup>2</sup> , Hui Chul Lee <sup>2</sup>	<sup>1</sup> Department of Industrial Engineering, Pusan National University, Korea; <sup>2</sup> Ppuri Industry Technology Innovation Center, Korea Institute of Industrial Technology, Korea
Session WB2	OPTIMIZATION IN INDUSTRIAL APPLICATIONS II		
	Session Chair : Prof. Youngjin Kwon (Ajou University, Korea)		Room : 302
1	A Delayed Column Generation with a Rounding Heuristic Method for a Class of Large Personnel Scheduling Model	Wannaporn Muangkaew, Patcharaporn Yanpirat, Peerayuth Charnsethikul	Engineering Management Program, Industrial Engineering Department, Kasetsart University, Thailand
2	Application of Frequency Domain Experiments in Job Shop Scheduling	Thanapan Kongtong, Boonsit Sujitwanich, Pornthep Anussornnitisarn	Department of Industrial Engineering, Kasetsart University, Thailand
3	Using Quadratic Programming Packages in R to Estimate Probability Statistics in Transition Matrix of Markov Chain	Wanida Lerspipatthananon, Peerayuth Charnsethikul	Department of Industrial Engineering, Kasetsart University, Thailand
4	Optimal Placement of Wind Turbines on Non-flat Terrain using Cluster Identification and Multi-Objective Genetic Algorithm	Tzu Liang (Bill) Tseng <sup>1</sup> , Yongjin (James) Kwon <sup>2</sup> , Carlos A. Garcia Rosales <sup>1</sup>	<sup>1</sup> Department of Industrial, Manufacturing and Systems Engineering, The University of Texas at El Paso, USA; <sup>2</sup> Department of Industrial Engineering Ajou University, Korea

Session WD2	INDUSTRIAL APPLICATIONS		
	Session Chair : Prof. Chih-Hsuan Wang (National Chiao Tung University, Taiwan)		Room : 304
1	A Systematic Approach to Incorporate Customer Satisfaction into the Configuration and Evaluation Process of Ultrabooks	Chih Hsuan Wang	Department of Industrial Engineering, National Chiao Tung University, Taiwan
2	A Study on the Effect of Number of Defect Types on Defect Detection in Visual Inspection	Hidegori Koh <sup>1</sup> , Ryosuke Nakajima <sup>2</sup> , Keisuke Shida <sup>3</sup>	<sup>1</sup> Department of Management and Information Systems Engineering, Graduate School of Engineering, Nagaoka University of Technology, Japan; <sup>2</sup> Department of Industrial and Systems Engineering, Graduate School of Engineering, Aoyama Gakuin University, Japan; <sup>3</sup> Department of Management and Information Systems Engineering, Nagaoka University of Technology, Japan
3	A Robust Concept Generation Support System	Kiwook Jung <sup>1</sup> , Taehun Kim <sup>1</sup> , Byeongmok Kim <sup>1</sup> , Taejong Yoo <sup>2</sup> , Hyunbo Cho <sup>1</sup>	<sup>1</sup> Department of Industrial & Management Engineering, Pohang University of Science & Technology, Korea; <sup>2</sup> Department of Business Administration, Sangmyung University, Korea
4	Work Related Musculoskeletal Disorder Among Batik Workers in Malaysia: Focusing on Batik Activities	Nor Suliani Abdullah, Siti Zawiah Md Dawal, Abu Bakar Mahat	Department of Mechanical Engineering, Faculty of Engineering, University of Malaya, Malaysia
Session WE2	LOGISTICS AND INVENTORY APPLICATIONS		
	Session Chair : Prof. Kenichi Nakashima (Kanagawa University, Japan)		Room : 306
1	A Study on Inventory Analysis of Food Waste Toward the Sustainability	Kenichi Nakashima	Department of Industrial Engineering and Management, Kanagawa University, Japan
2	Empirical Research on Reshoring US Manufacturing on Logistics and Supply Chain Management Perspectives	Eon Kyung Lee <sup>1</sup> , Chanho Kim <sup>2</sup> , Dong Won Jang <sup>1</sup>	<sup>1</sup> Department of Port Research, Korea Maritime Institute, Korea; <sup>2</sup> Department of Maritime Industry & Logistics, Korea Maritime Institute, Korea
3	Optimal Relocation of Inbound Containers with Uncertain Retrieval Times	Xun Tong <sup>1</sup> , Younju Woo <sup>1</sup> , Dong Won Jang <sup>2</sup> , Kap Hwan Kim <sup>1</sup>	<sup>1</sup> Department of Industrial Engineering, Pusan National University, Korea; <sup>2</sup> Port Research Division Port Management/Operation & Technology Department, Korea Maritime Institute, Korea

# AUTHOR INDEX

A	Abdullah, Nor Suliani	WD2	C	Cho, Dong Won	MA2
	Ahmad, S. Rosli	WA1		Cho, Gyu Sung	TC2
	Aizu, Yosuke	MD2		Cho, Hyunbo	WD2
	Akiba, Tomoaki	MD1		Cho, Nam Wook	TA1
	Ali, Syed Mithun	TA2		Cho, Su Yeon	MA2
	Anussornnitisarn, Pornthep	WB2		Cho, Sungzoon	TA1
	Aramphongphun, Chuckaphun	TE2		Cho, Yongju	WA2
	Avila, Gerardo Grijalva	MA4		Choi, Dong Seuk	TA1
	Álvarez, José Luis Rodríguez	MA4		Choi, Jin Young	MC3
B	Álvarez, Sara Angélica Rodríguez	MA4		Choi, Jungmin	TA2
	Bae, Hyerim	TC1		Choi, Yongsun	MC1
	Baek, Janghyun	MC1		Chotayakul, Supatchaya	TB1
	Bahreinejad, Ardesbir	MB3		Chou, Yin Hsia	MB2
	Batcha, Mohd Faizal Mohideen	TE1		Chun, Heuiju	MC1
	Bouras, Abdelaziz	MC4		Chunfang, Guo	MA1
	Butzer, Steffen	MA1		Chung, Il Han	WD1
	Byun, Jai Hyun	WE1		Chung, Ki Ho	ME2
	Byun, Taesang	MC2		Ciptomulyono, Udisubakti	MD1
C	Chang, Ping Chen	WD1	D	Dang, Jr Fong	MB2
	Chang, Seong Rok	MB3		Dawal, Siti Zawiah Md	MB3/TE1/TB2/WD2
	Chaovalitwongse, Paveena	MA3/MA4/MD4		Dhakar, Tej S.	MC2
	Charnsethikul, Peerayuth	TB1/WB2	E	Dohi, Tadashi	MD1
	Chen, Jen Ming	MD2		Dumkram, Weeraphol	TE2
	Chen, Yu Ting	MB1		Endharta, Alfonsus Julanto	MD2
	Cheng, Hong In	TE1	F	Enkawa, Takao	MC1
	Cheng, Wei Ying	MB1		Erdal, Erdal	TE1
	Chik, Mohd Azizi	WA1		Ferdinand, Friska Natalia	ME2
	Chin, Jeng Feng	WA1		Fiondella, Lance	WD1
	Chiou, Jr Yi	MB1		Frank Björn	MC1
	Chiu, Ming Chuan	MB1/MB2		Fujii, Yoichiro	TB1

F	Funk, Kenneth H.	MC1	H	Hur, Sun	WE1
	Galvez, Otto Dario	MC2		Hwang, Dongwook	TD2
	Ghazilla, Raja Ariffin Raja	MC2		Hwang, Hark	MA4
G	Grenek, Heidi	TC2	I	Inoue, Shinji	MD3
	Guo, Jingjuan	MA2		Ito, Akiyasu	TA2
				Iwaki, Hideki	TB1
	Ha, Byung Hyun	WB1		Izumi, Kazuhiko	MD3
	Han, Chan Gyu	MD2		Jang, Dong Won	WE2
	Han, Chungkyun	WB1		Jang, Hyeon Ae	ME1
	Han, Gyu Sik	MD4	J	Jang, Tae Jun	MC1
	Han, Songwon	TA1		Jeong, Bongju	MC2/TD1
	Han, Young Jin	MD2/WD1		Jo, Hyunjei	WA2
	Hao, Aibo	MA2		Jung, Jaemoon	TD2
	Harun, Mohd Hazwan Syafiq Bin	TE2/WB1		Jung, Jihee	MC1
	Hashim, Uda	WA1		Jung, Kiwook	WD2
	Hasuike, Takashi	MB4		Jung, Mooyoung	MA4
	He, Mengni	MC4			
	Heo, Gilhwan	TA2	K	Kaewprakob, Anusorn	TE2
H	Herrera, Jean Betancourt	ME2		Kainuma, Yasutaka	MC2
	Hida, Takuya	MD3		Kajihara, Yasuhiro	MD3
	Hildebrand, Robert	TC2		Kamarrudin, Shahrul	WA1
	Hirao, Shuhei	MC2		Kang, Bokyoung	TC1
	Hong, I Hsuan	MB2		Kang, Byung Hwan	ME1
	Hong, Ki Sung	ME3/ME4		Kang, Daekook	TD1
	Hong, Yoo S.	MC1		Kang, Ji Hoon	TA1
	Hsiao, Wen Bin	MB2		Kang, Jun Gyu	MA4
	Hsiao, Yu Hsiang	ME1		Kang, Pilsung	TA1
	Hsu, Yu Ting	MD2		Kang, Seokho	TA1
	Huang, Po Hsin	MB1/MB2		Katagiri, Hideki	MB4
	Huang, Yi Chao	MB2		Katesari, Seyedeh Maryam Masoumi	MA2/MC2
	Hur, Minhoe	TA1		Keisuke, Shida	MC4



# AUTHOR INDEX

<b>K</b>	Kim, Bomyung	ME3	<b>K</b>	Kongtong, Thanapan	WB2
	Kim, Byeongmok	WD2		Koo, Hoonyoung	WE1
	Kim, Chanho	WE2		Koo, Pyung Hoi	TA2
	Kim, Dong Wook	MC1		Kung, Ling Chieh	MB1
	Kim, Dongsoo	TC1		Kuno, Seiya	MB4
	Kim, Gakgyu	WB1		Kuo, Ming Yu	MB1
	Kim, Ho Gyun	ME1/TC2		Kuo, Tsai Chi	MB1
	Kim, Hongtae	TA1		Kwon, Bobae	TC2
	Kim, Hwang Ho	MC3		Kwon, Hyuck Moo	ME1
	Kim, Hyunsoo	MA4		Kwon, Kisang	TA2
	Kim, Ji Young	TA1		Kwon, Sanghyun	TD2
	Kim, Junho	WB1		Kwon, Yongjin (James)	WB2
	Kim, Kap Hwan	ME2/TE2/WE2	<b>L</b>	Latib, Mohd Azrin Mat	WA1
	Kim, Kwang Jae	MC1		Lee, Chulung	ME3/ME4
	Kim, Kyoungil	TA1		Lee, Daewon	WA1
	Kim, Misuk	MD4		Lee, Deok Won	TA1
	Kim, Seong Woo	WB1		Lee, Dong Ho	TC2
	Kim, Seoung Bum	TA1		Lee, Dongha	TC1
	Kim, Seung C.	MC1		Lee, Eon Kyung	WE2
	Kim, Taehun	WD2		Lee, Gyu M.	MC1/TC2/WB1
	Kim, Wonsob	MA4		Lee, Hae Kyoung	ME2
	Kim, Young Jin	ME2		Lee, Hee Jin	WA2
	Kim, Young Soo	TA1		Lee, Hui Chul	WA2
	Kimpara, Kazuhiro	MD3		Lee, Hwaseop	MD4
	Kimura, Mitsuhiro	MD3		Lee, Hyejin	MC1
	Ko, Chang Seong	ME2		Lee, Jaehwan	ME3
	Ko, Seungyoon	ME4		Lee, Jinho	ME1
	Ko, Young Dae	MA4		Lee, Kiyoul	MA4
	Kobza, John	TB1		Lee, Minkoo	WD1
	Koh, Hidenori	WD2		Lee, Sangil	WA1

	Lee, Seung Kyung	TA1	<b>N</b>	Nakamura, Syouji	MD3
	Lee, Soowoen	MD4		Nakamura, Yutaka	TB1
	Lee, Tae Hoon	WD1		Nakano, Takumi	TE1
	Lee, Young Hae	MA2/MA3		Nakashima, Kenichi	WE2
	Lee, Yujeong	MB3		Nguyen, Vu Anh Duy	MA3
	Leem, Byunghak	MC1		Noh, Sang Do	WA2
<b>L</b>	Lerspipatthananon, Wanida	WB2		Ogutu, Jack	TB2
	Liao, Kun Hsi	TD2	<b>O</b>	Oh, Gyesik	MC1
	Lim, Siyeong	WE1		Oh, Jisoo	MC2
	Lin, Kuan Wen	MB2		Ohnishi, Masamitsu	MB4
	Lin, Yi Kuei	WD1		Ohno, Katsuhisa	MC2
	Liu, Li	MD2		Olugu, Ezutah Udoncy	MA2/MC2
	Luo, Siao Lun	MB2		Osaki, Yusuke	TB1
	Mahat, Abu Bakar	WD2		Ouyang, Linhan	WE1
<b>M</b>	Mari, Sonia Irshad	MA3	<b>P</b>	Paramitha, Mansoer	TA2
	Matsumoto, Toshiyuki	MB3		Park, Dong Joon	ME1
	Meesuptaweekoon, Kwankaew	MA4		Park, Jaehun	TC1
	Memon, Muhammad Saad	MA3		Park, Jong Hun	MC1
	Min, Daiki	WE1		Park, Jooseoung	TA1
	Miura, Kazuki	MD3		Park, Jungmin	TD2
	Moon, Dug Hee	TA2		Park, Kwangtae	MC1
	Moon, Seongmin	ME1		Park, Sangjun	ME3
	Morikawa, Katsumi	ME2/MA3		Park, Sangyeon	TD1
	Morita, Kosuke	TB2		Park, Woojin	TE1/TB2/TD2
<b>N</b>	Morrison, James R.	MA4		Park, Yang Byung	ME2
	Muangkaew, Wannaporn	WB2		Park, Yang Ho	WA2
	Mun, Jungtae	WA1		Park, Yongtae	TD1
	Nakade, Koichi	TA2		Pengchao, Hu	MA1
	Nakagawa, Toshio	MD3		Phoon, S. Y.	WA2
	Nakajima, Ryosuke	MB3/TE1/TB2/TD2/WD2		Phumchusri, Naragain	MA3

# AUTHOR INDEX

<b>P</b>	Pichitlamken, Juta	TB1	<b>S</b>	Shin, Yang Woo	TA2
	Pukcarnon, Varaporn	MA3		Shingyochi, Koji	MD1
	Pulshashi, Iq Reviessay	TC1		Singgih, Ivan	WB1
<b>Q</b>	Qiuli, Qin	TA1		Singgih, Moses L.	MD1
<b>R</b>	Rahman, Nurul Izzah Abd	MB3		Singh, Devender	TE1
	Rahmat, Nurcahyo	TD1		Singh, Sujit	MA3
	Rashid, Salwa Hanim Abdul	MA2/MC2		Sofitra, Mohamad	ME2
	Ren, Yipeng	MA2		Son, Minseok	TD2
	Rhee, Dong Wook	MD2		Song, Byung Duk	MA4
	Rhiu, Ilsun	TD2		Song, Minseok	WA2
	Ridzuan, Syahril	WA1		Sopadang, Apichat	MC4
	Rosales, Carlos A. Garcia	WB2		Soto, Arturo Soto	MA4
	Ryu, Ho Yeun	WA2		Sudarto, Sumarsono	MA3
<b>S</b>	Ryu, Kwangyeol	MD4/WA1/WA2		Suh, Eun Suk	TC2
	Saike, He	TA1		Suh, Yongyoon	TD1
	Saito, Yasuhiro	MD1		Sujitwanich, Boonsit	WB2
	Salaam, H. A.	WA2		Sung, Jinmo	TD1
	Salaam, Hadi Abdul	TE2		Supapa, Sansanee	MC3
	Salman, Y. Batu	TE1		Sutrisnowati, Riska Asriana	TC1
	Sani, Jalil Azlis	TE1		Swangnop, Siravit	MD4
	Sardar, Shaheen	MA2	<b>T</b>	Taha, Zahari Bin	TE2/WB1/WA2
	Sato, Kimitoshi	MB4		Takahashi, Katsuhiko	MA3
	Sawaki, Katsushige	MB4		Takahashi, Natsumi	MD1
	Sekhari, Aicha	MC4		Takahasi, Katsuhiko	ME2
	Seo, Jeong Hoon	TE2		Takashi, Kanazawa	MC4
	Shangdong, Jiang	MA2		Takata, Kentaro	TD2
	Shen, Luo	MA1		Tamura, Takayoshi	MC2
	Shida, Keisuke	MB3/TE1/TB2/TD2/WD2		Tamura, Yoshinobu	MD1
	Shin, Jeong Hoon	TC2		Thanutsatian, Hathairat	MC3
	Shin, Moonsoo	WA1		Ting, Ching Jung	MC2

<b>T</b>	Tomoaki, Yamazaki	MC4	<b>Y</b>	Yanagi, Shigeru	MD2
	Tong, Xun	WE2		Yang, Shuai	ME4
	Tsai, Hong Pin	MB2		Yanpirat, Patcharaporn	MC3/WB2
	Tseng, Tzu Liang (Bill)	WB2		Yao, Jiayi	MA1
<b>U</b>	Udoncy, Olugu Ezutah	MA3	<b>Z</b>	Yizhong, Ma	WE1
<b>V</b>	Vukeya, Masingita	MB3		Yoo, Taejong	WD2
<b>W</b>	Wahab, Kader Ibrahim Abdul	WA1		Yook, Taesun	MC1
	Wang, Chih Hsuan	WD2		Yoon, Bong Kyoo	WB1
	Wang, Guan	TA2		Yosuke, Note	TB2
	Wang, Yacan	MA1		Yu, Zhou Jing	TC2
	Wangsattabongkoth, Posakorn	MC3		Yuge, Tetsushi	MD2
	Wanitwattanakosol, Jirapat	MC4		Yun, Myung Hwan	TD2
	Wei, Huiling	MA1		Yun, Won Young	MD1/MD2/MA3/WB1/WD1
	Wicaksana, Ricko I.	MD1		Yuri, Maemunyah T.	TD1
	Widia, Mirta	TB2		Yusoff, Nukman	TB2
	Willard, Brad	TC2		Zakwan, Norhayati Mohmad	TE1
<b>X</b>	Wimalachandra, Dinush Chanaka	MC1	<b>Z</b>	Zhang, Anming	ME3
	Woo, Younju	WE2		Zhang, Chunhui	MA1
	Wu, Bing	MD1		Zhang, Liang	MA1
	Wu, Cheng Hung	MB2		Zhang, Yi Jay	MB2
	Wu, Chiao Ying	MB1		Zhao, Xufeng	MD3
<b>Y</b>	Wu, Jei Zheng	MB1		Zhongliang, Guan	MA1
	Xi, Sha	ME3/ME4		Zhou, Huiyu	MA1
	Xiao, Xiao	MD1		Zhu, Hui	MA1
	Xiaoyan, Lin	MA1/MA2		Zhu, Lijing	ME3
<b>X</b>	Xin, Peng	TA1			
	Xiuying, Liu	MA2			
	Ya, T.M.Y.S. Tuan	WA2			
<b>Y</b>	Yamada, Shigeru	MD1/MD3			
	Yamamoto, Hisashi	MD1			

# KEYNOTE SPEAKER

Date : Oct. 7(Mon), 8:30-9:50

Place : Grand Hall

## **Sustainable Development of Global Supply Chains: Optimization Framework and Industry Application**

In global industry supply chains, environmental sustainability addresses the overall consumption of resources and energy, the reduction of carbon emissions and generated waste to name a few. In this presentation we propose a holistic sustainability optimization framework for strategic network design of industry supply chains towards 2030 under consideration of economic, social as well as ecologic objectives. As an example of application we consider the European automotive industry. Numerical experiments based on empirical industry data show the impact of optimization strategies on overall costs and emissions and the possible long-term development of the industry supply chain including the relocation of production capacities, the choice of transportation modes and the potential change towards lower emission products such as electric vehicles. As a result, the proposed model can be an important framework and tool for companies and policy decision makers to simulate the long-term impact of policy instruments and external drivers on automotive industry structures.



**Prof. Hans-Otto Guenther**

Department of Production Management, TU Berlin, Germany

# KEYNOTE SPEAKER

Date : Oct. 8(Tue), 13:20 - 14:05

Place : Grand Hall

## **Recent Advancement of Software Reliability Engineering**

The empirical software engineering is becoming much popular and is useful to quantify the software development process via the measurement-based approach. Especially, an effective utilization of software metrics measured in the development process plays a central role to evaluate the engineering aspect of software development. On the other hand, the software reliability engineering aims at evaluating the quantitative software product reliability, which is defined as the probability that the software failure does not occur in the operational phase, but has just focused on the curve fitting of the cumulative number of software faults from the software fault count data. In other words, the software reliability engineering community has often missed to utilize the software metrics effectively during the last three decades. In my talk, I summarize the metrics-based software reliability modeling framework and give a significant approach to bridge between the software metrics data and the software reliability assessment. The fundamental idea is to apply non-trivial regression-based models to represent the software failure rate. Throughout illustrative examples with actual software development project data, I show that the metrics-based software reliability assessment technique outperforms the existing software fault count methods. I also refer to the reliability assessment for incremental software development, arising in the well-known agile software development paradigm.



**Prof. Tadashi Dohi**

Department of Information Engineering, Hiroshima University, Japan

# KEYNOTE SPEAKER

Date : Oct. 8(Tue), 14:15 – 15:00  
Place : Grand Hall

**Modeling Disaster Relief Logistics for an Island Earthquake**

In recent years, we have seen governmental and non-governmental organizations renew their focus on humanitarian logistics and disaster relief (HLDR). Tragic quakes in highly populated areas in Indonesia, Chile, Haiti and Japan have focused the attention of Operations Researchers, thus encouraging the development of a rich literature of disaster relief models. This presentation will discuss the challenges that researchers face trying to model disaster relief. To guide the discussion, it will focus on a network model to optimize an earthquake disaster relief operation in an island environment. The optimization identifies the best distribution plan to ensure all relief supplies are delivered from two depots on the Greek mainland to eight localities on the island of Kefalonia within 72 hours. Three scenarios are modeled representing different earthquake epicenters resulting in different damage to the network in order to see how realistic damages to the network affect the optimal solution. Simulation modeling is then used to test the implementation of a sample solution. The simulation incorporates factors often dismissed in network models but critical in the process flow, such as the sequential nature of the movement of supplies through the network as well as variability in loading, unloading and travel times. The presentation will show that the typical optimization approach greatly underestimates the impact of process flow and the effects of variability in disaster relief performance.



**Prof. Geraldo Ferrer**  
School of Business and Public Policy, Naval Postgraduate School, US

*IJIE 2013*

# GENERAL INFORMATION

- Organization
- Location
- Tour Schedule
- Industry Tour Information

# ORGANIZATION

## General Chairs

Kap Hwan Kim	Pusan National University, Korea
Ilkyeong Moon	Seoul National University, Korea

## Honorary Chairs

Kyukap Cho	Pusan National University, Korea
Anil Mital	JFAssociates, Inc., US

## Organizing Chairs

Shi W. Lee	Pusan National University, Korea
Chang Seong Ko	Kyung Sung University, Korea

## Program Chairs

Won Young Yun	Pusan National University, Korea
Tadashi Dohi	Hiroshima University, Japan

## Technical Program Chairs

Hyerim Bae	Pusan National University, Korea
Byung-Hyun Ha	Pusan National University, Korea

## International Advisory Board

Pornthep Anussornnitisarn	Kasetsart University, Thailand
Cheng-Kang Chen	National Taiwan University of Science and Technology, Taiwan
Geraldo Ferrer	Naval Postgraduate School, US
Hans-Otto Guenther	Technische Universität Berlin, Germany
Voratas Kachitvichyanukul	Asian Institute of Technology, Thailand
Yasutaka Kainuma	Tokyo Metropolitan University, Japan
Keebom Kang	Naval Postgraduate School, US
Young Hae Lee	Hanyang University, Korea
Chengji Liang	Shanghai Maritime University, China
Koichi Nakade	Nagoya Institute of Technology, Japan

## International Advisory Board

Arunkumar R. Pennathur	The University of Iowa, US
Kongkiti Phusavat	Kasetsart University, Thailand
Budi Santosa	Institut Teknologi Sepuluh Nopember, Indonesia
Takayoshi Tamura	Aichi Institute of Technology, Japan
Loon Ching Tang	National University of Singapore, Singapore
Ching-Jung Ting	Yuan Ze University, Taiwan
Patcharaporn Yanpirat	Kasetsart University, Thailand

## Program Committee

Yoosuk Hong	Seoul National University, Korea
Byung In Kim	POSTECH, Korea
Dongsoo Kim	Soongsil University, Korea
Seoung Bum Kim	Korea University, Korea
Chulung Lee	Korea University, Korea
Woojin Park	Seoul National University, Korea
Hayong Shin	KAIST, Korea
So Young Sohn	Yonsei University, Korea
Eun Suk Suh	Seoul National University, Korea
Yacan Wang	Beijing Jiaotong University, China

## Organizing Committee

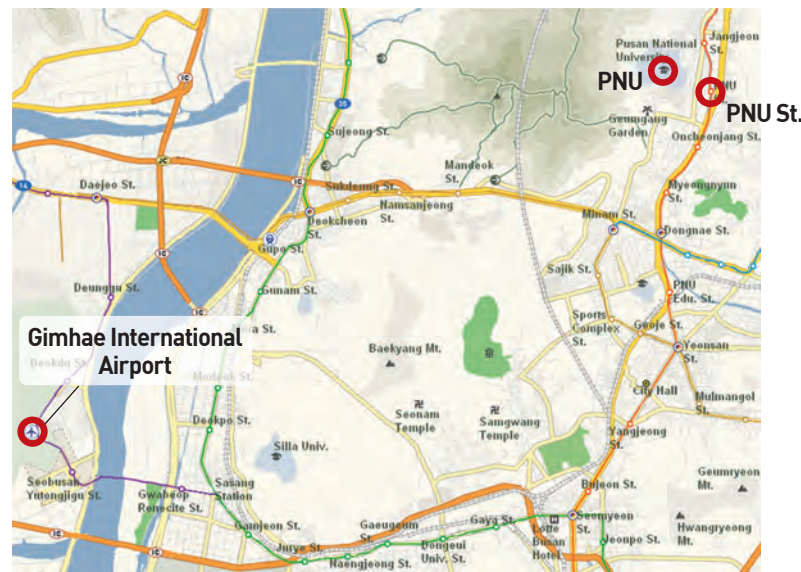
Yongsun Choi	Inje University, Korea
Hong-In Cheng	Kyung Sung University, Korea
Hyun-Seok Jung	Dongseo University, Korea
Young-Jin Kim	Pukyong National University, Korea
Kyung Keun Lee	Pusan National University, Korea
Chunhyun Paik	Dong-eui University, Korea
Haksoo Mok	Pusan National University, Korea
Kwangyeol Ryu	Pusan National University, Korea
Hoon-Yong Yoon	Dong-A University, Korea



# LOCATION

IJIE 2013 will be held in exciting Busan, Korea at the Pusan National University. The PNU is just 20 minutes from downtown Busan, and 40 minutes from the airport.

**Address** 2, Busandaehak-ro 63 beon-gil, Geumjeong-gu, Busan, 609- 735, Korea  
Tel: +82-51-510-1435



## From Gimhae International Airport

By Taxi or Call-van Service (The contact numbers are +82-80-783-0085 or +82-51-545-8585)

- Taxi : From Gimhae International Airport to Pusan National University, 40 min, KRW 20,000
- Call-van Service : From Gimhae International Airport to Pusan National University, 40 min, KRW 30,000

By Busan Gimhae Light Rail Transit & Metro (Subway)

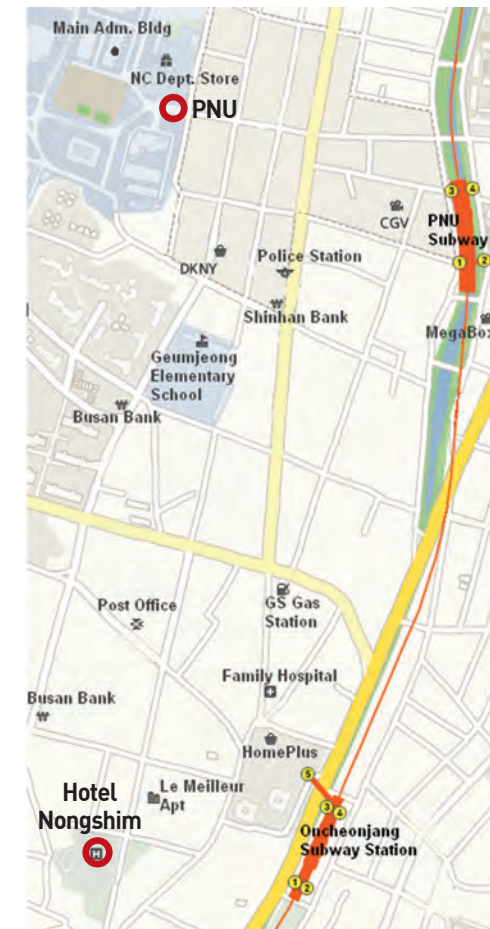
From 'Gimhae International Airport' station to 'Sasang' station (Busan Gimhae Light Rail Transit), and transfer to subway (Line No. 2) at 'Sasang' subway station (from 'Sasang' to 'Seomyeon'), and transfer to subway (Line No. 1) at 'Seomyeon' subway station (from 'Seomyeon' to 'Pusan National University Station'), 60 min, KRW 1,900. And, it will take additional 10 minutes to the main gate of the Pusan National University on foot.

## From Busan Station (Train)

By Metro (Subway)

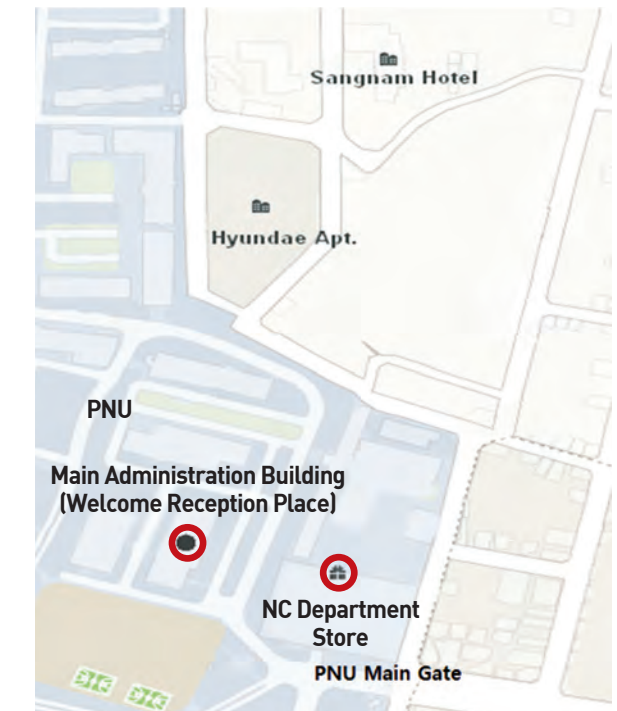
From 'Busan Station' subway station to 'Pusan National University Station' subway station (Line No. 1), 40min, KRW 1,300. And, it will take additional 10 minutes to the main gate of the Pusan National University on foot.

**Banquet place:** Hotel Nongshim



Shuttle bus will be provided from PNU Main Administration Building to Hotel Nongshim

**Lunch place:** 6th Floor, NC Department Store



Available Restaurants at NC Department Store

- Hwauen
- Teroo
- Asia Moon
- Limini
- Bangoong

# TOUR SCHEDULE

## INDUSTRY TOUR OCT.8 (TUE) 2013

Time	Schedule	Note
07:30-07:40	Conference venue (Main Administration Building) → Hotel Nongshim	· Gather in Conference Venue or Hotel Nongshim  · Lunch will be provided
07:40-09:00	Hotel Nongshim → Hyundai Motor Company	
09:00-10:00	Hyundai Motor Company tour	
10:00-10:30	Hyundai Motor Company → Hyundai Heavy Industries	
10:30-11:30	Hyundai Heavy Industries tour	
11:30-13:20	Hyundai Heavy Industries tour → Conference venue (Main Administration Building)	

## CITY TOUR OCT.8 (TUE) 2013

Time	Schedule
8:00	City Tour Departure from Main Administration Building
8:10	Departure from Hotel Nongshim
12:30	Arrival at Sang Nam International House for lunch

# INDUSTRY TOUR INFORMATION

## HYUNDAI HEAVY INDUSTRIES Co., Ltd.



Chung Ju-yung, the late founder of the Hyundai Group created Hyundai as a construction company in 1947. Chung decided to enter into shipbuilding in the early 1970s ignoring that Hyundai had no experience, capital, or shipbuilding technology whatsoever.

Despite these challenges, the company received orders for two 260,000-DWT crude oil tankers

from Greek magnate George Livanos while Hyundai's Shipyard was still in the planning stages.

In March 1972, ground was broken on an empty stretch of beach in Ulsan to construct what would become the world's largest shipyard. Hyundai then started building the two oil tankers and the shipyard simultaneously. Two years later, in 1974, Hyundai held a ceremony to simultaneously name the two tankers and dedicate the shipyard.

## HYUNDAI MOTOR COMPANY

The Hyundai Motor Company is a South Korean multinational automaker headquartered in Seoul, South Korea. The company was founded in 1967 and, along with its 32.8% owned subsidiary, Kia Motors, together comprise the Hyundai Motor Group, which is the world's fifth largest automaker based on annual vehicle sales in 2012. Hyundai operates the world's largest integrated automobile manufacturing facility in Ulsan, South Korea. (Source: Wikipedia)





# MEMO

# Pusan National University Leading the World

Global Frontier Program (Ministry of Science, ICT and Future Planning) - **Winning a 9-year, 110 billion KRW grant**  
Brain Korea 21 PLUS (Ministry of Education) - **Ranked at the top among national universities and at the third among all universities**  
**Winning 17.99 billion KRW grants through 28 graduate programs**  
Education Competency Reinforcement Program (Ministry of Education) - **Ranked at the second among national universities**  
**Winning a 4.4 billion KRW grant**  
External R&D Funding - **Winning 139 billion KRW grants and contracts**

Pusan National University, a leading university to take on challenges and create new values vigorously, thrives for excellence in future through its countless achievements.  
A university with dreams and fulfillments. It is Pusan National University.

