

HASIL CEK_Siti Mahsanah Budijati (2)

by Siti Mahsanah Budijati (2) Cek_siti Mahsanah Budijati (2)

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APIEMS APIEMS 2014

The 15th
Asia Pacific Industrial Engineering
and Management Systems Conference

- > October 12~15, 2014
- > Ramada Plaza Jeju Hotel, Jeju, Korea

PROCEEDINGS

APIEMS 2014 Information

Detailed Program

Author Index

e-Proceeding Search

EXIT



KOPOST
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Message from the APIEMS President



Greeting and a warm welcome to the participants of the 15th Asia Pacific Industrial Engineering and Management Systems Conference. Started in 1998, APIEMS has grown to become the premier conference for industrial engineering and management systems in the region with participants from all around the world. The main theme of this year conference: "Sustainable Industrial Systems and Big Data Management", is an attempt to address the balance among economic and technical development, social development, and environmental protection in this fast changing world.

I congratulate and thank Prof. Dr. Chi-Hyuck Jun, the conference chair, whose leadership made this APIEMS 2014 conference possible. We are also grateful for the enthusiastic support of APIEMS from the KIIE and the Korea research community.

On behalf of the Asia Pacific Industrial Engineering and Management Society, I wish you a successful conference with many thoughtful discussions and debates with old and new friends.

A handwritten signature in blue ink, which appears to read "V. Kachitvichyanukul". The signature is fluid and cursive.

Professor Voratas Kachitvichyanukul
APIEMS President, (2013-2014)
Professor of Industrial & Manufacturing Engineering
Dean, School of Engineering and Technology
Asian Institute of Technology, THAILAND

Message from the General Chair



Welcome to APIEMS 2014 in Jeju City, a beautiful island located at the most south of Korea. It is our great pleasure to organize this conference, which is supported by Korean Institute of Industrial Engineers (KIIE). APIEMS conferences have rapidly emerged as an important forum for exchange of ideas and information about latest developments in the field of industrial engineering and management systems among professionals mostly from Asia-Pacific countries. APIEMS 2014 conference encourages contributors to address the topical theme: Sustainable Industrial Systems and Big Data Management. Papers will represent the latest academic thinking and successful case examples. The wider audience will benefit from the knowledge and experience of leading practitioners and academics in this area.

The conference seeks research contributions from researchers, educators, modelers, software developers, users and practitioners. We hope that you enjoy participating in APIEMS 2014 and staying in Jeju.

A handwritten signature in black ink that reads "Chi H. Jun". The signature is written in a cursive, flowing style.

Professor Chi-Hyuck Jun
General Chair, APIEMS 2014
Industrial & Management Engineering
POSTECH, Korea

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**The Korean Operations Research
and Management Science Society**



Keynote Speech

Keynote Speech I Research Issues in Future Logistics

Oct 13 (Monday) 11:00-12:00

Room: Ramada-1

6

Chung-Yee Lee

Hong Kong University of Science and Technology, China



Dr. Chung-Yee Lee is Chair Professor/Cheong Ying Chan Professor of Engineering in the Department of Industrial Engineering & Logistics Management at Hong Kong University of Science and Technology. He served as Department Head for seven years (2001- 2008). He is also the Founding and Current Director of Logistics and Supply Chain Management Institute. He is a Fellow of the Institute of Industrial Engineers in U.S. and also a Fellow of Hong Kong Academy of Engineering Science. Before joining HKUST in 2001, he was Rockwell Chair Professor in the Department of Industrial Engineering at Texas A&M University. He worked as a plant manager and also had few years consulting experience in Taiwan. In the past thirty years he has engaged in more than forty research projects sponsored by NSF, RGC, ITF, IBM, Motorola, AT&T Paradyne, Harris Semiconductor, Northern Telecom, Martin Marietta, Hong Kong Air Cargo Terminal, Hongkong International Terminal, Philips Medical,etc.

His search areas are in logistics and supply chain management, scheduling and inventory management. He has published more than 130 papers in refereed journals. According to an article in Int. J. Prod. Eco. (2009), which looked at all papers published in the 20 core journals during last 50 years in the field of production and operations management, he was ranked No. 6 among all researchers worldwide in h-index.

He received a BS degree in Electronic Engineering (1972) and a MS degree in Management Sciences (1976) both from National Chiao-Tung University in Taiwan. He also received a MS degree in Industrial Engineering from Northwestern University (1980) and PhD degree in Operations Research from Yale University (1984).

Keynote Speech

Keynote Speech II Data-Driven Decision Making in Manufacturing: Lessons Learned and Future Opportunities

Oct 14 (Tuesday) 11:00-12:00

Room: Ramada-1

2

Ronald G. Askin

Arizona State University, USA



Ronald G. Askin, Ph.D., is a Professor of Industrial Engineering and Director of the School of Computing, Informatics, and Decision Systems Engineering at Arizona State University. Professor Askin received his B. S. in Industrial Engineering from Lehigh University followed by an M.S. in Operations Research and PhD in Industrial and Systems Engineering from the Georgia Institute of Technology. He has over 30 years of experience in the development, teaching and application of methods for systems design and analysis with particular emphasis on production and material flow systems. Other interests include quality engineering and decision analysis. He has published over 120 journal and conference proceedings papers in these areas.

Dr. Askin is a Fellow of the Institute of Industrial Engineers (IIE) and serves as Editor-in-Chief of IIE Transactions. He has served on the IIE Board of Trustees, as President of the IIE Council of Fellows, Chair of the Association of Chairs of Operations Research Departments (ACORD) Chair of the Industrial Engineering Academic Department Heads (CIEADH) and President of the INFORMS Manufacturing and Service Operations Management Society (MSOM). He was also General Chair of the 2012 INFORMS Annual Conference. His list of awards includes a National Science Foundation Presidential Young Investigator Award, the Shingo Prize for Excellence in Manufacturing Research, IIE Joint Publishers Book of the Year Award (twice), IIE Transactions on Design and Manufacturing Best Paper Award (twice), the Eugene L. Grant best paper award from The Engineering Economist, and the IIE Transactions Development and Applications Award.

Keynote Speech

Keynote Speech III Big Data Management

Oct 14 (Tuesday) 13:00-14:00

Room: Ramada-1

5

Sungzoon Cho

Seoul National University, Korea.



Sungzoon Cho is currently professor of Industrial Engineering Department, the director of Data Mining Center at Seoul National University (SNU) and a member of Government 3.0 Committee of Korean government. He is on the editorial board of International Journal of Operations Research and Information Systems and International Journal of Cognitive Biometrics. He served as the president of Hyundai Motors, Hyundai Heavy Industries, POSCO, Daewoo Shipbuilding and Marine Engineering, LG Electronics, Doosan Infracore, SK Hynix, SK Telecommunication and CJ. He advised nine PhDs and 56 Master students. He teaches Data Mining and Computational Intelligence at SNU as well as at firms. He received BS and MS in Industrial Engineering at SNU. He won a Fulbright Scholarship to obtain Masters and PhD at University of Washington in Seattle, US, and University of Maryland in College Park, US, respectively.

Conference at a Glance

Oct 12 (Sunday)		Oct 13 (Monday)		Oct 14 (Tuesday)		Oct 15 (Wednesday)	
		08:00-17:00	Registration	08:00-17:00	Registration	08:00-12:00	Registration
		08:30-10:10	Technical sessions MA			08:30-10:10	Technical sessions WA
		10:10-10:30	Coffee break	08:40-10:40	Technical sessions TA	10:10-10:30	Coffee break
10:00-18:00	Registration	10:30-11:00	Opening addresses : APIEMS President, KIE President, General Chair	10:40-11:00	Coffee break		
		11:00-12:00	Keynote speech I (Prof. Chung-Yee Lee: Research issues in Future Logistics)	11:00-12:00	Keynote speech II (Prof. Ronald Askin: Data-Driven Decision Making in Manufacturing)	10:30-12:10	Technical sessions WB
		12:00-13:30	Lunch	12:00-13:00	Lunch	12:10-13:30	Lunch
13:00-17:20	Excursion	13:30-15:30	Technical sessions MB	13:00-14:00	Keynote speech III (Prof. Sungzoon Cho: Big Data Management)		
		15:30-15:50	Coffee break	14:00-14:20	Coffee break		
		15:50-17:50	Technical sessions MC	14:20-16:00	Technical sessions TB		
	Registration			16:00-16:20	Coffee break		
				16:20-18:00	Technical sessions TC		
				13:00-18:00	Poster Session		
18:00-20:00	Welcome Reception			18:30-21:00	General Reception		

Oct 12 (Sunday)									
10:00-18:00	Registration								
13:00-17:20	Excursion								
18:00-20:00	Welcome Reception								
Oct 13 (Monday)									
08:00-17:00	Registration								
Room	Mara	Biyang	Udo	Chuja	Ramada-1	Ramada-2	Ramada-3	Ramada-4	Halla(8F)
08:30-10:10	Technical sessions MA								
	MA1	MA2	MA3	MA4	MA5	MA6	MA7	MA8	MA9
Session name	Data Mining 1	Management of Technology and innovations 1	ERP/ E-Business	Service Sciences 1	Quality Engineering & Management 1	Production and Operations Management 1	Metaheuristics	Financial Models & Engineering	Uncertainty Theory (Session I)
Paper #	528	100	37	54	23	75	42	41	551
	207	111	38	55	28	158	43	146	555
	276	143	352	108	109	211	175	180	556
	324	44	360	215	113	269	353	267	584
	296	97	255	244	226	213	465	273	
10:10-10:30	Coffee break								
10:30-11:00	Opening addresses: APIEMS President, KIE President, General Chair								
11:00-12:00	Keynote speech I (Prof. Chung-Yee Lee: Research Issues in Future Logistics)								
12:00-13:30	Lunch								
13:30-15:30	Technical sessions MB								
	MB1	MB2	MB3	MB4	MB5	MB6	MB7	MB8	MB9
Session name	Decision Support Systems & Expert Systems	Probability & Statistical Modeling	Ergonomics/ Human Factors 1	Service Sciences 2	Quality Engineering & Management 2	Production and Operations Management 2	Green Manufacturing/ Management	Transportation	Ergonomics & Welfare Management
Paper #	173	190	96	322	227	338	417	73	488
	254	299	131	401	228	362	550	91	484
	290	333	305	411	229	394	119	103	530
	460	334	315	479	346	396	156	312	485
	116	3354	326	504	294	442	342	340	471
538	450	332	323	307		361	53	505	
15:30-15:50	Coffee break								
15:50-17:50	Technical sessions MC								
	MC1	MC2	MC3	MC4	MC5	MC6	MC7	MC8	MC9
Session name	Supply Chain Management 1	Reliability & Maintenance	Ergonomics/ Human Factors 2	Network Optimization	Quality Engineering & Management 3	Simulation 1	Healthcare Systems 1	Optimization Techniques 1	Educational Support System
Paper #	252	118	456	407	325	500	482	374	501
	261	121	359	363	328	196	99	217	562
	279	153	393	268	339	424	112	201	448
	280	320	419	515	346	66	194	169	455
	355	580	449	319	370	179	248	206	154
	336	582	341	142	402			271	507

Oct 14 (Tuesday)

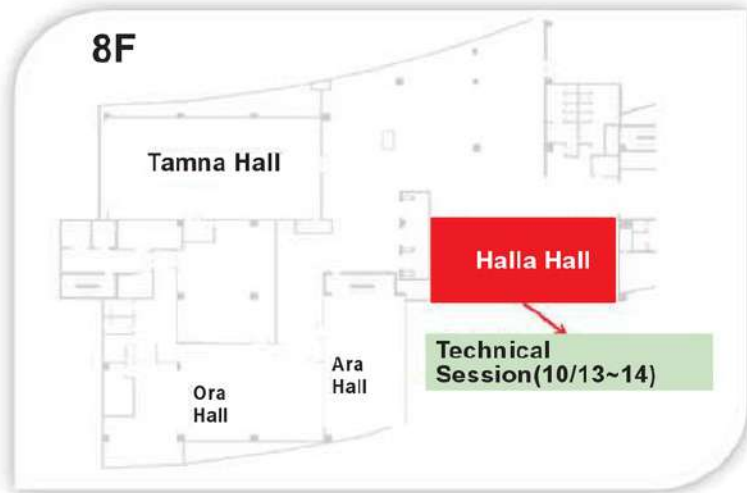
Registration									
Room	Mara	Biyang	Udo	Chuja	Ramada-1	Ramada-2	Ramada-3	Ramada-4	Halla(8F)
Technical sessions TA									
08:40-10:40	TA1	TA2	TA3	TA4	TA5	TA6	TA7	TA8	TA9
Session name	Supply Chain Management 2	Communication Support	Data Mining 2	Tourism Management/ Topics in IE/MS	Sustainable Management	Simulation 2	Production & Operations Management 1	Logistics Management	Uncertainty Theory (Session II)
Paper #	50	443	128	472	35	98	282	440	558
	59	535	147	444	114	105	327	477	559
	60	489	203	564	136	221	349	483	560
	61	536	392	15	137	272	431	543	561
	130	480	412	264	291	295	104	344	565
	161	537	216	225	347	356	218	313	428
Coffee break									
Keynote speech II (Prof. Ronald Askin: Data Driven Decision Making in Manufacturing)									
Lunch									
Keynote speech III (Prof. Sungzoon Cho: Big Data Management)									
Coffee break									
Technical sessions TB									
14:20-16:00	TB1	TB2	TB3	TB4	TB5	TB6	TB7	TB8	TB9
Session name	Supply Chain Management 3	Management of Technology and Innovations 2	Data Mining 3	Scheduling & Sequencing 1	Knowledge & Information Management	Production & Operations Management 2	Healthcare Systems 2	Flexible Manufacturing Systems	Topics in IE/MS
Paper #	165	188	437	122	250	49	95	579	575
	176	425	469	233	278	124	106	48	354
	208	317	486	284	445	151	306	62	378
	160	150	502	287	297	187	379	286	212
	234	22	581	309	389	12	76	457	202
Coffee break									
Technical sessions TC									
15:20-18:00	TC1	TC2	TC3	TC4					TC9
Session name	Heuristics/Metaheuristics	Inventory Modeling / Artificial Intelligence	Artificial Intelligence	Scheduling & Sequencing 2					Lean Production Management
Paper #	70	381	182	399					542
	464	123	260	405					546
	481	101	490	418					94
	520	318	391	398					545
	192		499	79					547
POSTER Session									
Paper #	47	149	166	204	220	245	253	265	205
	365	366	382	400	414	422	432	435	524
	451	473	487	522	527	491	420	145	
General Reception									
18:30-21:00									

Oct 15 (Wednesday)

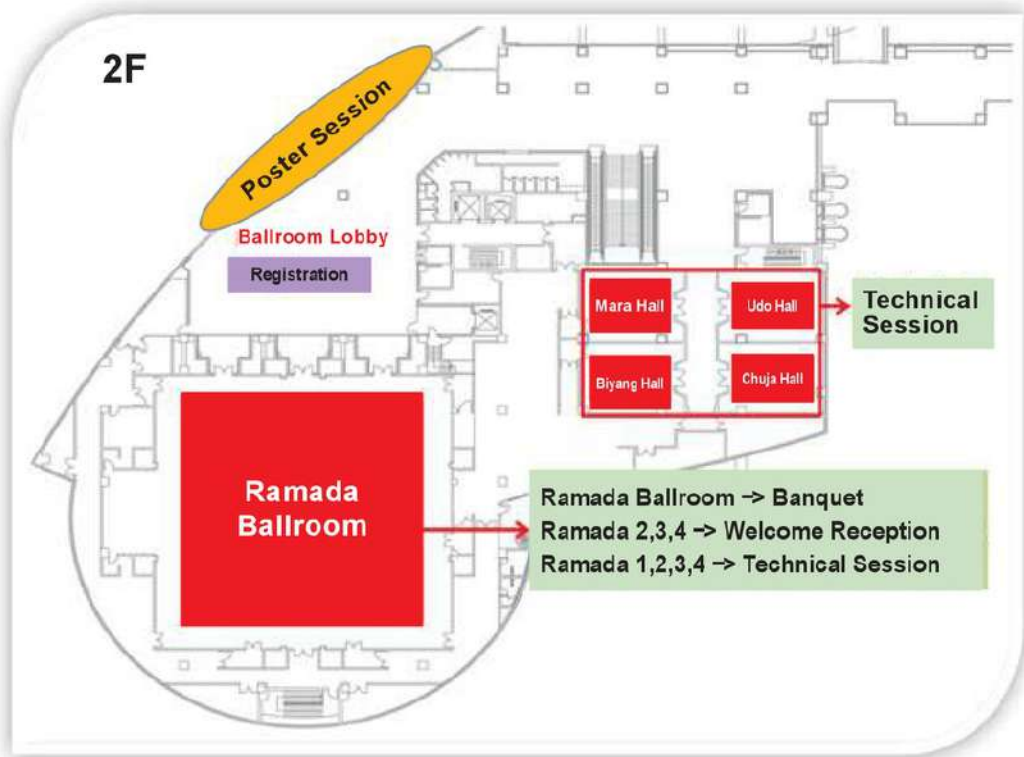
Oct 15 (Wednesday)								
08:00-12:00	Registration							
Room	Mara	Biyang	Udo	Chuja	Ramada-3	Ramada-4	Ramada-1	Ramada-2
08:30-10:10	Technical sessions WA							
	WA1	WA2	WA3	WA4	WA5	WA6		
Session name	Inventory Modeling & Management	SCM and Forecasting 1	Production Design & Management 1	Scheduling & Sequencing 3	Fuzzy Logic	Optimization Techniques 2		
Paper #	65	92	117	85	30	125		
	80	31	162	120	58	69		
	71	34	198	177	224	288		
	446	32	222	316	576	577		
	518	102	249	509		415		
10:10-10:30	Coffee break							
10:30-12:10	Technical sessions TB							
	WB1	WB2	WB3	WB4	WB5	WB6		
Session name	Industrial Engineering Education	SCM and Forecasting 2	Production Design & Management 2	Scheduling & Sequencing 4	Quality Engineering & Reliability	Lean Manufacturing		
Paper #	526	52	283	329	453	129		
	139	36	348	46	508	371		
	256	87	350	403	270	553		
	495	413	93	426	517	110		
			84	454	421	516		
12:10-13:30	Lunch							

Floor Plan

8F



2F



Detailed Program

MA1 Data Mining 1

Mara, 08:30-10:10

Chair: Kuo-Hao Chang (National Tsing Hua University, Taiwan)

MA1-1 (528)	The Development Of An Educational Social Network To Support Blended-Learning In A University <i>Vo DuyKhoi(International University, Viet Nam), *Do Truc(Vietnam National University HoChiMinh City, Viet Nam), Pham Quoc Son Lam, Le Thanh Son(Intemational University, Viet Nam)</i>	1
MA1-2 (207)	A model for improving the customers' purchase willingness considering their latent intentions and media contacts. <i>*Keisuke Korenaga, Satoshi Kumagai(Aoyama Gakuin University, Japan), Hiroki Nakano(NIFTY Corporation, Japan)</i>	7
MA1-3 (276)	The research of the onset factor of sports injuries in basketball <i>*Takashi Matsumoto, Yukio Maruyama(Tokyo Metropolitan University, Japan), Hisashi Yamamoto(Nippon Institute of Technology, Japan)</i>	14
MA1-4 (324)	Multi-Objective Genetic Algorithm Using Fuzzy Membership Chromosome for Categorical Data <i>*Chao-Lung Yang, Thi-Phuong-Quyen Nguyen, Ren-Jieh Kuo(National Taiwan University of Science and Technology, Taiwan)</i>	19
MA1-5 (296)	Using data mining methods to forecast book purchase quantities <i>*Farnaz Pirasteh(Pukyong National Univesity, Korea), Mohammad Rouzbeh(Dayche Data Mining Group, Iran), Jay Liu(Pukyong National Univesity, Korea)</i>	25

MA2 Management of Technology and Innovations 1

Biyang, 08:30-10:10

Chair: Muh-Cherng Wu (National Chiao Tung University, Taiwan)

MA2-1 (100)	Analyzing the effect of platform update period on platform diffusion in mobile ecosystem <i>Gyesik Oh, *Yoo Hong(Seoul National University, Korea)</i>	29
MA2-2 (111)	Integrated Coal Gasification Technology Selection Model Considering Company's Research & Development and Operational Decison Making <i>*Iwan Wiratmadja(Bandung Institute of Technology, Indonesia), Muhammad Akbar, Anas Ma'ruf, Nanda Rusyda Saufa, Rajesri Govindaraju, Indryati Sunaryo(Faculty of Industrial Technology, Indonesia)</i>	35
MA2-3 (143)	ASSESSING TECHNOLOGY LEVEL OF INDUSTRIAL ESTATE TO MEET STANDARD OF ENVIRONMENT <i>Dwi F.D. Nurcahya(Ministry of Industry, Indonesia), Muhammad Akbar(Bandung Institute of Technology, Indonesia), *dradjad irianto(bandung institute of technology, Indonesia)</i>	43
MA2-4 (44)	Economic Evaluation Method and Procedure for Improvement Activities <i>*Hirokazu Kono(Keio University, Japan)</i>	50
MA2-5 (97)	A Market-Share-Driven Membership Pricing Strategy for Gyms <i>*Muh-Cherng Wu, Wan-Ling Shen, Chung-Yu Chung(National Chiao Tung University, Taiwan)</i>	57

MA3 ERP/E-Business

Udo, 08:30-10:10

Chair: Kazuhiko Yasuda (Tohoku University, Japan)

MA3-1 (37)	Review of the Concepts, Meanings, and Uses of Life Cycle <i>*Kazuhiko Yasuda(Tohoku University, Japan), Tingting Huang(TOHOKU University, Japan)</i>	62
MA3-2 (38)	ERP Life Cycle Models: An Annotated Bibliographic Review <i>*Kazuhiko Yasuda(Tohoku University, Japan), Tingting Huang(TOHOKU University, Japan)</i>	70
MA3-3 (352)	Analysis of Pricing and Promotional Strategies In The SAP ERP Simulation Game By Using A Model of A Dynamic System	78

**yuli rochman(Universitas Islam Indonesia, Indonesia), erlangga fausa(Islamic University of Indonesia, Indonesia)*

MA3-4
(360) **Causal Analysis of Time Gap between Events in Multi-dimensional Process View** 82
*Riska Sutrisnowati(Pusan National University, Korea), Sung-ook Sul(Total Soft Bank Ltd., Korea), *Hyelim Bae(Pusan National University, Korea)*

MA3-5
(255) **The Alignment Relationships between Electronic Business Strategy and Information Technology Capabilities** 88
**Yue-Yang Chen(I-Shou University, Taiwan), Szu-Yuan Sun, Chang-Yuan Chen(National Kaohsiung First University of Science and Technology, Taiwan)*

MA4 Service Sciences 1

Chuja, 08:30-10:10

Chair: Kwang-Jae Kim (POSTECH, Korea)

MA4-1
(54) **Service Quality Measurement Using Fuzzy Analytic Hierarchy Process: A Case Study** 93
**Chirakiat Saithong, Dusadee Yaimana(Kasetsart University, Thailand)*

MA4-2
(55) **Quantifying the Relationships Among Service Quality, Customer Satisfaction, and Behavioural Intentions in Fast Food Restaurants Using Structural Equation Modelling** 100
**WILLY ZALATAR(DE LA SALLE UNIVERSITY, Philippines)*

MA4-3
(108) **Product-Service System Development Methods and Knowhow: A Review and Classification** 105
*Chie-Hyeon Lim, *Kwang-Jae Kim(POSTECH, Korea)*

MA4-4
(215) **Designing a Service Process for Hypertension Patient Support** 111
*Ryeok-Hwan Kwon, Chie-Hyeon Lim, Ki-Hun Kim, *Kwang-Jae Kim(POSTECH, Korea), Yeaoun Kim, Sung-Hong Kang(Inje University, Korea)*

MA4-5
(244) **A Data-Driven Approach to Developing Service Concepts for Driving Safety Enhancement (a Case Study)** 116
*Min-Jun Kim(POSTECH, Korea), Changho Lee(Quality System Laboratory, Korea), Chie-Hyeon Lim, *Kwang-Jae Kim, JINWOO JEON(POSTECH, Korea), Kyungim Choi, Yongsung Park(Korea Transportation Safety Authority, Korea)*

MA5 Quality Engineering & Management 1

4

Ramada-1, 08:30-10:10

Chair: Ruey Huei (Robert) Yeh (National Taiwan University of Science and Technology, Taiwan)

MA5-1
(23) **Application of a Design for Six Sigma (DFSS) Framework on a Proposed Launch of Operation of an Airline Exclusively for Pets** 122
**Marc Immanuel Isip(University of the Philippines Los Banos, Philippines)*

MA5-2
(28) **Traceability System for Quality Assurance on Make to Order Products** 130
**Iwan Vanany(Institut Teknologi Sepuluh Nopember Surabaya, Indonesia), Nur Aini Rahmawati(Institut Teknologi Sepuluh Nopember (ITS), Indonesia)*

MA5-3
(109) **Sequential Sampling Plan on Operating Characteristics Indexed by Quality Loss** 137
**Ryosuke Tomohiro, Ikuo Arizono(Okayama University, Japan), Yasuhiko Takemoto(Prefectural University of Hiroshima, Japan)*

MA5-4
(113) **Variable Repetitive Group Sampling Plan with Screening for Acceptance Quality Loss Limit Scheme** 145
**Yusuke Okada, Ryosuke Tomohiro, Ikuo Arizono(Okayama University, Japan)*

MA5-5
(226) **A Proposed Measures for Evaluation of Quality Excellence Practices in United Arab Emirates Industries** 153
**Mehran Doulat Abadi(Universiti Teknologi Malaysia (UTM), Malaysia), Sha'ri Mohd. Yusof(Universiti Teknologi Malaysia, Malaysia)*

MA6 Production and Operations Management 1

Ramada-2, 08:30-10:10

Chair: Daisuke Hirotnani (Prefectural University of Hiroshima, Japan)

MA6-1 (75)	Hybrid Algorithm Based on an Integration of Genetic Algorithm and Recommended Heuristic Rules for Job Shop Scheduling Problem <i>*Amer Boushaala, Amer Boushaala(Benghazi University, Benghazi, Libya, Libya)</i>	159
MA6-2 (158)	Efficient Machine Layout Design Method with a Fuzzy Set Theory within a Bay in a TFT-LCD plant <i>*Teng-Sheng Su(National Taiwan University, Taiwan), Shin-Han Lin(National Chiao Tung University, Taiwan)</i>	168
MA6-3 (211)	Evaluating the Efficiency of International Hotels in Taiwan <i>*Ming-Chi Tsai(College of Management, Taiwan), Khac Hung Dinh(College of Language Arts, Taiwan), Meei-Ing Tsai(I-Shou University, Taiwan)</i>	176
MA6-4 (269)	Worker Rearrangement Policy Using Worker's Position to Decrease Production Loss for Self-balancing Production Line with Worker's Learning <i>*Daisuke Hirotsu(Prefectural University of Hiroshima, Japan), Katsumi Morikawa, Katsuhiko Takahashi(Hiroshima University, Japan)</i>	183
MA6-5 (213)	To Evaluate the Operational Efficiency of Commercial Banks in Vietnam <i>*Ming-Chi Tsai(College of Management, Taiwan), Duc Hieu Nguyen(I-Shou University, Taiwan), Meei-Ing Tsai(College of Management, Taiwan)</i>	190

MA7 Metaheuristics

Ramada-3, 08:30-10:10

Chair: Ching-Jung Ting (Yuan Ze University, Taiwan)

MA7-1 (42)	A Particle Swarm Optimization Algorithm for Solving Economic Lot Scheduling Problems <i>*The Jin Ai, Ririn Diar Astanti, Agustinus Gatot Bintoro(Universitas Atma Jaya Yogyakarta, Indonesia), Dah Chuan Gong(Chung Yuan Christian University, Taiwan)</i>	198
MA7-2 (43)	Application of Particle Swarm Optimization for the Capacitated Team Orienteering Problem <i>Gustav Albertzeth, *The Jin Ai(Universitas Atma Jaya Yogyakarta, Indonesia)</i>	204
MA7-3 (175)	Variable Neighborhood Search for the Pollution Routing Problem <i>*Artya Lathifah, A.A.N Perwira Fedi, Vincent Yu(National Taiwan University of Science and Technology, Taiwan), Nur Aini Masruroh(Gadjah Mada University, Indonesia)</i>	210
MA7-4 (353)	Generation and Transmission Expansion Planning by Particle Swarm Optimization <i>Mu-Hsuan Wu, *Ching-Jung Ting(Yuan Ze University, Taiwan)</i>	218
MA7-5 (465)	Differential Evolution Algorithm Method to Solve Appropriate Transport Chain Arrangement in Milk Run System <i>*Jakkapong Lohapaiboonkul, Rapeepan Pitakaso(Metaheuristics for Logistics Optimization Laboratory Ubonratchathani University, Thailand)</i>	226

MA8 Financial Models & Engineering

Ramada-4, 08:30-10:10

Chair: Bong-Gyu Jang (POSTECH, Korea)

MA8-1 (41)	Effect of Firm Age in Credit Scoring Model for Small Sized Firms <i>*Kenzo Ogi, Masahiro Toshiro(Japan Finance Corporation, Japan), Norio Hibiki(Keio University, Japan)</i>	233
MA8-2 (146)	Computing default probability using ensemble method <i>*Youngdoc Son, Saerom Park, Hyeongmin Byun, Jaewook Lee(Seoul National University, Korea)</i>	241
MA8-3 (180)	Credit Scoring Model for Creditworthiness Estimation of SMEs in Indonesia <i>*Dea Putri(Institut Teknologi Bandung (Bandung Institute of Technology), Indonesia), Joko Siswanto(Bandung Institute of Technology, Indonesia)</i>	249
MA8-4 (267)	Analysis of major crashes in Korean stock market <i>Bong Gyun Ko(seoul national university, Korea), *Jae Wook Song, Woojin Chang(Seoul National University, Korea)</i>	257
MA8-5 (273)	Portfolio Selection Applying BPT <i>*Michael Young, Kuo-Hwa Chang(Chung Yuan Christian University, Taiwan)</i>	262

MA9 Uncertainty Theory (Session I)

Halla(8F), 08:30-10:10

Chair: Jinwu Gao (Renmin University of China, China)

MA9-1 (551)	Uncertainty Theory: A Branch of Mathematics for Modeling Belief Degrees <i>*Baoding Liu(Tsinghua University, China)</i>	270
MA9-2 (555)	Uncertain Differential Game <i>*Jinwu Gao(Renmin University, China)</i>	278
MA9-3 (556)	A Class of Two-Stage Reliable Path Choice Problems in Dynamic and Stochastic Transportation Networks <i>*Lixing Yang(Beijing Jiaotong University, China)</i>	279
MA9-4 (584)	Uncertain Process <i>*Kai Yao(University of Chinese Academy of Sciences, China)</i>	280

MB1 Decision Support Systems & Expert Systems

Mara, 13:30-15:30

Chair: Hyerim Bae (Pusan National University, Korea)

MB1-1 (173)	Performance Indicators Identification and Performance Dashboard Model Development for State-Owned Mining Companies in Indonesia <i>*Aisyah Shalih Mardhotillah, Joko Siswanto(Bandung Institute of Technology, Indonesia)</i>	281
MB1-2 (254)	Development of crime risk indices and crime prediction model at real-time condition <i>Taehun Kim(POSTECH, Korea), Seunghwan Bang(Pohang University of Science and Technology, Korea), *Hyunbo Cho(POSTECH, Korea)</i>	289
MB1-3 (290)	Process Model Classification based on Multiple Association Rules <i>Iq Pulshashi, *Hyerim Bae, Riska Sutrisnowati(Pusan National University, Korea), Dongha Lee(Daewoo Shipbuilding & Marine Engineering Co., Korea)</i>	294
MB1-4 (460)	Development of Decision Support System for the Most Efficient Berth Operation in DSME shipyard <i>Ikssoon Kwak, *Dongha Lee, Yongwoo Kang, Seongchan Bae, Hoyun Lee, Youngho Kim, Heungwon Suh(Daewoo Shipbuilding & Marine Engineering Co. Ltd., Korea)</i>	299
MB1-5 (116)	Performance Measurement for MIS Department in the Local Government <i>*Yi Hui Liang(I-Shou university, Taiwan), Chi-Chih Chang(I-Shou University, Taiwan)</i>	305
MB1-6 (538)	Applying intuitionistic type-II fuzzy inference system for medical diagnosis system <i>*Kuo-Ping Lin, Yu-Ming Lu, Chia-Hao Chang, I-Hao Liao(Lunghwa University of Science and Technology, Taiwan)</i>	310

MB2 Probability & Statistical Modelling

Biyang, 13:30-15:30

Chair: Junghye Lee (POSTECH, Korea)

MB2-1 (190)	Statistical Analysis for Characterizing the Tensile Stress of Concrete <i>James C. Chen(National Tsing Hua University and department of Industrial Engineering and Engineering Management, Taiwan), Xi-Mei Huang(National Taipei University of Technology, Taiwan), *Yu-Hui Peng(National Tsing Hua University and department of Industrial Engineering and Engineering Management, Taiwan)</i>	315
MB2-2 (299)	Bayesian Network Analysis ?Hypertension and Its Complications Incidence Analysis <i>Junghye Lee, Wonji Lee, Hyeseon Lee, *Chi-Hyuck Jun(POSTECH, Korea), Sung-Hong Kang(The Inje University, Korea)</i>	321
MB2-3 (333)	The Proposal of Statistical Model Selection of Linear Regression for Privacy Preserving Data Mining <i>*Kiichiro YUKAWA(Graduate School of Waseda University, Japan), Kenta MIKAWA, Masayuki GOTO(Waseda University, Japan)</i>	328
MB2-4 (334)	Distance Metric Learning with Low Computational Complexity based on Ensemble of Low-dimensional Matrices <i>Hiroshi SAITO(Graduate School of Waseda University, Japan), *Fumihito Yamazaki, Kenta Mikawa, Masayuki Goto(Waseda University, Japan)</i>	336

MB2-5 (335) [A Statistical Model for Recommender System to Maximize Sales Amount Focusing on Characteristics of EC Site Data](#) 342
**Kan YAMAGAMI(Graduate Student of Waseda University, Japan), Nachiro Fujiwara, Kenta Mikawa, Masayuki Goto(Waseda University, Japan)*

MB2-6 (450) [A New Estimation Method of Latent Class Model with High Accuracy by Using Both Browsing and Purchase Histories](#) 349
**Naohiro Fujiwara(Graduate School of Waseda University, Japan), Kenta Mikawa, Masayuki Goto(Waseda University, Japan)*

MB3 Ergonomics/Human Factors 1

Udo, 13:30-15:30

Chair: Mao-Jiun Wang (National Tsing Hua University, Taiwan)

MB3-1 (96) [Evaluating Mental Workload Measures in Performing Multiple Task Management](#) 356
**Mao-Jiun Wang, Bin-Wei Hsu, Chi-Yuan Chen(National Tsing Hua University, Taiwan)*

MB3-2 (131) [Identifying the Potential for Control Button Back Pressures to Create Within-Cycle Micro-breaks in Repetitive Assembly Tasks](#) 361
**Paul Dickinson(Adelaide Ergonomics Pty Ltd, Australia)*

MB3-3 (305) [Psychosocial and Physical Workload of Hotel's Shift Worker in Yogyakarta Indonesia](#) 367
**Luciana Dewi, Deny Yuniartha(Universitas Atma Jaya Yogyakarta, Indonesia), Ignatius Luddy Indra Purnama(Atma Jaya Yogyakarta University, Indonesia)*

MB3-4 (315) [Anthropometric data of Taiwanese children for pillow design](#) 373
*Chientu Chen, *Dengchuan Cai(National Yunlin University of Science and Technology, Taiwan)*

MB3-5 (326) [Design Furniture for Early Childhood Education in Javanese-Indonesia using Hedonomics Approach](#) 379
*Anizha Wulandari, *Amarria Sari, Muhammad Suryoputro, Hari Purnomo(Islamic University of Indonesia, Indonesia)*

MB3-6 (332) [Good Practices on Workplace Improvement Using Ergonomics Approach for Bed Cover's Tailor in West Java](#) 383
*Lesly Nulul Azmi(Islamic University of Indonesia, Indonesia), *Muhammad Suryoputro, Ratih Dianingtyas(Universitas Islam Indonesia, Indonesia), Amarria Sari, Hari Purnomo(Islamic University of Indonesia, Indonesia)*

MB4 Service Sciences 2

Chuja, 13:30-15:30

Chair: Chen-Yang Cheng (Tunghai University, Taiwan)

MB4-1 (322) [The Analysis of Hospital Quality Service: A Measurement Analysis and Its Application](#) 389
**Mohammad Mastur, agus Mansur, Arlin Damayanti(Islamic University of Indonesia, Indonesia)*

MB4-2 (401) [Enhancing the Service Quality of Non-Profit Organizations through Lean Thinking](#) 395
*Chia-Leng Lee, Jose Chiu-C Chen, *Chen-Yang Cheng(Tunghai University, Taiwan)*

MB4-3 (411) [An Analysis of Strategic Factors Attracting Customer from Customers' Perspective](#) 400
**Fuyume Sai, Michio Amagasa(Faculty of business Administration, Japan)*

MB4-4 (479) [Distribution Optimization in Fashion Retail Industry : a Case Study at Kolon Sports](#) 407
*Shin Woong Sung(Korea Advanced Institute of Science and Technology (KAIST), Korea), *Young Jang(KAIST, Korea), Ji Eun Roh, Eun Jeong Ko, Seung Yoon Lee, So Yeon Kim, Yoonki Hong, Sun Kyung Oh(Korea Advanced Institute of Science and Technology (KAIST), Korea)*

MB4-5 (504) [Development of Measurement Tool for Project Management Maturity \(Case Study: A Coal Mining Company in Indonesia\)](#) 412
**Sukoyo-, Patricia Racel R, Iwan I. Wiratmadja(Bandung Institute of Technology, Indonesia)*

MB4-6 (323) [Collaborative Product-Service System Design and Optimal Module Mix Selection for Multi-segment](#) 421
**Rosita Surjani, Udisubakti Ciptomulyono, Maria Anityasari(Institute of Technology Sepuluh Nopember, Indonesia)*

MB5 Quality Engineering & Management 2

Ramada-1, 13:30-15:30

4
Chair: Shu-Kai Fan (National Taipei University of Science and Technology, Taiwan)

MB5-1 (227)	Quality Control Analysis of Slab Steel Manufacturing Process <i>*Nashrullah Setiawan, Rayanda Utomo Abdianto(Faculty of Industrial Technology Islamic University of Indonesia, Indonesia), Iwan Kurniawan(Islamic University of Indonesia Yogyakarta, Indonesia)</i>	429
MB5-2 (228)	Acceptance sampling plans by variables based on the lifetime performance index <i>Yu-Ning Chang, *Chien-Wei Wu(National Tsing Hua University, Taiwan), Tai-Hsi Wu(National Taipei University, Taiwan)</i>	435
MB5-3 (229)	An EWMA-based Sampling Plan for Lot Sentencing <i>Chou-Chun Wu, *Chien-Wei Wu(National Tsing Hua University, Taiwan)</i>	440
MB5-4 (246)	Developing a Two-San Sampling System Based on Process Loss Index <i>Ping-Jung Chiang, *Chien-Wei Wu(National Tsing Hua University, Taiwan)</i>	445
MB5-5 (294)	A similarity ranking approach to reduce false alarm of defect classification in CMOS Image Sensor Manufacturing <i>Chu-Yuan Fan, *Kuo-Hao Chang, Chen-Fu Chien, Ying-Jen Chen(National Tsing Hua University, Taiwan)</i>	449
MB5-6 (307)	Identification Quality Management System Requirement for Creative Industries SME's in Bandung <i>*Sribagjwati Suparman, Iman Sudirman, Joko Siswanto, Sukoyo -(Bandung Institute of Technology, Indonesia)</i>	453

MB6 Production and Operations Management 2

Ramada-2, 13:30-15:30

Chair: Gyu M. Lee (Pusan National University, Korea)

MB6-1 (338)	Determining the Optimal Wafer Start Rate in Semiconductor Manufacturing during New Technology Ramp-up <i>Liam Hsieh, *Kuo-Hao Chang(National Tsing Hua University, Taiwan)</i>	459
MB6-2 (362)	A Study of Process Design for Manufacturing Line aimed at Levelization and Productivity on Mix Production <i>*Takumi Wada, Masahiro Arakawa(Nagoya Institute of Technology, Japan)</i>	467
MB6-3 (394)	An Integrated Algorithm for Hybrid Flow Shop Scheduling Problem <i>*Shu-Fen Li, Chen-Yang Cheng, Zi-Hao Hong(Tungshai University, Taiwan)</i>	474
MB6-4 (396)	Multi-Objective Genetic Algorithm for Energy-Efficient and Lot-Streaming Hybrid Flow Shop Scheduling <i>*JZU CHEN, Yi Chou(Fu Jen Catholic University, Taiwan), Yen Chen(Industrial Technology Research Institute, Taiwan)</i>	481
MB6-5 (442)	Bounds for Spatial Scheduling Problem in Shipbuilding <i>*Gyu M. Lee, Sunghee Park(Pusan National University, Korea)</i>	488

MB7 Green Manufacturing/Management

Ramada-3, 13:30-15:30

Chair: Hsiao-Fan Wang (National Tsing Hua University, Taiwan)

MB7-1 (417)	Equilibrium Contract Rents and Reward Money with Modularity Consideration in Reverse Supply Chains of Incomplete Information <i>*L-Hsuan Hong, Pei-Yun Ho(National Taiwan University, Taiwan)</i>	496
MB7-2 (550)	Demand response modeling for retailer considering operating ratio in electricity market <i>JINSIK KIM, *Chulung Lee(Korea University, Korea)</i>	504
MB7-3 (119)	Batch Manufacture and Remanufacture for Periodic Demands <i>*Hsiao-Fan Wang, Chung-Yuan Fu(National Tsing Hua University, Taiwan)</i>	510
MB7-4 (156)	Sustainability Product Design Assessment: Case Study of A Screw Design <i>Zahari Taha(Faculty of Manufacturing Engineering, Malaysia), *Hadi Abdul Salaam(Universiti</i>	517

Malaysia Pahang, Malaysia), Tuan Mohammad Yusoff Shah Tuan Ya(Universiti Teknologi PETRONAS, Malaysia), Mohd Razali Mohamad(Universiti Teknikal Malaysia Melaka, Malaysia)

MB7-5 (342) **A Method of Heat Allocation by the Virtual Heat Storage Source in Air Conditioning System** 525
Ryota Aizawa, *Satoshi Kumagai(Aoyama Gakuin University, Japan), kishima shuuzou(Environmental Urban Systems Section, Japan)

MB7-6 (361) **Environmental Dynamics Analysis and Dynamic Capabilities Of Enterprises Competitiveness** 531
 *saiful Mangenge(Hasanuddin University, Indonesia), Syamsul Bahri(Engineering Faculty Of Hasanuddin University, Indonesia)

MB8 Transportation

Ramada-4, 13:30-15:30

Chair: Jinho Lee (Korea Naval Academy, Korea)

MB8-1 (73) **Dynamic Traffic Assignment and Signal Setting for a Network with Nodal Incident Setting** 539
 *Dennis Cruz(De La Salle University, Philippines), Russel Cristopher Castan, Mylene Joyce Cruz(De La Salle University - Manila, Philippines), Lovelyn Hernandez(De La Salle University, Philippines)

MB8-2 (91) **Break or Not?: Pioneering the Northern Sea Route with Presence of Icefloes** 548
 Jaehyung An(Samsung Electronics, Korea), *Jinho Lee(Korea Naval Academy, Korea)

MB8-3 (103) **Taxi Carpooling Problem Solved by Genetic Algorithm and Ant Colony Optimization Method** 553
 *Bryan Ngai, Howard Sheng, Feng-Cheng Yang(National Taiwan University, Taiwan)

MB8-4 (312) **Dairy transportation problem with no mixing of raw milk and time windows constraints** 561
 Kongkidaknon Worasan(Faculty of Engineering, Thailand), *Kanchana Sethanan(Khon Kaen University, Thailand), Nantika Chaikanha(Faculty of Engineering, Thailand)

MB8-5 (340) **Online conflict-free dispatching and routing of personal rapid transits based on the nearest neighbor dispatching rule** 567
 Chung-Kyun Han(Pusan National University, Korea), Baek-Hyun Kim(Korea Railroad Research Institute, Korea), *Byung-Hyun Ha(Pusan National University, Korea)

MB8-6 (53) **A branch and bound algorithm to minimize the total load traveled for single vehicle routing with pickup and delivery** 573
 Yong-Ju Kwon, *Dong-Ho Lee(Hanyang University, Korea)

MB9 Ergonomics & Welfare Management

Halla(8F), 13:30-15:30

Chair: Hiromi Ban ((Nagaoka University of Technology, Japan)

MB9-1 (488) **Development of the view measuring device for a visual field impaired person** 578
 *Yuko Shimomura, Hiroyuki KAWABE(Kinjo University, Japan), Hidetaka Nambo(Kanazawa University, Japan), Syoji Yamada(Japan Advanced Institute of Science and Technology, Japan), Yasuaki Matumoto(Ecosysnetwork Co., Japan), Kazuaki Kojima(Ltd., Japan)

MB9-2 (484) **Development of eye tracking HMD system for visual field impaired students** 582
 *Hiroyuki KAWABE, Yuko Shimomura(Kinjo University, Japan), Hidetaka Nambo(Kanazawa University, Japan), Shuichi Seto(Kinjo College, Japan)

MB9-3 (530) **Direction of sound source estimation method for informing the speech direction to the unsound person** 586
 Katsuya Kondo(Graduate of Science and Engineering, Japan), *Hidetaka Nambo, Haruhiko Kimura(Kanazawa University, Japan)

MB9-4 (485) **Detection of speaker by a lip motion for hearing impaired student** 590
 *Shuichi Seto(Kinjo College, Japan), Hiroyuki KAWABE, Yuko Shimomura(Kinjo University, Japan), Hidetaka Nambo(Kanazawa University, Japan)

MB9-5 (471) **Approach of Health-care Administration Utilizing Purchase Data of School Cafeteria** 594
 *Shoji Takechi(Kanazawa Institute of Technology, Japan)

MB9-6 (505) **Recognition of the Distance between Plant and Human by Plant Bioelectric Potential** 602
 *XINGYI JIN, Hidetaka Nambo, Haruhiko Kimura(Kanazawa University, Japan)

MC1 Supply Chain Management 1

Mara, 15:50-17:50

Chair: Rainisa Heryanto (Maranatha Christian University, Indonesia)

MC1-1 (252)	A Multi-Criteria Selection for Inventory Aggregation Problem under Risk Pooling: A Case Study <i>*Kanokporn Rienkhemaniyom, Nipa Suttachai(King Mongkut's University of Technology Thonburi, Thailand)</i>	607
MC1-2 (261)	A Multi-Objective Closed-Loop Supply Chain Model For Multiple Generations of a Product with Mandatory Product Take-back <i>Justin Contreras(De La Salle University - Manila, Philippines), *Dennis Cruz(De La Salle University, Philippines)</i>	615
MC1-3 (279)	The Proposal of Applying Multi Echelon Inventory to Minimize Supply Chain Total Cost for Soft Drinks <i>*Santoso -, Rainisa Heryanto(Maranatha Christian University, Indonesia)</i>	623
MC1-4 (280)	The Improvement of the Model of Wheat Flour Requirement at Eastern Indonesia by Determining the Number Location of the New Plant <i>*Rainisa Heryanto(Maranatha Christian University, Indonesia), Senator Bahagia(Bandung Institute of Technology, Indonesia)</i>	630
MC1-5 (355)	Coordination of supply chains with risk-averse members under budget constraints <i>*Ilkyeong Moon, Xuehao Feng(Seoul National University, Korea)</i>	638
MC1-6 (336)	A MECE Feature Selection Framework for Yield Improvement in Semiconductor Manufacturing <i>*CHIA-YEN LEE, BO-SYUN CHEN(National Cheng Kung University, Taiwan)</i>	645

MC2 Reliability & Maintenance

Biyang, 15:50-17:50

Chair: Shinya Mizuno (Shizuoka University, Japan)

MC2-1 (118)	DELPHI-AHP BASED METHODOLOGY FOR SELECTING THE OPTIMUM MAINTENANCE STRATEGY FOR SHIP MACHINERY SYSTEMS <i>*Ikuobase Emovon, Rosemary Norman, Alan Murphy(Newcastle University, United Kingdom), Biliaminu Kareem(Federal University of Technology, Nigeria)</i>	653
MC2-2 (121)	Cost Minimization for Achieving a Target Operational Availability of a Warship through Sensitivity Analysis <i>Jinho Lee, *Ki-Hoon Song(Korea Naval Academy, Korea)</i>	661
MC2-3 (153)	Method of Minimizing Costs in Consideration of System Backup Intervals and Expected Costs <i>*Shinya Mizuno(Center for Information Infrastructure, Japan), Naoki Kondo(Shizuoka Professional Training College of Industrial Technology, Japan), Haruki Inoue, Takahiro Hasegawa, Naokazu Yamaki(Center for Information Infrastructure, Japan)</i>	667
MC2-4 (320)	Applied Algorithm for the Optimal Arrangement Problem of a Connected-(r, s)-out-of-(m, n):F System <i>*Toru Omura, Hisashi Yamamoto(Tokyo Metropolitan University, Japan), Tomoaki Akiba(Chiba Institute of Technology, Japan), Xiao Xiao(Tokyo Metropolitan University, Japan)</i>	673
MC2-5 (580)	Interaction in Virtual Reality: A Review <i>*Bereket Woldegiorgis, Chiuhsiang Lin(National Taiwan University of Science and Technology, Taiwan)</i>	680
MC2-6 (582)	The implementation of the mobile-Computerized Procedure System Editor <i>Dae Seung Park, *Yeonsub Jung(Central Research Institute of Korea Hydro and Nuclear Power Co., Korea)</i>	688

MC3 Ergonomics/Human Factors 2

Udo, 15:50-17:50

Chair: Zahari Taha (Universiti Malaysia Pahang, Malaysia)

MC3-1 (456)	Ergonomic Assessment on Fatigue among Malaysian Express Bus Drivers Using the Partial Least Squares (PLS) Approach <i>YUSOF HASHIM, *ZAHARI TAHA(Universiti Malaysia Pahang, Malaysia)</i>	692
MC3-2 (359)	Usability Point of View for Klasiber E-Learning in Islamic University of Indonesia <i>*Muhammad Suryoputro(Universitas Islam Indonesia, Indonesia), Amaria Sari(Islamic University of Indonesia, Indonesia), amalia rahmayani(islamic university of indonesia, Indonesia), Miftahulkhair Adiarto(Islamic University of Indonesia, Indonesia)</i>	702
MC3-3 (393)	The Relationships among Hand Size, Grip Span and Maximum Volitional Contraction and Hand-Grip Control Exerting <i>*Kun Liao, Kun Liao(Taiwan Shoufu University, Taiwan)</i>	709
MC3-4 (419)	Evaluating the Appropriateness of Qualitative Research data using the measures in Semantic Network Analysis <i>Ye Lim Rhie(Seoul National University, Korea), *Ji Hyoun Lim, Min Ho Lee(Hongik University, Korea), Myung Hwan Yun(Seoul National University, Korea)</i>	718
MC3-5 (449)	Analysis and Proposal about the Effect of Time, Types of Subject and Types of Room Factor to the Students' Concentration <i>*Elty Sarvia, Evan Sentosa(Maranatha Christian University, Indonesia)</i>	724
MC3-6 (341)	Walking on the spot effects on sleep quality <i>Ting Shao, *Dengchuan Cai(National Yunlin University of Science and Technology, Taiwan)</i>	731

MC4 Network Optimization

Chuja, 15:50-17:50

Chair: Hsiao-Fan Wang (Universiti Malaysia Pahang, Taiwan)

MC4-1 (407)	Paired Property Analysis for Optimal Worker Assignment -Worker Efficiency vs. Task - <i>*Xianda Kong, Hisashi Yamamoto, Peiya Song(Tokyo Metropolitan University, Japan), Jing Sun(Nagoya Institute of Technology, Japan), Masayuki Matsui(Kanagawa University, Japan)</i>	739
MC4-2 (363)	Optimal Energy Supply-mix Model with Uncertain Monthly Capacity Factor of Renewable Energies <i>Meng-Ping Sung, *Hsiao-Fan Wang(National Tsing Hua University, Taiwan), Hsin-Wei Hsu(Industrial Technology Research Institute (ITRI), Taiwan)</i>	745
MC4-3 (268)	Search Process for Pareto Solutions of a Two-objective Network by Combination of Network Properties <i>*Natsumi Takahashi, Hisashi Yamamoto(Tokyo Metropolitan University, Japan), Tomoaki Akiba(Chiba Institute of Technology, Japan), Xiao Xiao(Tokyo Metropolitan University, Japan)</i>	753
MC4-4 (515)	Acceleration Techniques of the Dynamic Programming Algorithms for Resource-Constrained Elementary Shortest Path Problem <i>Hyunchul Tae, *Byung-in Kim(POSTECH, Korea)</i>	760
MC4-5 (319)	Solving the Multi-Modal Orienteering Problem with Time Windows using Particle Swarm Optimization <i>Vincent F. Yu, *Parida Jewpanya, A.A.N. Perwira Redi(National Taiwan University of Science and Technology, Taiwan)</i>	768
MC4-6 (142)	Alternative-Fuel station location problem: efficiency and fairness <i>Sungjae Park(Sungkyunkwan University, Korea), Chang hyun Kwon(University at Buffalo, United States), *Byung Do Chung(Sungkyunkwan University, Korea)</i>	776

MC5 Quality Engineering & Management 3

Ramada-1, 15:50-17:50

Chair: Chia-Yu Hsu (Yuan Ze University, Taiwan)

MC5-1 (325)	Developing a Variables Multiple Dependent State Sampling Plan with Loss-based Capability Index <i>Zih-Huei Wang, *Chien-Wei Wu(National Tsing Hua University, Taiwan)</i>	783
MC5-2 (328)	Overall Automatic-optical-inspection efficiency (OAE) for Yield Enhancement in CMOS Image Sensor Manufacturing <i>Ying-Jen Chen, Ci-An Rong, Kuo-Hao Chang, *Chen-Fu Chien(National Tsing Hua University, Taiwan)</i>	788

MC5-3 (339)	Variables Quick Switching Sampling System based on Process Performance Index <i>Mei-Hsu Shih, Chien-Wei Wu(National Tsing Hua University, Taiwan)</i>	793
MC5-4 (346)	Applying Evolutionary Algorithm Approach for Optimizing Design of Chip Size <i>*Chia-Yu Hsu, Shih-Chang Chiu(Yuan Ze University, Taiwan)</i>	799
MC5-5 (370)	Quality Design of Yarn Dyed Production Residu based on Taguchi and Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) method <i>*Ali Parkhan, Faisal M, Djeni Hartika, Imam Widodo(Islamic University of Indonesia, Indonesia)</i>	804
MC5-6 (402)	Tool to Identify and Assess Human Values for TQM Implementation: A Proposal <i>*muhammad malik(Universiti teknologi Malaysia, Malaysia), Sha'ri Mohd Yusof(Universiti Teknologi Malaysia, Malaysia)</i>	810

MC6 Simulation 1

Ramada-2, 15:50-17:50

Chair: Pudji Astuti (Trisakti University, Indonesia)

MC6-1 (500)	Development of an Artificial Housing Market Using Agent-Based Modeling <i>Byeungchun Kwon, RI YU, KyeongTae Lee(Bank of Korea, Korea), *Nam-Wook Cho(Seoul National University of Science & Technology, Korea)</i>	817
MC6-2 (196)	Design and development of a semiconductor wafer manufacturing simulation system <i>*Li-Chih Wang(Tunghai University, Taiwan), Allen Wang(Department of Industrial Engineering and Enterprise Information Tunghai University, Taiwan), Chun-Ya Chueh(Tunghai University, Taiwan), Tai-Yen Tseng(Department of Industrial Engineering and Enterprise Information, Taiwan)</i>	823
MC6-3 (424)	CONCEPTUAL MODEL FOR SIMULATION OF COMMUTER LINE TRAFFIC AND OPTIMIZING HEADWAY <i>*Pudji Astuti, Winnie Septiani, Sucipto Adisuwiry, Liana Antoni(Trisakti University, Indonesia)</i>	829
MC6-4 (66)	Automatic defect inspection of FT-LCD panels using Fourier image reconstruction <i>*Du-Ming Tsai, Yan-Hsin Tseng(Yuan-Ze University, Taiwan), Wei-Yao Chiu(Industrial Technology Research Institute, Taiwan)</i>	834
MC6-5 (179)	Application of value stream mapping for lean management: a case study of air conditioner production line <i>*Yi-Hsin Hu, James C. Chen(National Tsing Hua University, Taiwan), Tzu-Li Chen(Fu Jen Catholic University, Taiwan), Kirin Chen, Amy Hung(AXIS-group, Taiwan), Chun-Ju Lin(National Tsing Hua University, Taiwan)</i>	842

MC7 Healthcare Systems 1

Ramada-3, 15:50-17:50

Chair: Chie-Hyeon Lim (POSTECH, Korea)

MC7-1 (482)	Measuring Performance of Health Care Organizations using Integrated Balance Scorecard-AHP Technique <i>*ira setyaningsih(Islamic State University UIN Sunan Kalijaga Yogyakarta, Indonesia)</i>	849
MC7-2 (99)	Risk Assessment of Drug Safety for Emergency Patients Using Modified HFMEA <i>*Chien-Chih Wang(Ming Chi University of Technology, Taiwan), Li-Jung Huang(Division Director, Taiwan), Hsin-Ning Pan, Yun-Ru Yang(Ming Chi University of Technology, Taiwan)</i>	856
MC7-3 (112)	A Multi-Perspective Approach to Service Quality Assessment in Private Hospitals <i>*Joy Mari Bautista, Jazmin Tangsoc(De La Salle University, Philippines)</i>	859
MC7-4 (194)	A Personalized Tele-home Care System for Solitary Elders <i>Jiun-Han Lin, *Hsiao-Fan Wang(National Tsing Hua University, Taiwan)</i>	866
MC7-5 (248)	A Robust Parameter Design Approach for Emergency Department Simulation <i>*Chumpol Yuangyai, suriyaphong nilsang(King Mongkut's Institute of Technology Ladkrabang, Thailand), Kanokporn Rienkhemaniyom(King Mongkut's University of Technology Thonburi, Thailand), Udom Janjarassuk(King Mongkut's Institute of Technology Ladkrabang, Thailand)</i>	872

MC8 Optimization Techniques 1

Ramada-4, 15:50-17:50

Chair: Shi-Woei Lin (National Taiwan University of Science and Technology, Taiwan)

MC8-1 (374)	Evaluating the Economic Performance of ASEAN Countries by Data Envelopment Analysis <i>Mohammad Jerusalem, *Shi-Woei Lin(National Taiwan University of Science and Technology, Taiwan)</i>	879
MC8-2 (217)	Detecting the Masked Efficient DMU in DEA <i>Chiao-Pin Bao(I-Shou University, Taiwan), *Meei-Ing Tsai, Ming-Chi Tsai(College of Management, Taiwan)</i>	887
MC8-3 (201)	Process and Cost Optimization for Plastic Injection Molding by Data Envelope Analysis and Mathematical Programming <i>Wu-Lin Chen(Providence University, Taiwan), Wan-Qiao Lai, Chen-Yu Huang, *Chin-Yin Huang(Tunghai University, Taiwan)</i>	894
MC8-4 (169)	Stochastic Global Optimization Using Sequential Kriging Metamodeling <i>Yan-Han Lu, *Kuo-Hao Chang(National Tsing Hua University, Taiwan)</i>	901
MC8-5 (206)	Optimization of Air-Conditioning Energy Conservation by Mathematical Programming <i>Wu-Lin Chen(Providence University, Taiwan), Chung-Wei Chou, Szu-han Chiu, *Chin-Yin Huang(Tunghai University, Taiwan)</i>	907
MC8-6 (271)	Expertise-based Experts Ranking at Multiplicative Preference Relations on Alternatives <i>evy herowati, *evy herowati, evy herowati(University of Surabaya and Institute of Technology Sepuluh Nopember, Indonesia), Udisubakti Ciptomulyono(Institute of Technology Sepuluh Nopember, Indonesia), Joniarto Parung(University of Surabaya, Indonesia), Suparno Suparno(Institute of Technology Sepuluh Nopember, Indonesia)</i>	914

MC9 Educational Support System

Halla(8F), 15:50-17:50

Chair: Masahide Yamamoto (Kanazawa Seiry University, Japan)

MC9-1 (501)	A system of real time advice for speech improvement <i>*Hiroshi Arai(Kinjo college, Japan), Hidetaka Nambo(Kanazawa University, Japan), Yuko Shimomura, Hiroyuki KAWABE(Kinjo University, Japan), Shuichi Seto(Kinjo College, Japan)</i>	920
MC9-2 (562)	Consideration on English Learning for Undergraduates Using the Nintendo DS <i>*Hiromi Ban(Nagaoka University of Technology, Japan), Haruhiko Kimura(Kanazawa University, Japan), Takashi Oyabu(Kokusai Business Gakuin College, Japan)</i>	924
MC9-3 (448)	The Analysis of Concept and Effect Factors on Financial Literacy <i>*Yuji Kitano(Kanazawa Seiry University, Japan), Koji Osana(Shiga Junior college, Japan), Keiichiro Nishio(Matsuyama University, Japan)</i>	929
MC9-4 (455)	The Present Conditions of the Computerization of Education and its Problems Concerning the Educator <i>*Yumi Tatsushima(Kanazawa Seiry University, Japan)</i>	936
MC9-5 (154)	AN ANALYSIS OF JOB SATISFACTION OF FACULTY MEMBERS OF BULACAN STATE UNIVERSITY MAIN CAMPUS (COLLEGE OF ENGINEERING) <i>*Dyan Gonzales(Philippine Institute of Industrial Engineers, Philippines)</i>	941
MC9-6 (507)	Analysis the Influence of Study Program's Education Quality towards Graduates' Potential Marketing <i>*Yulianti Talar, Jimmy Gozaly(Maranatha Christian University, Indonesia)</i>	948

TA1 Supply Chain Management 2

Mara, 08:40-10:40

Chair: Etsuko Kusukawa (Osaka Prefecture University, Japan)

TA1-1 (50)	Impact of information sharing regarding customer returns ratio on optimal sales strategy under e-commerce <i>*Yuta Saito, Etsuko Kusukawa(Osaka Prefecture University, Japan)</i>	957
TA1-2 (59)	Analyzing the evolutionary stability for behavior strategies in green supply chain <i>*Daijiro Tomita, Etsuko Kusukawa(Osaka Prefecture University, Japan)</i>	965
TA1-3 (60)	Pareto-Based PSO Algorithm for Multi-Objective LRP <i>*jie liu(student, Thailand), Voratas Kachitvichyanukul(professor, Thailand), jie liu(student, Thailand)</i>	973

TA1-4 (61)	Optimal Ordering Policy in Dual-Sourcing Supply Chain considering Supply Disruptions and Demand Information <i>*Naoki Watanabe, Etsuko Kusakawa(Osaka Prefecture University, Japan)</i>	980
TA1-5 (130)	Research in Supply Chain Management: Issue and Area Development <i>elisa kusri(Department of Industrial Engineering, Indonesia), *siti Budijati(Faculty of Engineering, Indonesia), subagyo subagyo(Indonesian Islamic University, Indonesia), nuraini masruroh(Yogyakarta, Indonesia)</i>	988
TA1-6 (161)	Cold Chain Logistics Development: Analyzing Taiwan Influences in Indonesia Market <i>James C. Chen(National Tsing Hua University, Taiwan), Janet Chen, Yun-Wei Hung(Industrial Technology Research Institute, Taiwan), *Muhammad Rinaldi Darmawan, Nadia Aulia Arifin, Hsin-Yu Shih(National Tsing Hua University, Taiwan)</i>	996

TA2 Communication Support

Biyang, 08:40-10:40

Chair: Sakiko Ogoshi (Kanazawa University, Japan)

TA2-1 (443)	Discrimination of Positive / Negative Attitude Using Optical Flow <i>*Yuta Kobayashi(Kanazawa University, Japan), Munehiro Nakamura(Kanazawa Institute of Technology, Japan), Hidetaka Nambo, Haruhiko Kimura(Kanazawa University, Japan)</i>	1003
TA2-2 (535)	Development of the support system for facial expression training <i>*Yusuke Amagata, Yasuhiro Ogoshi(University of Fukui, Japan), Sakiko Ogoshi(Kanazawa University, Japan), Tomohiro Takezawa(The National Institute of Vocational Rehabilitation, Japan), Yoshinori Mitsuhashi(Chiba, Japan)</i>	1010
TA2-3 (489)	Discrimination of Micro-Expression with Subjective Assessments <i>*Kiyotaka nakashima(Graduate School of Natural Science, Japan), Munehiro Nakamura(Kanazawa Institute of Technology, Japan), Haruhiko Kimura(Graduate School of Natural Science, Japan)</i>	1015
TA2-4 (536)	Facial electromyogram (FEMG) analysis of perception and rendering of facial expression <i>*Akira Takahara, Yasuhiro Ogoshi(University of Fukui, Japan), Sakiko Ogoshi(Kanazawa University, Japan), Tomohiro Takezawa(The National Institute of Vocational Rehabilitation, Japan), Yoshinori Mitsuhashi(University of Fukui, Japan)</i>	1020
TA2-5 (480)	Text extraction in natural image <i>*Masayoshi Ueno, Hidetaka Nambo, Haruhiko Kimura(Kanazawa University, Japan)</i>	1025
TA2-6 (537)	Electroencephalogram activity during imagined imitative learning <i>*Shu Momose(University of Fukui, Japan), Sakiko Ogoshi(Kanazawa University, Japan), Yasuhiro Ogoshi(University of Fukui, Japan), Tomohiro Takezawa(The National Institute of Vocational Rehabilitation, Japan), Yoshinori Mitsuhashi(University of Fukui, Japan)</i>	1030

TA3 Data Mining 2

Udo, 08:40-10:40

Chair: Jong-Seok Lee (Sungkyunkwan University, Korea)

TA3-1 (128)	AUC-based C4.5 tree induction for imbalanced data classification <i>Jungmin Lee, Sungho Lee, *Jong-Seok Lee(Sungkyunkwan University, Korea)</i>	1035
TA3-2 (147)	Comparison of machine learning classifiers for glaucoma diagnosis using variable selection <i>Su-Dong Lee, Jihyung Lee, Heecheon You, *Chi-Hyuck Jun(POSTECH, Korea)</i>	1042
TA3-3 (203)	An iterative random sampling procedure for outlier detection <i>Jihyun Ha, Seulgi Seok, *Jong-Seok Lee(Sungkyunkwan University, Korea)</i>	1049
TA3-4 (392)	Development of Knowledge Management for Forecasting in Restaurant Using Association Rule Mining and Regression Analysis <i>*Annisa Khasanah, Agus Mansur, Yasser Ulil Albab(Universitas Islam Indonesia, Indonesia)</i>	1057
TA3-5 (412)	Data stream clustering by controlling decision errors <i>Jeonghwa Lee, *Chi-Hyuck Jun(POSTECH, Korea)</i>	1064
TA3-6 (216)	The moderating impact of employee's perceived self-efficacy on knowledge sharing intention <i>*Mei-Fang Chen, Ssu-Wei Huang(Tatung University, Taiwan), Pei-Ju Tung(National Chengchi University, Taiwan)</i>	1071

TA4 Tourism Management/ Topics in IE/MS

Chuja, 08:40-10:40

Chair: Hidetaka Nambo (Kanazawa University, Japan)

TA4-1 (472)	Evaluation for painting show of kindergarten on rout bus in Kaga City <i>Eri Ishikawa, Ayano Kawasaki, Izumi Yamasaki(Kanazawa Seiry University, Japan), *Takashi Oyabu(Kokusai Business Gakuin College, Japan)</i>	1077
TA4-2 (444)	Utilization of historical materials and CGM for foreign visitors <i>*Ayako Sawada(Hokuriku Gakuin Junior College, Japan), Takekoshi Yoshida(Japan Advanced Institute of Science and Technology, Japan)</i>	1084
TA4-3 (564)	The Verification of Mass Customization Systems in the Chinese Market <i>*Bin Fang(Kanazawa Seiry University, Japan), Akinori Ono(Keio University, Japan)</i>	1090
TA4-4 (15)	Using SWOT Analysis to Evaluate the Public Procurement in Compliance with SNI (Case Study: Government Agency at Central of Java) <i>*Aries Susanty, Hery Suliantoro, Diana Puspitasari, Diena Novitasari, Nia Budi Puspitasari(Diponegoro University, Indonesia)</i>	1094
TA4-5 (264)	Designing Variables Quick Switching System with Process Loss Consideration <i>Yi-Jhen Jian, *Chien-Wei Wu(National Tsing Hua University, Taiwan)</i>	1100
TA4-6 (225)	A Variables Multiple Dependent State Sampling Plan for Products with Unilateral Specification Limit <i>Chih-Chieh Chang Chien, *Chien-Wei Wu, Yi-Feng Hung(National Tsing Hua University, Taiwan)</i>	1105

TA5 Sustainable Management

Ramada-1, 08:40-10:40

Chair: Mei-Fang Chen (Tatung University, Taiwan)

TA5-1 (35)	Sustainable supply chain management in competitiveness environment <i>Ming-Lang Tseng(Lunghwa University of Science and Technology, Taiwan), *Anthony Shun Fung Chiu(De La Salle University, Philippines), Ming Lim(Derby University, United Kingdom)</i>	1110
TA5-2 (114)	Sustainable management of Taiwan's semiconductor supply chain <i>*Chi-Tai Wang, Chui-Sheng Chiu(National Central University, Taiwan)</i>	1119
TA5-3 (136)	The Use of Smart Meter Data to Analyze the Consumption Patterns <i>Chia-Yu Shen(National Tsing Hua University, Taiwan), *Hsiao-Fan Wang(Hsinchu, Taiwan)</i>	1124
TA5-4 (137)	Time of Use Electricity Pricing Optimization in a Monopolized Electricity Market <i>Hsin-Yu Chiang, *Hsiao-Fan Wang(National Tsing Hua University, Taiwan)</i>	1131
TA5-5 (291)	Modeling and Optimization of Power Storage Strategy of Hybrid Renewable Energy System in Uncertainty Environments <i>Chi-Kang Su, *Kuo-Hao Chang(National Tsing Hua University, Taiwan)</i>	1136
TA5-6 (347)	What psychological factors influence the protection motivation of climate change? <i>*Mei-Fang Chen(Tatung University, Taiwan)</i>	1141

TA6 Simulation 2

Ramada-2, 08:40-10:40

Chair: Udom Janjarassuk (King Mongkut's Institute of Technology Ladkrabang, Thailand)

TA6-1 (98)	Application of Agent-Based Modeling and Simulation for an Outpatient Department in a Hospital <i>*Chumpol Yuangyai(King Mongkut's Institute of Technology Ladkrabang, Thailand), Udom Janjarassuk(Faculty of Engineering, Thailand), Chonnupong Siritan(King Mongkut's Institute of Technology Ladkrabang, Thailand), Kanokporn Rienkhemaniyom(King Mongkut's University of Technology Thonburi, Thailand)</i>	1147
TA6-2 (105)	Integrated Maintenance and Inventory Optimisation Model for Offshore Assets <i>*Winda Cahyo(Islamic University of Indonesia, Indonesia)</i>	1154

TA6-3 (221)	A PSO-based hybrid Approach for Buffer Allocation Problem with Uncertainty <i>*James T. Lin, Chun-Chih Chiu(National Tsing-Hua University, Taiwan)</i>	1161
TA6-4 (272)	State-based Modeling and Simulation of Urban Traffic Systems Including Signalized Intersections <i>*Mira Myong, Donghun Kang, Byoung Kyu Choi(KAIST, Korea)</i>	1167
TA6-5 (295)	MCMC algorithm using self-adaptive differential evolution and local optimization technique for Bayesian framework of complex systems <i>Jun-Seong Kim, Chi-Hyuck Jun(POSTECH, Korea)</i>	1174
TA6-6 (356)	Evaluation of the Behavior of Persons on a Floor in a Disaster Situation by Multi-Agent Simulation <i>*Keita Sugiura, Masahiro Arakawa(Nagoya Institute of Technology, Japan)</i>	1179

TA7 Production & Operations Management 1

Ramada-3, 08:40-10:40

Chair: Takayoshi Tamura (Aichi Institute of Technology, Japan)

TA7-1 (282)	Study and findings based on actual case data of the degree of the integration in regard to the production quality of information systems <i>*Hideaki Hayashi, Etsuji Ohmura(Osaka University, Japan)</i>	1187
TA7-2 (327)	A Study on Standard Productivity for Comparing Productivity of an Assembly Line in Diversified Production Conditions <i>*Kagehisa Nakayama(Waseda University, Japan), Shohei Machida, Hisashi Onari(WASEDA University, Japan)</i>	1195
TA7-3 (349)	Inventory Valuation Model Considering Profitability and Risk <i>Kiho Kamiya, Satoshi Kumagai(Aoyama Gakuin University, Japan), Ohba Masaaki(College of Economics, Japan)</i>	1201
TA7-4 (431)	A method of operational planning for project-based production in consideration of learning effects and demand uncertainty <i>*YOSHIHIKO SUZUKI(Seiryō Technica Co. Ltd, Japan), Nobuaki Ishii(Bunkyo University, Japan), masaaki muraki(Emeritus Professor, Japan)</i>	1208
TA7-5 (104)	Integrated Transport Terminal. Its Effect on Commuters' Travel Time, Cost, and Comfort (Or How Bitter-Sweet is the Metro Manila SWITT?) <i>*RUMEL ATIENZA, RUMEL ATIENZA, Carlo Tansuk(DE LA SALLE UNIVERSITY, Philippines)</i>	1213
TA7-6 (218)	Effectiveness of an Exponential Smoothing System for a Multi-Stage Multi-Item Production System with Advance Demand Information <i>*Takayoshi Tamura(Aichi Institute of Technology, Japan), Tej Dhakar(Southern New Hampshire University, United States)</i>	1219

TA8 Logistics Management

Ramada-4, 08:40-10:40

Chair: Anchalee Supithak (Thai-Nichi Institute of Technology, Thailand)

TA8-1 (440)	Logistics Management of Oil Palm in Southern Region of Thailand <i>*Phajongjit Pijitbanjong(Faculty of Industrial Technology, Thailand), Paroon Mayachearw(Songkhla Rajabhat University, Thailand), Rapeepan Pitakaso(Songkhla, Thailand)</i>	1227
TA8-2 (477)	On the resources required to provide persistent robotic service agents: Multiple immobile customers and a single service station <i>Hyorin Park, James Morrison(KAIST, Korea)</i>	1234
TA8-3 (483)	Solving Integrated Inventory and Open Vehicle Routing Problem in Two Depots and Multiple Retailers' Distribution System <i>*Anchalee Supithak(Thai-Nichi Institute of Technology, Thailand)</i>	1242
TA8-4 (543)	Competitive Facility Location and Design Problem by Considering Conditions of Government Regulation and Regional Saturation <i>Suprayogi Suprayogi, Yosi Hidayat(Institut Teknologi Bandung, Indonesia), Utaminingsih Linarti(Ahmad Dahlan University, Indonesia)</i>	1250
TA8-5	Cooperative Tactical Planning in Road Transportation with Backhauling Management	1256

(344)	<i>*Apichit Manee-ngam(Faculty of Engineering, Thailand), Apinanthana Udomsakdigool(King Mongkut's University of Technology Thonburi, Thailand)</i>	
TA8-6 (313)	Monitoring Framework for Dynamic Inbound Flows <i>Kiyoul Lee(POSTECH (Pohang University of Science & Technology), Korea), Hyunbo Cho(POSTECH (Pohang University of Science & Techonology), Korea), *Mooyoung Jung(UNIST (Ulsan National Institute of Science & Technology), Korea)</i>	1264

TA9 Uncertainty Theory (Session II)

Halla(8F), 08:40-10:40

Chair: Xiaowei Chen (Nankai University, China)

TA9-1 (558)	Towards Uncertain Network Optimization <i>*Jin Peng(Huanggang Normal University, China)</i>	1270
TA9-2 (559)	Viral Marketing of Multiple-Attribute Products in a Social Network <i>Wei Li, *Yaodong Ni(University of International Business and Economics, China)</i>	1271
TA9-3 (560)	Uncertain Logic Controller and Its Applications <i>*Wei Dai(Central University of Finance and Economics, China)</i>	1279
TA9-4 (561)	Uncertain Random Multilevel Programming <i>*Hua Ke(Tongji University, China)</i>	1280
TA9-5 (565)	Assets Pricing and Risk Management in Uncertain Market <i>*Xiaowei Chen(School of Economics Nankai University, China)</i>	1281
TA9-6 (428)	Liquidity Crashes and Robust Portfolio Management <i>Seungkyu Lee(Pohang University of Science and Technology, Korea), *Bong-Gyu Jang, Seyoung Park(POSTECH, Korea)</i>	1282

TB1 Supply Chain Management 3

Mara, 14:20-16:00

Chair: Muhammad Rusman (Hasanuddin University, Indonesia)

TB1-1 (165)	Nash Equilibrium Retail Prices in a Planer Duopoly Market <i>*Koichi Nakade, Akira Kanazawa(Nagoya Institute of Technology, Japan)</i>	1295
TB1-2 (176)	A Proposal of Bargaining Solution for Cooperative Contract in a Supply Chain <i>*Wakana Kato, Ikuo Arizono(Okayama University, Japan)</i>	1303
TB1-3 (208)	Capacity Planning and Partnership Management <i>*Cheng-Hung Wu, Wen-Lan Hsu(National Taiwan University, Taiwan)</i>	1310
TB1-4 (160)	A multi-objective facility location problem in congested systems with service level for each facility and competitive environment <i>*Mahsa Bcroushaki(M.Sc. student of industrial engineering, Iran), hasan hosseini nasab(Associate professor, Iran)</i>	1314
TB1-5 (234)	Blood Bank Location Model for Blood Distribution Planning in Makassar City <i>*Muhammad Rusman(Hasanuddin University, Indonesia), Amrin Rapi(Ministry of Industry of Republic of Indonesia, Indonesia)</i>	1323

TB2 Management of Technology and Innovations 2

Biyang, 14:20-16:00

Chair: Chih Wang (National Chiao Tung University, Taiwan)

TB2-1 (188)	Establishment and development of the innovation-promoting organization for Industry <i>*Kana Hayase, Nobutaka Odake(Nagoya Institute of Technology, Japan), Takeshi Matsumoto(Osaka Gas Co., Japan)</i>	1328
TB2-2 (425)	Using Innovative Intellectual Property Indicators to Identify National Knowledge Flow Effects <i>*Chin-Yuan Fan, Chia-Hao Hsu(Science & Technology Policy Research and Information Center, Taiwan), shu-hao Chang(National Applied Research Labs, Taiwan), pin-hua Lin(Zhongli, Taiwan)</i>	1336

TB2-3 (317)	Development of Virtual Organisation Framework Model in Tourism Industry Using Axiomatic Design <i>*Agus Fauzi, Eny Maftuchah, Nasrullah Setiawan, Bambang Suratno(Universitas Islam Indonesia, Indonesia)</i>	1345
TB2-4 (150)	Supporting Technology Foresight for Disruptive Innovation: Keyword-based Visual Analysis for Futuristic Data <i>Jieun Kim, *Yongtae Park(Seoul National University, Korea)</i>	1352
TB2-5 (22)	Combining correspondence analysis with association rule mining to carry out market segmentation and product configuration <i>*Chih Wang(National Chiao Tung University, Taiwan)</i>	1358

TB3 Data Mining 3

4

Udo, 14:20-16:00

Chair: Jen-Ying Shih (National Taiwan Normal University, Taiwan)

TB3-1 (437)	Comparative Benchmarking Analysis among Fine Jewelry and Costume Jewelry Companies in the Philippines Using Data Envelopment Analysis (DEA) <i>*Dennis Beng Hui, Emil Fernandez(De La Salle University Manila, Philippines)</i>	1366
TB3-2 (469)	A Prediction Method based on Weighted Ensemble of Decision Tree on Alternating Decision Forests. <i>*Shotaro Misawa, Naohiro Fujiwara(Graduate Student of Waseda University, Japan), Kenta Mikawa(Waseda University, Japan), Masayuki Goto Goto(Waseda University., Japan)</i>	1375
TB3-3 (486)	Creating Attractive Digital Signage Content at Universities <i>*RYO AKAIWA(Aoyama Gakuin University, Japan), RYUJI MAEKAWA, KAKURO AMASAKA(AOYAMA GAKUIN UNIVERSITY, Japan)</i>	1383
TB3-4 (502)	A Data Mining Approach for Loan Marketing Response Model <i>*Jen-Ying Shih(National Taiwan Normal University, Taiwan), Wun-Hwa Chen(National Taiwan University, Taiwan)</i>	1388
TB3-5 (581)	The 7-Eleven Rule in the Simulation Output Analysis <i>*Wheymin Song(professor, Taiwan)</i>	1394

TB4 Scheduling & Sequencing 1

Chuja, 14:20-16:00

Chair: Byung Do Chung (Sungkyunkwan University, Korea,)

TB4-1 (122)	A two-stage assembly scheduling problem with makespan minimization <i>Lulu Hu, *Tsui-Ping Chung, Hongying Shan(Jilin University, China), Chien-Ming Chen(Harbin Institute of Technology Shenzhen Graduate School, China)</i>	1413
TB4-2 (233)	Particle swarm Optimization for minimizing electrical consumption for flexible flowshop problem <i>Krisanarach Niisiri(Research Unit on Advanced Productivity Improvement and Logistics Management, Thailand), *Kanchana Sethanan(Faculty of engineering, Khon Kaen university, Thailand)</i>	1420
TB4-3 (284)	Campaign Planning for Multi-Purpose Batch Plants: A Case Study from the Pharmaceutical Industry <i>Mao-Kai Hsu, *Kuo-Hao Chang(National Tsing Hua University, Taiwan)</i>	1427
TB4-4 (287)	Multi-Jobs Lot Streaming to Minimize the Mean Maximum Completion Time in Multi-Stages Hybrid Flow Shop Scheduling <i>*Said Syahputra(Institut Teknologi Bandung, Indonesia, Indonesia), Anas Ma'ruf(Indonesia, Indonesia)</i>	1434
TB4-5 (309)	Shift-Scheduling Characteristic Identification of Non-Star Hotel Industry in Yogyakarta Indonesia <i>*Deny Yuniartha(Universitas Atma Jaya Yogyakarta, Indonesia), Ignatius Luddy Indra Purnama(Atma Jaya Yogyakarta University, Indonesia)</i>	1442

TB5 Knowledge & Information Management

Ramada-1, 14:20-16:00

Chair: Minseok Song (Ulsan National Institute of Science and Technology, Korea)

TB5-1 (250)	Mergers and Acquisitions of ICT Firms for Technological Knowledge Sourcing <i>Yoonjung An, *Yongtae Park(Seoul National University, Korea)</i>	1449
TB5-2 (278)	Analyzing Service Processes Using Process Mining: A Case Study <i>Hanna Yang, *Minseok Song(Ulsan National Institute of Science and Technology, Korea)</i>	1454
TB5-3 (445)	Document Control for Research Reactor Construction by Advanced Nuclear Safety Information Management System <i>*Kook-Nam Park(Korea Atomic Energy Research Institute, Korea), Sung-Kyu Lee(Divi-vision Co., Korea), Seung-Mi Baek(Korea Atomic Energy Research Instituti, Korea), Min-Ho Choi(Korea Atomic Energy Research Institute, Korea), Yong-Se Kwon(Korea Atomic Energy Research institute, Korea)</i>	1458
TB5-4 (297)	Factors influencing user acceptance of intelligent personal assistants on smart devices <i>Jihye Park(LG Household & Health Care, Korea), Euiho Suh(Pohang University of Science and Technology, Korea), *Kiwon Lee(Pohang University of Science and Technology (POSTECH), Korea)</i>	1463
TB5-5 (389)	Prognosis and Survival Prediction of Lung Cancer by Bayesian Network <i>*Shi-Woei Lin, Yu-Wei Chen, Mohammad Jerusalem(National Taiwan University of Science and Technology, Taiwan)</i>	1471

TB6 Production & Operations Management 2

Ramada-2, 14:20-16:00

Chair: Ivy Mar Ramos (Bulacan State University, Philippines)

TB6-1 (49)	Application of ECRS and Simulation Techniques in Bottleneck Identification and Improvement:A Paper Package Factory <i>*Chompoonoot Kasemset, Prin Pinmanee, Primapun Umarin(Chiang Mai University, Thailand)</i>	1477
TB6-2 (124)	Assembly line type II problem of sewing lines in garment industry <i>James C. Chen(National Tsing Hua University, Taiwan), Tzu-Li Chen(Fu Jen Catholic University, Taiwan), Yi-Jhen Lin, *Chun-Ju Lin, Yi-Hsin Hu(National Tsing Hua University, Taiwan)</i>	1485
TB6-3 (151)	EFFICIENCY AND BETTER PRODUCTION FLOW FOR A MANUFACTURER OF STATUES: AN APPLICATION OF MOTION AND TIME STUDY <i>*Ivy Mar Ramos, Ivy Mar Ramos(Bulacan State University, Philippines)</i>	1492
TB6-4 (187)	A Genetic Algorithm for Solving Assembly Line Balancing Problem in Footwear Stitching Line <i>James C. Chen, Tzu-Li Chen, *Chieh-Ying Lin, Chun-Ju Lin(National Tsing Hua University, Taiwan)</i>	1500
TB6-5 (12)	Pricing, Production, and Channel Coordination with Stochastic Learning <i>Tao Li(Santa Clara University, United States), *Suresh Sethi(University of Texas At Dallas, United States), Xiuli He(University of North Carolina at Charlotte, United States)</i>	1507

TB7 Healthcare Systems 2

Ramada-3, 14:20-16:00

Chair: Gino Lim (University of Houston, UnitedStates)

TB7-1 (95)	Construct the Analysis Platform for Evaluating the Static Postural Stability <i>*Chih-Hung Jen(Lunghwa University of Science and Technology, Taiwan), Bernard C. Jiang(National Taiwan University of Science and Technology, Taiwan), Yin-Sung Chen(Yuan Ze University, Taiwan)</i>	1512
TB7-2 (106)	Recent Advances in Intensity Modulated Proton Therapy Treatment Planning Optimization <i>*Gino Lim, Wenhua Cao(University of Houston, United States), Radhe Mohan(The University of Texas MD Anderson Cancer Center, United States)</i>	1520
TB7-3 (306)	Developing A Productivity Improving Framework by Overall Equipment Efficiency and An Empirical Study in A Hospital <i>*Chen-Fu Chien, Pei-Chun Chu, Mei-Li Kuo(National Tsing Hua University, Taiwan)</i>	1526
TB7-4 (379)	An analysis of patients flow in a hospital case study using Simulation model and plant layout	1534

Patcharaphorn Poobanchao(KhonKaen University, Thailand), **Panitarn Peerapattana*(Department of Industrial Engineering Faculty of Engineering of Khon Kean University, Thailand)

TB7-5 Willingness to pay for BPJS Health Insurance: Findings from an Exploratory Study 1540
(76) **Aries Susanty*(Lecturer, Indonesia), *nia puspitasari*(diponegoro university, Indonesia), *Purnawan Wicaksono*(Lecturer, India), *Petty Primatry*(Student, Indonesia)

TB8 Flexible Manufacturing Systems

Ramada-4, 14:20-16:00

Chair: Ibrahim Buseif (, Libya)

TB8-1 The Comparison between Perpetual and Periodic-Review Models for Fast-Moving Products 1547
(579) in Convenience Store Distribution Center
**Yosi Hidayat*, *Veronica Adelein*, *Lucia Diawati*(Institut Teknologi Bandung, Indonesia)

TB8-2 Using Petri Net (PN) Model for Design Flexible Manufacturing Systems (Prototype FMS's 1554
(48))
**Ibrahim Buseif*(Staff member, Libya)

TB8-3 New Model of FMS using FTPN with Demand Variability and Machine Breakdown 1561
(62) **Muhammad Haris Aziz*(University of Engineering and Technology, Pakistan), *Erik L.J. Bohez*(Asian Institute of Technology, Thailand), *Abid Ali*, *Neelum Iqbal*(UET Taxila, Pakistan)

TB8-4 Cellular Manufacturing System Model under Demand Uncertainty 1567
(286) **Muhammad Shodiq Abdul Khannan*(Universitas Pembangunan Nasional Veteran Yogyakarta, Indonesia), *Anas Ma'ruf*(Indonesia, Indonesia), *Rachmawati Wangsaputra*(Institut Teknologi Bandung, Indonesia), *sutrisno sutrisno*(UPN Veteran Yogyakarta Indonesia, Indonesia)

TB8-5 An iterative production planning approach for flexible semiconductor fabrication 1575
(457) **Sun Hoon Kim*, *Young Hoon Lee*, *Cheng Yu Hwang*, *Kee Yong Shin*, *Ki Yol Nam*(Yonsei University, Korea)

TB9 Topics in IE/MS

Halla(8F), 14:20-16:00

Chair: Taufiq Immawan (Islamic University of Indonesia, Indonesia)

TB9-1 A study on relieving electric power shortage by on-site solar power supply 1579
(575) *SangYun Choe*, **Jinwoo Park*(Seoul National Univ., Korea)

TB9-2 Preliminary Study for Mapping of Business Process Re-engineering of Batik in Jogja and 1584
(354) Solo
**Taufiq Immawan*(Islamic University of Indonesia, Indonesia)

TB9-3 Evaluation Method of Information Value Applying for Website 1590
(378) **GaoYang Liang*(Graduate School of Business Administration Daito Bunka University, Japan), *Kiyoshi Nagata*(Informatics Faculty of Business Administration and Department of Business Studies Daito Bunka University, Japan)

TB9-4 1an Production in Automotive Parts Industry-A Case Study 1598
(212) *James C. Chen*(National Tsing Hua University, Taiwan), *Tzu-Li Chen*(Fu Jen Catholic University, Taiwan), *Kirin Chen*, *Amy Hung*(AXIS-group, Taiwan), **Yu Liang*, *Chun-Ju Lin*(National Tsing Hua University, Taiwan)

TB9-5 Optimum Humanitarian Relief Logistics for Facility and Stock Location under Time 1604
(202) Restriction: Thai Flooding Case Study
**WAPEE MANOPINIWES*, *KEISUKE NAGASAWA*, *TAKASHI IROHARA*(Sophia University, Japan)

TC1 Heuristics/Metaheuristics

Mara, 16:20-18:00

Chair: Ma. Cecilia Buseif (Mapua Institute of Technology, Philippines)

TC1-1 GA-BASED OPTIMAL FACILITY LAYOUT DESIGN: CROSSOVER AND MUTATION 1612
(70) PROBABILITY EVALUATIONS
Maricar Misola(Technological Institute of the Philippines- Quezon City, Philippines), **Ma. Cecilia Carlos*(Mapua Institute of Technology, Philippines), *Bryan Navarro*(Philippine Institute of Industrial Engineers (PIIE), Philippines)

TC1-2 (464)	An Improved Differential Evolution Algorithm for Vehicle Routing Problem: An Application in Mobile Medical Equipment Maintenance Unit <i>*Kanokwan Supakdee</i> (Department of Industrial Management Technology, Thailand), Natthapong Nanthasamroeng(Faculty of Industrial Technology, Thailand), Rapeepan Pitakaso(Metaheuristics for Logistics Optimization Laboratory (MLO), Thailand)	1620
TC1-3 (481)	Heuristic for multi-stage capacitated p-median problem with supplier evaluation <i>*Anurak Chaiwichian</i> , Rapeepan Pitakaso(Ubonratchathani University, Thailand)	1626
TC1-4 (520)	Heuristic Shift Scheduling for Airport Ground Staff <i>*Kong Weng Lee</i> (UNIMAS, Malaysia), San Nah Sze(Faculty of Computer Science and Information Technology Universiti Malaysia Sarawak, Malaysia), Keat Keong Phang(Faculty of Computer Science and Information Technology Universiti Malaya, Malaysia)	1633
TC1-5 (192)	Optimization of Milk Productivity in Dairy Cattles by Genetic Algorithm <i>*Senol Altan</i> (Gazi University, Turkey), <i>Fatih Akturk</i> (Ulsan National Institute Of Science and Technology, Korea), Emrecan Ozeler(Republic of Turkey Ministry of Food, Turkey)	1639

TC2 Inventory Modeling / Artificial Intelligence

Biyang, 16:20-18:00

Chair: Wisut Supithak (Kasetsart University, Thailand)

TC2-1 (381)	Multi-Item Economic Production Quantity Model with the Consideration of Raw Material Inventory Management Costs <i>*Wisut Supithak</i> (Kasetsart University, Thailand), Sasiprapa Limpakan(Kasetsart University, Thailand)	1647
TC2-2 (123)	A Stochastic Programming Model for Vendor Managed Inventory System of an Animal Feed Factory and Farm Network <i>*Thawee Nakrachata-Amon</i> (Faculty of Engineering, Thailand), Supachai Pathumaku(Khon Kaen University, Thailand)	1654
TC2-3 (101)	Vender Managed Inventory for Fresh Agricultural Products <i>*Mitsuyoshi Horikawa</i> , Takeo Takeno, Misumasa Sugawara(Iwate Prefectural University, Japan)	1659
TC2-4 (318)	Vehicle risk assessment in accidents using neural network <i>Yuri Castro</i> , <i>*Young Jin Kim</i> , Baek An Sun(Kyung Hee University, Korea)	1665

TC3 Artificial Intelligence

Udo, 16:20-18:00

Chair: Ronaldo Polanco (De La Salle University, Philippines)

TC3-1 (182)	The Study of Tokai Cluster as a Leader of CFRP Industries in Japan <i>*Akihito Zenke</i> , Nobutaka Odake(Nagoya Institute of Technology, Japan)	1672
TC3-2 (260)	Agent-based Real-time Scheduling for Smart Household Appliances <i>Bobby Kurniawan</i> , <i>*Anggoro Pramudyo</i> , Didik Aribowo(Untirta, Indonesia), Anas Ma'ruf(Institut Teknologi Bandung, Indonesia)	1678
TC3-3 (391)	APPLICATION OF CLOUD-BASED KANBAN SYSTEM IN PROJECT MANEGEMENT <i>Chi-Wei Shih</i> , <i>*Chen-Yang Cheng</i> (Tunghai University, Taiwan)	1683
TC3-4 (490)	User's Free Time Estimation When Using Smartphone <i>*kohei Yamamoto</i> (Kanazawa Graduate School of Natural Science and Technology, Japan), Tatsuhiro Hasegawa(Tokyo Health Care University, Japan), Haruhiko Kimura(Kanazawa University, Japan)	1688
TC3-5 (499)	Earned Value Management considering Milestone Weighting and Dependency Structure Matrix <i>*Ronaldo Polanco</i> (De La Salle University, Philippines)	1692

TC4 Scheduling & Sequencing 2

Chuja, 16:20-18:00

Chair: Hans-Otto Guenther (Seoul National University, Korea)

TC4-1 (399)	Improvement of Scheduling n Jobs m Machines Parallel Algorithm to Minimize Makespan <i>*Rifa Arifati</i> (University of Pembangunan Nasional Veteran Jakarta, Indonesia), Aji P.	1696
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Gunoto(Universitas Pembangunan Nasional Veteran Jakarta, Indonesia)

TC4-2 (405)	A Batch-scheduling problem to minimize actual flowtime of parts through the shop which has m heterogeneous batch processors <i>Nita Hidayat(Industrial Engineering ITB, Indonesia), Andi Cakravastia, TMA Ari Samadhi(Bandung Institute of Technology, Indonesia), *Abdul Halim(Industrial Engineering ITB, Indonesia)</i>	1701
TC4-3 (418)	Genetics Algorithm for Hybrid and Flexible Flowshop with Non-Identical Machines and Subcontract Case <i>*Nora Azmi(Trisakti University, Indonesia), Gibtha Fitri Laksmi(Ibnu Khaldun University, Indonesia)</i>	1707
TC4-4 (398)	Mixed Integer Linear Programming for Un-related Parallel Machine Problems to Minimize Total Earliness and Tardiness - A Case Study of Precision Metal Tools Industry <i>Chun Hsiung Lai, *Chen-Yang Cheng(Tunghai University, Taiwan)</i>	1714
TC4-5 (79)	A block planning model for integrated lot sizing and scheduling of continuous casters and hot strip mills in the steel industry <i>*Hans-Otto Guenther(Seoul National University, Korea), Imke Mattik(TU Berlin, Germany)</i>	1719

TC9 Lean Production Management

Halla(8F), 16:20-18:00

Chair: Kenichi Nakashima (Kanagawa university, Japan)

TC9-1 (542)	Single-period inventory model considering a competitive store and two qualities of the product <i>*Takashi Hasuike(Osaka University, Japan)</i>	1720
TC9-2 (546)	A Single-Producer Multi-Retailer Integrated Inventory System with Scrap in Production and Shortage in sale <i>*Hitoshi Hohjo, Tomoki Koreeda(Osaka Prefecture University, Japan)</i>	1728
TC9-3 (94)	Joint replenishment problem with can-order policies under carrier capacity and correlated demands <i>*KEISUKE NAGASAWA, Takashi Irohara(Sophia University, Japan), Yosuke Matoba, Shuling Liu(Fairway Solutions Inc., Japan)</i>	1733
TC9-4 (545)	Inventory-Production System with Non-Zero Target Inventory <i>*Mohammadreza Parsanejad(Keio University, Japan), Bongsung Chu(Soonchunhyang University, Japan), Hiroaki Matsukawa(Keio University, Japan)</i>	1741
TC9-5 (547)	A Lean Supply Chain Control Problem with Stochastic Demand <i>*Kenichi Nakashima, Thitima Sornmanapong(Kanagawa University, Japan), Hans Ehm(Infineon Technologies AG, Japan), Geraldine Yachi(Infineon Technologies AG, Japan)</i>	1746

WA1 Inventory Modeling & Management

Mara, 08:30-10:10

Chair: Nobuaki Ishii (Bunkyo University, Japan)

WA1-1 (65)	A Lot Size-Based Collaborative Demand-to-Supply Management System for Make-to-Order Environment <i>*Nobuaki Ishii(Bunkyo University, Japan), Ko Sakashita, Tetsuo Yamada(University of Electro-Communications, Japan), Masaaki Ohba(Nihon University, Japan), Masayuki Matsui(Kanagawa University, Japan)</i>	1754
WA1-2 (80)	Reorder Point Determination Considering Customer Service Constraint under Limited Demand Information <i>*Yasuhiko Takemoto(Prefectural University of Hiroshima, Japan), Ikuo Arizono(Okayama University, Japan)</i>	1762
WA1-3 (71)	Inventory Classification Involving Substitution Rules <i>*Ikou Kaku, Xinyi Zhang(Tokyo City University, Japan)</i>	1769
WA1-4 (446)	Reducing Inventory using Inventory Management Models <i>*Sakgasem Ramingwong, Danuchin Anantana(Center of Excellence in Logistics and Supply Chain Management, Thailand)</i>	1775
WA1-5 (518)	An Approach for Avoiding Information Loss in Managing Product Safety Issue Associated with Suppliers <i>Muhammad Saad Memon, *Young Hae Lee, Sonia Irshad Mari(Hanyang University, Korea)</i>	1779

WA2 SCM and Forecasting 1

Biyang, 08:30-10:10

Chair: Kazuhiro Takeyasu (Tokoha University, Japan)

WA2-1 (92)	Forecasting utilizing a Day of the Week Index in the Case of Cafe <i>*Koumei Suzuki, Kazuhiro Takeyasu(Tokoha University, Japan)</i>	1787
WA2-2 (31)	Building BTO System in the Sanitary Materials Manufacturer Under the Improvement of Forecasting Accuracy <i>*Kazuhiro Takeyasu(Tokoha University, Japan), hirotake yamashita(Chubu University, Japan)</i>	1795
WA2-3 (34)	UTILIZATION OF GENETIC ALGORITHM TO IMPROVE FORECASTING ACCURACY ? AN APPLICATION TO THE DATA OF A TUBE AND A CATHETER? <i>*Daisuke Takeyasu(The Open University of Japan, Japan), Kazuhiro Takeyasu(Tokoha University, Japan)</i>	1803
WA2-4 (32)	Optimal operation for green supply chain with quality of recyclable parts and contract for recycling activity <i>*Etsuko Kusukawa(Osaka Prefecture University, Japan), Sho Akizawa(Nara Institute of Science and Technology, Japan)</i>	1811
WA2-5 (102)	A Hybrid Method to Improve Forecasting Accuracy In the Case of Japanese Food Restaurant <i>*Jun Tatebayashi, Kazuhiro Takeyasu(Tokoha University, Japan)</i>	1819

WA3 Production Design & Management 1

Udo, 08:30-10:10

Chair: Philip Ermita (PIIE, Philippines)

WA3-1 (117)	Development a Latex Pillow to Meet Customer Requirements <i>*Nattapong KONGPRASERT(Facluty of Engineering, Thailand)</i>	1827
WA3-2 (162)	BananaNut Paper: REENGINEERING PAPER COMPONENT <i>*Marianne Calayag(Bulacan State University, Philippines)</i>	1834
WA3-3 (198)	An Optimal Modularity for Platform-based Product Family Design of Wind Power Generators <i>*Qingnan Li(University of Southern Denmark, Denmark)</i>	1838
WA3-4 (222)	Composite Board Development: Use of Cardava Banana Peel and Watermelon Rind as Alternative Raw Materials <i>*Philip Ermita(PIIE, Philippines)</i>	1845
WA3-5 (249)	Fairing of High Speed Milling tool-path by Using The Cubic NURBS <i>*Anh Duong, Anh Duong(International University in Vietnam, Viet Nam)</i>	1852

WA4 Scheduling & Sequencing 3

Chuja, 08:30-10:10

Chair: San-Nah Sze (Universiti Malaysia Sarawak, Malaysia)

WA4-1 (85)	Scheduling with multi-attribute setup times on unrelated parallel machines <i>Ching-Jong Liao(National Taiwan University of Science and Technology, Taiwan), *Cheng-Hsiung Lee(Chihlee Institute of Technology, Taiwan), Hsing-Tzu Tsai, Kuo-Jui Wu(National Taiwan University of Science and Technology, Taiwan)</i>	1859
WA4-2 (120)	Scheduling on parallel machines with mold constraints <i>Haidan Zhao, *Tsui-Ping Chung, Hongying Shan(Jilin University, China), Chien-Ming Chen(Harbin Institute of Technology Shenzhen Graduate School, China)</i>	1867
WA4-3 (177)	Transient Period Scheduling of Dual Armed Cluster Tools <i>*Nurhak Aktas, Taesun Yu, Tae-Eog Lee(KAIST, Korea)</i>	1874
WA4-4 (316)	Adaptive Hybrid Genetic algorithm for solving two-stage reentrant flexible flow shop with blocking constraint <i>Chatnugrob Sangsawang, *Kanchana Sethanan(Research Unit on Advanced Productivity</i>	1880

Improvement and Logistics Management, Thailand), Mitsuo Gen(Fuzzy Logic Systems Institute, Japan)

WA4-5
(509) Decision Support System for Order Online Delivery 1888
*San-Nah Sze, Bui-Fat Thian, Kang-Leng Chiew(Universiti Malaysia Sarawak, Malaysia)

WA5 Fuzzy Logic

Ramada-3, 08:30-10:10

Chair: Rionel Caldo (Lyceum of the Philippines University - Laguna, Philippines)

WA5-1
(30) Predictive Approach of Assessing the Passing of Engineering Board Courses in Lyceum of the Philippines University-Laguna (LPU-L) Using Fuzzy Logic Technology 1894
*Rionel Caldo(Lyceum of the Philippines University - Laguna, Philippines)

WA5-2
(58) Fuzzy Logic Simulation of DC-DC Boost Converter Using Matlab Fuzzy Logic Toolbox 1902
Rionel Caldo, *Rionel Caldo(Lyceum of the Philippines University - Laguna, Philippines)

WA5-3
(224) Cost Effectiveness Analysis Comparing Mastectomy versus Lumpectomy with Fuzzy Logic 1908
Aysun Aktas, *gozde tutuncu(Izmir University of Economics, Turkey)

WA5-4
(576) Fuzzy AHP based Supplier Selection considering the Triple Bottom Line Concept 1914
Wannimit Khampanya, Tritos Laosirihongthong(Thammasat University, Thailand), *Premaratne Samaranyake(University of Western Sydney, Australia)

WA6 Optimization Techniques 2

Ramada-4, 08:30-10:10

Chair: Daniel Siek (Chung Yuan Christian University, Taiwan)

WA6-1
(125) Impact of Globalization on Total Factor Productivity of the Manufacturing Sector in Pakistan 1920
*Usama Bin Perwez, Muhammad Faseeh Tahir, Aamir Ahmed Baqai(National University of Sciences & Technology, Pakistan)

WA6-2
(69) Optimal Solar Photovoltaic (PV) Penetration in Secondary Distribution Network Using Genetic Algorithm 1929
Bryan Navarro(Technological Institute of the Philippines, Philippines), *Maricar Misola(Technological Institute of the Philippines- Quezon City, Philippines)

WA6-3
(288) Numerical Analysis of Three Rookies Assignment Optimization in Limited-Cycled Model with Multiple Periods -the case of Erlang Distribution 1937
*Peiya Song, Xianda Kong, Hisashi Yamamoto(Tokyo Metropolitan University, Japan), Jing Sun(Nagoya Institute of Technology, Japan), Masayuki Matsui(Kanagawa University, Japan)

WA6-4
(577) Optimal Ordering Policies under a Progressive Interest Scheme with Supplier's Quantity Discount 1945
Gary Chen, *Daniel Siek, Hui Wee(Chung Yuan Christian University, Taiwan)

WA6-5
(415) An analysis on the influences of flat pricing for unlimited voice callings: the aspects of MNOs and consumers in Korea 1951
*SEONGJUN LEE, SAESOL CHOI(Electronics and Telecommunications Research Institute, Korea)

WB1 Industrial Engineering Education

Mara, 10:30-12:10

Chair: Young Jae Jang (KAIST, Korea)

WB1-1
(526) Solution Based Learning: A New Approach in Product Design and Development Andragogy 1957
*Risdiyono Risdiyono(Islamic University of Indonesia, Indonesia)

WB1-2
(139) A study for making standardized-work tables suited for enterprises of the engineering / metalworking industry 1962
*Masahiro Shibuya(Tokyo Metropolitan University, Japan), Kenichi Iida(Hokkaido Research Organization, Japan), Koki Mikami(Hokkaido University of Science, Japan)

WB1-3
(256) "Implementation of methods and solutions for improving statistical thinking of non-English speaking students studying in Industrial Engineering field" 1967
*Huy Nguyen, Huy Nguyen, Huy Nguyen(International University - Vietnam National University)

HCMC, Viet Nam)

WB1-4
(495) [Industrial Engineering Education using KAIST LEGO Manufacturing Systems \(KLMS\)](#) 1975
**Young Jang, Vina Yosephine(KAIST, Korea), Sun Kyung Oh(Korea Advanced Institute of Science and Technology, Korea), Sukhyun Cho, Kiryong Kyeong(KAIST, Korea)*

WB2 SCM and Forecasting 2

Biyang, 10:30-12:10

Chair: Kazuhiro Takeyasu (Tokoha University, Japan)

WB2-1
(52) [Improving Forecasting Accuracy in the Case of Intermittent Demand Forecasting](#) 1983
*Daisuke Takeyasu(The Open University of Japan, Japan), *Asami Shitara(Tax Corporation Arknet, Japan), Kazuhiro Takeyasu(Shizuoka City, Japan), Asami Shitara(Tax Corporation Arknet, Japan)*

WB2-2
(36) [Reformation of Production System Based Upon Demand Forecasting](#) 1991
*hirotake yamashita(Chubu University, Japan), *Kazuhiro Takeyasu(Tokoha University, Japan)*

WB2-3
(87) [A Hybrid Method to Improve Forecasting Accuracy with An Application to the Data of Bread](#) 1999
**Yuki Higuchi(Setsunan University, Japan), Hiromasa Takeyasu(Kagawa???Junior???College, Japan), Kazuhiro Takeyasu(Tokoha University, Japan)*

WB2-4
(413) [EXTENDED OPTIMAL REPLACEMENT POLICY FOR A TWO-UNIT SYSTEM UNDER CUMULATIVE DAMAGE MODEL](#) 2006
**Shey-Huei Sheu, TZU-HSIN LIU(Providence University, Taiwan), ZHE-GEORGE ZHANG(Western Washington University, United States)*

WB3 Production Design & Management 2

Udo, 10:30-12:10

Chair: Masahiro Arakawa (Nagoya Institute of Technology, Japan)

WB3-1
(283) [The Implementation of Affective Based Product Design in Small Enterprise Manufacturers](#) 2007
**Imam Widodo, Tio Sampurno(Islamic University of Indonesia, Indonesia)*

WB3-2
(348) [A Study of Product Design Using Parts and Parts Structures Characterized by Reviews on Internet](#) 2012
**Masahiro Arakawa, Eriko Katou(Nagoya Institute of Technology, Japan)*

WB3-3
(350) [Derivation of design freeze sequence using Bayesian network framework](#) 2018
*Jihwan Lee, *Yoo Hong(Secul National University, Korea)*

WB3-4
(93) [Investigation of PLA/PCL biocomposite scaffolds fabricated via SVM rapid prototyping](#) 2025
*Kanokporn Kamonchit, *Thittikom Phattanaphibul(Kasetsart University (Sriracha Campus), Thailand)*

WB3-5
(84) [Assessment of an ERP Graphical User Interface Design Related to Human Cognition](#) 2031
**Grace Lorrain Intal, Catherine Briones(Mapua Institute of Technology, Philippines)*

WB4 Scheduling & Sequencing 4

Chuja, 10:30-12:10

Chair: Katsumi Morikawa (Hiroshima University, Japan)

WB4-1
(329) [Simulation-based outpatient appointment scheduling with the aid of clearing function](#) 2040
**Katsumi Morikawa, Katsuhiko Takahashi(Hiroshima University, Japan), Daisuke Hirotani(Prefectural University of Hiroshima, Japan)*

WB4-2
(46) [Flexible Jobshop Scheduling Model Considering Production Cost and Tardiness Cost Simultaneously](#) 2048
**Devvy Sari, Anas Ma'ruf(Institut Teknologi Bandung (Bandung Institute of Technology), Indonesia)*

WB4-3
(403) [Batch Scheduling for a Single Machine with Forgetting Effect to Minimize Total Actual Flow Time](#) 2055
*Rinto Yusriki, *Sukoyo -(Bandung Institute of Technology, Indonesia), T.M.Agung Samadhi(Institut Teknologi Bandung, Indonesia), Abdul Halim(Industrial Engineering ITB, Indonesia)*

WB4-4
(426) [Integrating Batch Production and Maintenance Scheduling on a Deteriorating Machine to Minimize Production and Maintenance Costs in Just in Time Environment](#) 2061

*ZAHEDI** (INSTITUT TEKNOLOGI BANDUNG, Indonesia), TMA Ari Samadhi, Suprayogi
 .(Bandung Institute of Technology, Indonesia), *Abdul Halim(Industrial Engineering ITB, Indonesia)

WB4-5
 (454) **Creation of Total Shift Scheduling Model in Restaurant Service -An Example of the Highly Classical Luxury Hotel Restaurant -** 2070
**Kazuki Fujita, Kakuro Amasaka(Aoyama Gakuin University, Japan)*

WB5 Quality Engineering & Reliability

Ramada-3, 10:30-12:10

Chair: Rionel Caldo (Lyceum of the Philippines University - Laguna , Philippines)

WB5-1
 (453) **Establishment of a New Vietnam Production Model** 2077
**Shogo Miyashita, Kakuro Amasaka(Aoyama gakuin University, Japan)*

WB5-2
 (508) **A taxonomy of failure rate indexes based on literature review** 2083
*sanghyeon koh(Pohang University of Science and Technology, Korea), kiwook jung, Bongjun Ji(Pohang university of science and technology, Korea), *Hyunbo Cho(POSTECH, Korea)*

WB5-3
 (270) **Comparative Study of SA algorithms of optimal arrangement problem in a Multi-state k-out-of-n:F system** 2090
**Naoki Yoshida(Tokyo Metropolitan University, Japan), Koji Shingyochi(Jumonji University, Japan), Hisashi Yamamoto(Tokyo Metropolitan University, Japan), Tomoaki Akiba(Chiba Institute of Technology, Japan), Xiao Xiao(Tokyo Metropolitan University, Japan)*

WB5-4
 (517) **A New Universal Generating Function Method to Search for all Minimal Paths Generate in Networks** 2098
*Wei-Chang Yeh(National Tsing Hua University, Taiwan), *Hui-Wen Lee(National Tsing Hua University Hsinchu, Taiwan)*

WB5-5
 (421) **Prioritizing the Factors for Quality Excellence Practices Using Analytic Hierarchy Process (AHP) Method** 2106
**Mehran Doulat Abadi(Universiti Teknologi Malaysia (UTM), Malaysia), Sha'ri Mohd. Yusof(Universiti Teknologi Malaysia, Malaysia)*

WB6 Lean Manufacturing

Ramada-4, 10:30-12:10

Chair: Daniel Siek (Chung Yuan Christian University , Taiwan)

WB6-1
 (129) **LINEASSEMBLY ANALYSIS FOR PC-250 PRODUCT TYPE WITH HEURISTIC METHOD AT PT. TIRTA INTIMIZU NUSANTARA** 2107
**Lina Gozali(Tarumanagara University, Indonesia), Silvi Ariyanti(University of Mercu Buana, Indonesia), Rendy .(University of Tarumanagara, Indonesia)*

WB6-2
 (371) **Waste Reduction in Work Processes Using Lean Tools and Simulation: A Case Study Logistics Service Providers** 2113
*Worakit Changjutturas(Department of Industrial Engineering Faculty of Engineering of Khon Kaen University, Thailand), *Panitarn Peerapattana(Department of Industrial Engineering Faculty of Engineering of Khon Kean University, Thailand)*

WB6-3
 (553) **A Framework to Apply Cellular Manufacturing** 2119
**Wei Weng, Atsushi Fukui, Shigeru Fujimura(Waseda University, Japan)*

WB6-4
 (110) **A Study on the E-Waste Generation and Management in the Philippines: It's Impact and Significance** 2126
**Nestor Ong(University of Santo Tomas, Philippines), Patricia Kamil Kinol, Angela Camille San Miguel, Charlene Mae Ramirez(Faculty of Engineering, University of Santo Tomas, Philippines)*

WB6-5
 (516) **A model for Designing Resilient and Sustainable Supply Chain under Disruptions** 2134
*Sonia Irshad Mari, *Young Hae Lee, Muhammad Saad Memon(Hanyang University, Korea)*

POSTER Poster Session

Halla(8F), 13:00-18:00

Chair: (,)

POSTER-1
 (47) **Measuring organizational performance by integrating competitive intelligence into decision support system** 2142

	<i>*Chi-Yen Yin(National Taiwan University, Taiwan)</i>	
POSTER-2 (149)	Expediting Rate of Production of Flip Flops through Methods Engineering <i>*Dyan Gonzales(Philippine Institute of Industrial Engineers, Philippines)</i>	2148
POSTER-3 (166)	A Framework for Intelligent Condition Monitoring System using Knowledge Discovery in Databases <i>Sedo Oh, *Young-jin Kim(Kyung Hee University, Korea)</i>	2156
POSTER-4 (204)	Ergonomically Designed Armchair for Both Left- and Right-Handed Students <i>*Juan Tecson(Bulacan State University, Philippines)</i>	2159
POSTER-5 (220)	Scheduling outpatient appointments in a neurosurgery department of a university hospital <i>Youngmin Ki, *Byung-In Kim(POSTECH, Korea), Byung Kwan Choi(School of Medicine Pusan National University, Korea), Sung-Hong Kang(Inje University, Korea)</i>	2165
POSTER-6 (245)	An intelligent parking guidance methodology <i>*Jong-Ho Shin(UNIST, Korea), Hong-Bae Jun, Sang-Je Cho(Hongik University, Korea)</i>	2169
POSTER-7 (253)	Effect of number of operations of touch panel on whole body working posture and physical workload <i>*Makoto Kadomatsu, Akihiko Seo(Tokyo Metropolitan University, Japan)</i>	2175
POSTER-8 (265)	Development of Factory Layout Design Method by Distribution Time-space Mesh Analysis <i>*Munenori Kakehi(Tokyo University of Science, Japan), Ichie Watanabe(Seikei University, Japan), Masahiro Nakamura(LEXER RESEARCH Inc., Japan)</i>	2179
POSTER-9 (365)	A New approach in Fault Recognition using Mel Cepstrum Coefficients and Hidden Markov Models <i>*Young Kim, Monica Chamay Castro(Kyung Hee University, Korea)</i>	2183
POSTER-10 (366)	Differences in the perception of determining factors in inter-organizational relationships <i>*Su-Jin Yoon(ETRI (Electronics and Telecommunications Research Institute), Korea), Yanghon Chung(KAIST((Korea Advanced Institute of Science and Technology), Korea)</i>	2188
POSTER-11 (382)	Do Young People Trust e-Government As Much As Their Internet Experiences? A Preliminary Study in Bandung City <i>*Dea Marella(Bandung Institute of Technology, Indonesia), Nadinastiti Muladi(Institut Teknologi Bandung, Indonesia), Pravitasari -(Universitas Indonesia, Indonesia)</i>	2193
POSTER-12 (400)	Statistical Forecasting of Material Demand through Big Data Analysis <i>JeongAh Yoon, MinJeong Park(UNIST, Korea), Hanna Yang(Ulsan National Institute of Science and Technology, Korea), *Daeil Kwon(UNIST, Korea), Minseok Song(Ulsan National Institute of Science and Technology, Korea)</i>	2198
POSTER-13 (414)	Prediction for Material Usage Using Decision Tree <i>Minjeong Park, *Minseok Song, Daeil Kwon(Ulsan National Institute of Science and Technology, Korea)</i>	2201
POSTER-14 (422)	Design and Development of an Automated Blood Typing Device <i>Jhunlyn Lorenzo, *Jhunlyn Lorenzo(Cavite State University, Philippines)</i>	2204
POSTER-15 (432)	Activate a depopulated district using POS data analysis <i>Akira Matsuura, *Kohsuke Katoh(Kanazawa Institute of Technology, Japan)</i>	2212
POSTER-16 (435)	An improved quantum-behaved particle swarm optimization based multilayer perceptron classifier for medical data classification <i>*Jui-Yu Wu(Lunghwa University of Science and Technology, Taiwan)</i>	2219
POSTER-17 (451)	Evaluating Credit Ratings Prediction by Using the Distance to Default and Data-mining techniques <i>*Hsu-Che Wu, Wu Yu-Ting(National Chung Cheng University, Taiwan)</i>	2225
POSTER-18 (473)	Complex Network Analysis of the Korean Transportation Network <i>*Woo-Sung Jung(POSTECH, Korea)</i>	2231
POSTER-19 (487)	A System for Extraction and Analysis of Emerging Technology <i>Dong-Suk Hong(Korea Federation of Banks, Korea), *Han-Gook Kim(Korea Institute of Science and Technology Information, Korea)</i>	2235
POSTER-20 (522)	The Effect of Consumers' Regulatory Focus on the Development of Portable Health Monitoring and Emergency Assistance for Senior Citizen <i>*Yu-Shan Chen(National Chengchi University, Taiwan), Jenq-Shiou Leu, Rung-Huei Liang(National Taiwan University of Science and Technology, Taiwan)</i>	2238

POSTER-21 (527)	Can the ease of information retrieval change aesthetics judgments principle? <i>*Wei-hao Yang, Yu-Shan Chen, Lien-ti Bei(National Chengchi University, Taiwan)</i>	2242
POSTER-22 (491)	Centralized and Decentralized Reverse Logistics Network Models: Adaptive Genetic Algorithm Approach <i>*YoungSu Yun, Chuluunsukh Anudari(Chosun University, Korea), ReaKook Hwang(Samsung Economic Research Institute, Korea), Mitsuo Gen(Fuzzy Logic Systems Institute, Japan)</i>	2248
POSTER-23 (420)	Development of a Systematic Process and Automation Tool for Semantic Network Analysis on Natural Language <i>Min Ho Lee(Hongik University, Korea), Ye Lim Rhie(Seoul National University, Korea), Jihoon Kim, Ji Hyoun Lim(Hongik University, Korea)</i>	2256
POSTER-24 (145)	Installed Base Forecast of Spare Part Demand for Automobile After-Sales Services <i>*Yon-Chun Chou, Hsi-Yang Lu, Yujag Hsu(National Taiwan University, Taiwan)</i>	2261
POSTER-25 (205)	Analysis of Temporal Consistency in Data Flow through HLA/RTI based on Military Simulation Training Datasets <i>*Seungho Bang, Dongyup Sheen, Tae-Eog Lee(KAIST, Korea), Sooyun Kim(ROK Army, Korea)</i>	2267
POSTER-26 (524)	Improving Efficiency of Transportation and Distribution: A Simulation Study <i>*Nyoman Pujawan, Evi Cristina(Sepuluh Nopember Institute of Technology, Indonesia)</i>	2273

Author Index

A

Abdianto, Rayanda Utomo	MB5-1
Abdul Salaam, Hadi	MB7-4
Adelein, Natasha Veronica	TB8-1
Adianto, Miftahulkhair	MC3-2
Adisuwiryo, Sucipto	MC6-3
Ai, The Jin	MA7-1, MA7-2
Aizawa, Rycta	MB7-5
AKAIWA, RYO	TB3-3
Akbar, Muhammad	MA2-2, MA2-3
Akiba, Tomoaki	MC2-4, MC4-3, WB5-3
Akizawa, Sho	WA2-4
Aktas, Aysun	WA5-3
Aktas, Nurhak	WA4-3
Akturk, Fatih	TC1-5
Albertzeth, Gustav	MA7-2
Ali, Abid	TB8-3
Altan, Senol	TC1-5
Amagasa, Michio	MB4-3
Amagata, Yusuke	TA2-2
AMASAKA, KAKURO	TB3-3, WB4-5, WB5-1
An, Jaehyung	MB8-2
An, Yoonjung	TB5-1
Anantana, Danuchin	WA1-4
Anityasari, Maria	MB4-6
Antoni, Liana	MC6-3
Anudari, Chuluunsukh	POSTER-22
Arai, Hiroshi	MC9-1
Arakawa, Masahiro	MB6-2, TA6-6, WB3-2
Ari Samadhi, TMA	TC4-2
Aribowo, Didik	TC3-2
Arifati, Rifa	TC4-1
Arifin, Nadia Aulia	TA1-6
Ariyanti, Silvi	WB6-1
Arizono, Ikuo	MA5-3, MA5-4, TB1-2, WA1-2
Astanti, Ririn Dier	MA7-1
Astuti, Astuti Pucji	MC6-3

ATIENZA, VALENTON RUMEL	TA7-5
Aziz, Muhammad Haris	TB8-3
Azmi, Nora	TC4-3

B

Bae, Hyerim	MA3-4, MB1-3
Bae, Seongchan	MB1-4
Baek, Seung-Mi	TB5-3
Bahagia, Nur Senator	MC1-4
Bahri, Syamsul	MB7-6
Ban, Hiromi	MC9-2
Bang, Seungho	POSTER-25
Bang, Seunghwan	MB1-2
Bao, Chiao-Pin	MC8-2
Baqai, Aamir Ahmed	WA6-1
Bautista, Sebastian Joy Mari	MC7-3
Bei, Lien-ti	POSTER-21
Beng Hui, Tan Dennis	TB3-1
Bin Perwez, Usama	WA6-1
Bintoro, Agustinus Gatot	MA7-1
Bohez, Erik L.J.	TB6-3
Boroushaki, Mahsa	TB1-4
Boushaala, M. A. Amer	MA6-1
Briones, Diaz Catherine	WB3-5
Budijati, mahsanah siti	TA1-5
Buseif, Mohamed Ibrahim	TB8-2
Byun, Hyeongmin	MA8-2

C

Cahyo, Nur Winda	TA6-2
Cai, Dengchuan	ME3-4, MC3-6
Cakravastia, Andi	TC4-2
Calayag, Buenaventura Marianne	WA3-2
Caldo, Belen Rionel	WA5-1, WA5-2
Cao, Wenhua	TB7-2
Carlos, C Ma. Cecilia	TC1-1
Castan, Russel Christopher	MB8-1
Castro, Yuri	TC2-4
Chaikanha, Nantika	MB8-4
Chaiwichian, Anurak	TC1-3

Chamay Castro, Maricela Monica	POSTER-9
Chang, Chia-Hao	MB1-6
Chang, Chi-Chih	MB1-5
Chang, Kuo-Hao	MB5-5, MB6-1, MC5-2, MC8-4, TA5-5, TB4-3
Chang, Kuo-Hwa	MA8-5
Chang, shu-hao	TB2-2
Chang, Woojin	MA8-4
Chang, Yu-Ning	MB5-2
Chang Chien, Chih-Chieh	TA4-6
Changjutturas, Worakit	WB6-2
CHEN, BO-SYUN	MC1-6
Chen, Chang-Yuan	MA3-5
Chen, Chienfu	MB3-4
Chen, Chien-Ming	TB4-1, WA4-2
Chen, Chi-Yuan	MB3-1
Chen, James C.	MB2-1, MC6-5, TA1-6, TB6-2, TB6-4, TB9-4
Chen, Janet	TA1-6
Chen, Jose Chiu-C	MB4-2
Chen, Kirin	MC6-5, TB9-4
Chen, Mei-Fang	TA3-6, TA5-6
Chen, Tzu-Li	MC6-5, TB6-2, TB6-4, TB9-4
Chen, Wu-Lin	MC8-3, MC8-5
Chen, Wun-Hwa	TB3-4
Chen, Xiaowei	TA9-5
Chen, Ying-Jen	MB5-5, MC5-2
Chen, Yin-Sung	TB7-1
Chen, Yue-Yang	MA3-5
Chen, Yu-Wei	TB5-5
Chen, Athena Yu-Shan	POSTER-20, POSTER-21
CHEN, LI TZU	MB6-4
Chen, Ming Yen	MB6-4
Chen, Yu-Hsin Gary	WA6-4
Cheng, Chen-Yang	MB4-2, MB6-3, TC3-3, TC4-4
Chiang, Hsin-Yu	TA5-4
Chiang, Ping-Jung	MB5-4
Chien, Chen-Fu	MB5-5, MC5-2, TB7-3
Chiew, Kang-Leng	WA4-5
Chiu, Anthony Shun Fung	TA5-1
Chiu, Chui-Sheng	TA5-2
Chiu, Chun-Chih	TA6-3

Chiu, Shih-Chang	MC5-4
Chiu, Szu-han	MC8-5
Chiu, Wei-Yao	MC6-4
Cho, Hyunbo	MB1-2, TA8-6, WE5-2
Cho, Nam-Wook	MC6-1
Cho, Sang-Je	POSTER-6
Cho, Sukhyun	WB1-4
Choe, SangYun	TB9-1
Choi, Byoung Kyu	TA6-4
Choi, Byung Kwan	POSTER-5
Choi, Kyungim	MA4-5
Choi, Min-Ho	TB5-3
CHOI, SAESOL	WA6-5
Chou, Chung-Wei	MC8-5
Chou, Yon-Chun	POSTER-24
Chou, Han Yi	MB6-4
Chu, Bongsung	TC9-4
Chu, Pei-Chun	TB7-3
Chueh, Chun-Ya	MC6-2
Chung, Byung Do	MC4-6
Chung, Chung-Yu	MA2-5
Chung, Tsui-Ping	TB4-1, WA4-2
Chung, Yanghon	POSTER-10
Ciptomulyono, Udisubakti	MB4-6, MC8-6
Contreras, Sison Justin	MC1-2
Cristina, Nila Evi	POSTER-26
Cruz, Mylene Joyce	MB8-1
Cruz, Espinosa Dennis	MB8-1, MC1-2

D

Dai, Wei	TA9-3
Damayanti, Prima Arlin	MB4-1
Darmawan, Muhammad Rinaldi	TA1-6
Dewi, Triani Luciana	MB3-3
Dhakar, S. Tej	TA7-6
Dianingtyas, Ratih	MB3-6
Diawati, Lucia	TB8-1
Dickinson, Paul	MB3-2
Dinh, Khac Hung	MA6-3

Doulat Abadi, Mehran	MA5-5, WB5-5
Duong, Vo Nhi Anh	WA3-5
DuyKhoi, Vo	MA1-1

E

Ehm, Hans	TC9-5
Emovon, Ikuobase	MC2-1
Ermitta, Preconcillo Philip	WA3-4

F

Fan, Chin-Yuan	TB2-2
Fan, Chu-Yuan	MB5-5
Fang, Bin	TA4-3
fausa, erlangga	MA3-3
Fauzi, Mansur Agus	TB2-3
Feng, Xuehao	MC1-5
Fernandez, Emil	TB3-1
Fu, Chung-Yuan	MB7-3
Fujimura, Shigeru	WB6-3
Fujita, Kazuki	WB4-5
Fujiwara, Naohiro	MB2-5, MB2-6, TB3-2
Fukui, Atsushi	WB6-3

G

Gao, Jinwu	MA9-2
Gen, Mitsuo	POSTER-22, WA4-4
Gong, Dah Chuan	MA7-1
Gonzales, Centeno Dyan	MC9-5, POSTER-2
GOTO, Masayuki	MB2-3, MB2-4, MB2-5, MB2-6
Goto, Masayuki Goto	TB3-2
Govindaraju, Rajesri	MA2-2
Gozali, Lina	WB6-1
Gozaly, Jimmy	MC9-6
Guenther, Hans-Otto	TC4-5
Gunoto, Aji P.	TC4-1

H

Ha, Byung-Hyun	MB8-5
Ha, Jihyun	TA3-3
Halim, Hakim Abdul	TC4-2, WB4-3, WB4-4

Han, Chung-Kyun	MB8-5
Hartika, Djeni	MC5-5
Hasegawa, Takahiro	MC2-3
Hasegawa, Tatsuhito	TC3-4
HASHIM, BIN YUSOF	MC3-1
Hasuike, Takashi	TC9-1
Hayase, Kana	TB2-1
Hayashi, Hideaki	TA7-1
He, Xiuli	TB6-5
Hernandez, Lovelyn	MB8-1
herowati, evy	MC8-6
Heryanto, Maini Rainisa	MC1-3, MC1-4
Hibiki, Norio	MA8-1
Hidayat, Agustina Yosi	TA8-4, TB8-1
Hidayat, Puspita Nita	TC4-2
Higuchi, Yuki	WB2-3
Hirotsu, Daisuke	MA6-4, WB4-1
Ho, Pei-Yun	MB7-1
Hohjo, Hitoshi	TC9-2
Hong, Dong-Suk	POSTER-19
Hong, I-Hsuan	MB7-1
Hong, Yoonki	MB4-4
Hong, Zi-Hao	MB6-3
Hong, S. Yoo	MA2-1, WB3-3
Horikawa, Mitsuyoshi	TC2-3
hosseini nasab, hasan	TB1-4
Hsieh, Yuehfeng Liam	MB6-1
Hsu, Bin-Wei	MB3-1
Hsu, Chia-Hao	TB2-2
Hsu, Chia-Yu	MC5-4
Hsu, Hsin-Wei	MC4-2
Hsu, Mao-Kai	TB4-3
Hsu, Wen-Lan	TB1-3
Hsu, Scott Yujag	POSTER-24
Hu, Lulu	TB4-1
Hu, Yi-Hsin	MC6-5, TB6-2
Huang, Chen-Yu	MC8-3
Huang, Chin-Yin	MC8-3, MC8-5
Huang, Li-Jung	MC7-2
Huang, Ssu-Wei	TA3-6

Huang, Tingting	MA3-1, MA3-2
Huang, Xi-Mei	MB2-1
Hung, Amy	MC6-5, TB9-4
Hung, Yi-Feng	TA4-6
Hung, Yun-Wei	TA1-6
Hwang, Cheng Yu	TB8-5
Hwang, ReaKook	POSTER-22

I

Iida, Kenichi	WB1-2
Immawan, Taufiq	TB9-2
Indra Purnama, Ignatius Luddy	MB3-3, TB4-5
Inoue, Haruki	MC2-3
Intal, Diaz Grace Lorrain	WB3-5
Iqbal, Neelum	TB8-3
irianto, dradjad	MA2-3
IROHARA, TAKASHI	TB9-5, TC9-3
Ishii, Nobuaki	TA7-4, WA1-1
Ishikawa, Eri	TA4-1
Isip, Gibe Marc Immanuel	MA5-1

J

Jang, Bong-Gyu	TA9-6
Jang, Jae Young	MB4-4, WB1-4
Janjarassuk, Udom	MC7-5, TA6-1
Jen, Chih-Hung	TB7-1
JEON, JINWOO	MA4-5
Jerusalem, Adam Mhammad	MC8-1, TB5-5
Jewpanya, Parida	MC4-5
Ji, Bongjun	WB5-2
Jian, Yi-Jhen	TA4-5
Jiang, Bernard C.	TB7-1
JIN, XINGYI	MB9-6
Jun, Chi-Hyuck	MB2-2, TA3-2, TA3-5, TA6-5
Jun, Hong-Bae	POSTER-6
jung, kiwook	WB5-2
Jung, Mooyoung	TA8-6
Jung, Woo-Sung	POSTER-18
Jung, Yeonsub	MC2-6

K

Kachitvichyanukul, Voratas	TA1-3
Kadomatsu, Makoto	POSTER-7
Kakehi, Munenori	POSTER-8
kaku, ikou	WA1-3
Kamiya, Kiho	TA7-3
Kamonchit, Kanokporn	WB3-4
Kanazawa, Akira	TB1-1
Kang, Donghun	TA6-4
Kang, Sung-Hong	MA4-4, MB2-2, POSTER-5
Kang, Yongwoo	MB1-4
Kareem, Biliaminu	MC2-1
Kasemset, Chompoonoot	TB6-1
Kato, Wakana	TB1-2
Katoh, Kohsuke	POSTER-15
Katou, Eriko	WB3-2
KAWABE, Hiroyuki	MB9-1, MB9-2, MB9-4, MC9-1
Kawasaki, Ayano	TA4-1
Ke, Hua	TA9-4
Khampanya, Wannimit	WA5-4
Khannan, Muhammad Shodiq Abdul	TB8-4
Khasanah, Uswatun Annisa	TA3-4
Ki, Youngmin	POSTER-5
Kim, Baek-Hyun	MB8-5
Kim, Byung-In	MC4-4, POSTER-5
Kim, Han-Gook	POSTER-19
Kim, Jieun	TB2-4
Kim, Jihoon	POSTER-23
KIM, JINSIK	MB7-2
Kim, Jun-Seong	TA6-5
Kim, Ki-Hun	MA4-4
Kim, Kwang-Jae	MA4-3, MA4-4, MA4-5
Kim, Min-Jun	MA4-5
Kim, So Yeon	MB4-4
Kim, Sooyun	POSTER-25
Kim, Sun Hoon	TB8-5
Kim, Taehun	MB1-2
Kim, Yeaeeun	MA4-4
Kim, Young Jin	TC2-4

Kim, Youngho	MB1-4
Kim, Young-jin	POSTER-3
Kim, Jin Young	POSTER-9
Kimura, Haruhiko	MB9-3, MB9-6, MC9-2, TA2-1, TA2-3, TA2-5, TC3-4
Kinol, Ordonez Patricia Kamil	WB6-4
Kitano, Yuji	MC9-3
Ko, Bong Gyun	MA8-4
Ko, Eun Jeong	MB4-4
Kobayashi, Yuta	TA2-1
koh, sanghyeon	WB5-2
Kojima, Kazuaki	MB9-1
Kondo, Katsuya	MB9-3
Kondo, Naoki	MC2-3
Kong, Xianda	MC4-1, WA6-3
KONGPRASERT, Nattapong	WA3-1
Kono, Hirokazu	MA2-4
Koreeda, Tomoki	TC9-2
Korenaga, Keisuke	MA1-2
Kumagai, Satoshi	MA1-2, MB7-5, TA7-3
Kuo, Mei-Li	TB7-3
Kuo, Ren-Jieh	MA1-4
Kurniawan, Bobby	TC3-2
Kurniawan, Iwan	MB5-1
kusrini, elisa	TA1-5
Kusukawa, Etsuko	TA1-1, TA1-2, TA1-4, WA2-4
Kwak, Iksoon	MB1-4
Kwon, Byeungchun	MC6-1
Kwon, Chang hyun	MC4-6
Kwon, Daell	POSTER-12, POSTER-13
Kwon, Ryeok-Hwan	MA4-4
Kwon, Yong-Ju	MB8-6
Kwon, Yong-Se	TB5-3
Kyeong, Kiryong	WB1-4

L

Lai, Chun Hsiung	TC4-4
Lai, Wan-Qiao	MC8-3
Laksmi, Gibtha Fitri	TC4-3
Lam, Pham Quoc Son	MA1-1

Laosirihongthong, Tritos	WA5-4
Lathifah, Artya	MA7-3
Lee, Changho	MA4-5
Lee, Cheng-Hsiung	WA4-1
Lee, Chia-Leng	MB4-2
LEE, CHIA-YEN	MC1-6
Lee, Chulung	MB7-2
Lee, Dongha	MB1-3, MB1-4
Lee, Dong-Ho	MB8-6
Lee, Gyu M.	MB6-5
Lee, Hoyun	MB1-4
Lee, Hui-Wen	WB5-4
Lee, Hyeseon	MB2-2
Lee, Jaewook	MA8-2
Lee, Jecnghwa	TA3-5
Lee, Jihwan	WB3-3
Lee, Jihyung	TA3-2
Lee, Jinho	MB8-2, MC2-2
Lee, Jong-Seok	TA3-1, TA3-3
Lee, Junghye	MB2-2
Lee, Jungmin	TA3-1
Lee, Kiwon	TB5-4
Lee, Kiyoul	TA6-6
Lee, Kong Weng	TC1-4
Lee, KyeongTae	MC6-1
Lee, Min Ho	MC3-4, POSTER-23
LEE, SEONGJUN	WA6-5
Lee, Seung Yoon	MB4-4
Lee, Seungkyu	TA9-6
Lee, Su-Dong	TA3-2
Lee, Sungho	TA3-1
Lee, Sung-Kyu	TB5-3
Lee, Tae-Eog	POSTER-25, WA4-3
Lee, Wonji	MB2-2
Lee, Young Hae	WA1-5, WB6-5
Lee, Young Hoon	TB6-5
Leu, Jenq-Shiou	POSTER-20
Li, Qingnan	WA3-3
Li, Shu-Fen	MB6-3
Li, Tao	TB6-5

Li, Wei	TA9-2
Liang, GaoYang	TB9-3
Liang, Rung-Huei	POSTER-20
Liang, Yi Hui	MB1-5
Liang, Yu	TB9-4
Liao, Ching-Jong	WA4-1
Liao, I-Hao	MB1-6
Liao, Hsi Kun	MC3-3
Lim, Chie-Hyeon	MA4-3, MA4-4, MA4-5
Lim, Gino	TB7-2
Lim, Ji Hyoun	MC3-4, POSTER-23
Lim, Ming	TA5-1
Limpakan. Sasiprapa	TC2-1
Lin, Chieh-Ying	TB6-4
Lin, Chun-Ju	MC6-5, TB6-2, TB6-4, TB9-4
4 Lin, James T.	TA6-3
Lin, Jiun-Han	MC7-4
Lin, Kuo-Ping	MB1-6
Lin, pin-hua	TB2-2
Lin, Shih-Han	MA6-2
Lin, Shi-Woei	MC8-1, TB5-5
Lin, Yi-Jhen	TB6-2
Lin, Joe Chiuhsiang	MC2-5
Linarti, Utaminingsih	TA8-4
Liu, Baoding	MA9-1
Liu, Jay	MA1-5
liu, jie	TA1-3
Liu, Shuling	TC9-3
LIU, TZU-HSIN	WB2-4
Lohapaiboonkul, Jakkapong	MA7-5
Lorenzo, Juance Jhunlyn	POSTER-14
Lu, Hsi-Yang	POSTER-24
Lu, Yan-Han	MC8-4
Lu, Yu-Ming	MB1-6

M

M, R Faisal	MC5-5
Ma'ruf, Anas	MA2-2, TB4-4, TB8-4, TC3-2, WB4-2
Machida, Shohei	TA7-2
MAEKAWA, RYUJI	TB3-3

Maftuchah, Maftuchah Eny	TB2-3
malik, noman muhammad	MC5-6
Manee-ngam, Apichit	TA8-5
Mangnggenre, saiful	MB7-6
MANOPINIWES, WAPEE	TB9-5
Mansur, agus	MB4-1
Mansur, Mansur Agus	TA3-4
Mardhotillah, Aisyah Shalih	MB1-1
Marella, Chandra Dea	POSTER-11
Mari, Sonia Irshad	WA1-5, WB6-5
Maruyama, Yukio	MA1-3
Masaaki, Ohba	TA7-3
Masuroh, Nur Aini	MA7-3
masuroh, nuraini	TA1-5
Mastur, Ibnu Mohammad	MB4-1
Matoba, Yosuke	TC9-3
Matsui, Masayuki	MC4-1, WA1-1, WA6-3
Matsukawa, Hircaki	TC9-4
Matsumoto, Takashi	MA1-3
Matsumoto, Takeshi	TB2-1
Matsuura, Akira	POSTER-15
Mattik, Imke	TC4-5
Matumoto, Yasuaki	MB9-1
Mayachearw, Paroon	TA8-1
Memon, Muhammad Saad	WA1-5, WB6-5
Mikami, Koki	WB1-2
Mikawa, Kenta	MB2-3, MB2-4, MB2-5, MB2-6, TB3-2
Misawa, Shotaro	TB3-2
Misola, Galit Maricar	TC1-1, WA6-2
Mitsuhashi, Yoshinori	TA2-2, TA2-4, TA2-6
Miyashita, Shogo	WB5-1
Mizuno, Shinya	MC2-3
Mohamad, Mohd Razali	MB7-4
Mohan, Radhe	TB7-2
Momose, Shu	TA2-6
Moon, Ilkyeong	MC1-5
Morikawa, Katsumi	MA6-4, WB4-1
Morrison, R. James	TA8-2
Muladi, Nadinastiti	POSTER-11
muraki, masaaki	TA7-4

Murphy, J Alan MC2-1

Myong, Mira TA6-4

N

NAGASAWA, KEISUKE TB9-5, TC9-3

Nagata, Kiyoshi TB9-3

Nakade, Koichi TB1-1

Nakamura, Masahiro POSTER-8

Nakamura, Munehiro TA2-1, TA2-3

Nakano, Hiroki MA1-2

Nakashima, Kenichi TC9-5

nakashima, Kiyotaka TA2-3

Nakayama, Kagehisa TA7-2

Nakrachata-Amon, Thawee TC2-2

Nam, Ki Yol TB8-5

Nambo, Hidetaka MB9-1, MB9-2, MB9-3, MB9-4, MB9-6, MC9-1,
TA2-1, TA2-5

Nanthasamroeng, Natthapong TC1-2

Navarro, Basila Bryan TC1-1, WA6-2

Ngai, Bryan MB8-3

Nguyen, Duc Hieu MA6-5

Nguyen, Thi-Phuong-Quyen MA1-4

Nguyen, Bac Huy WB1-3

Ni, Yaodong TA9-2

nilsang, suriyaphong MC7-5

Nishio, Keiichiro MC9-3

Nitisiri, Krisanarach TB4-2

Norman, Anne Rosemary MC2-1

Novitasari, Diena TA4-4

Nulul Azmi, Zakaria Lesly MB3-6

Nurcahya, Dwi F.D. MA2-3

O

Odake, Nobutaka TB2-1, TC3-1

Ogi, Kenzo MA8-1

Ogoshi, Sakiko TA2-2, TA2-4, TA2-6

Ogoshi, Yasuhiro TA2-2, TA2-4, TA2-6

Oh, Gyesik MA2-1

Oh, Sedo POSTER-3

Oh, Sun Kyung MB4-4, WB1-4

Ohba, Masaaki	WA1-1
Ohmura, Etsuji	TA7-1
Okada, Yusuke	MA5-4
Omura, Toru	MC2-4
Onari, Hisashi	TA7-2
Ong, Rubio Nestor	WB6-4
Ono, Akinori	TA4-3
Osanai, Koji	MC9-3
Oyabu, Takashi	MC9-2, TA4-1
Ozeler, Emrecan	TC1-5

P

Pan, Hsin-Ning	MC7-2
Park, Dae Seung	MC2-6
Park, Hyorin	TA8-2
Park, Jihye	TB5-4
Park, Jinwoo	TB9-1
Park, Kook-Nam	TB5-3
Park, MinJeong	POSTER-12, POSTER-13
Park, Saerom	MA8-2
Park, Seyoung	TA9-6
Park, Sunghee	MB6-5
Park, Sungjae	MC4-6
Park, Yongsung	MA4-5
Park, Yongtae	TB2-4, TB5-1
Parkhan, Ali	MC5-5
Parsanejad, Mohammadreza	TC9-4
Parung, Joniarto	MC8-6
Pathumakul, Supachai	TC2-2
Peerapattana, Panitarn	TB7-4, WB5-2
Peng, Jin	TA9-1
Peng, Yu-Hui	MB2-1
Phang, Keat Keong	TC1-4
Phattanaphibul, Thittikorn	WB3-4
Pijitbanjong, Phajongjit	TA8-1
Pinmanee, Prin	TB6-1
Pirasteh, Farnaz	MA1-5
Pitakaso, Rapeepan	MA7-5, TA8-1, TC1-2, TC1-3
Polancos, Villena Ronaldo	TC3-5
Poobanchao, Patcharaphorn	TB7-4

Pramudyo, Suryo Anggoro	TC3-2
Primatury, Petty	TB7-5
Pujawan, Nyoman	POSTER-26
Pulshashi, Reviessay Iq	MB1-3
Purnomo, Hari	MB3-5, MB3-6
Puspitasari, Diana	TA4-4
Puspitasari, Nia Budi	TA4-4
puspitasari, budi nia	TB7-5
Putri, Safitri Pelita Dea	MA8-3

Q

R

Racel R, Patricia	MB4-5
Rahmawati, Nur Aini	MA5-2
rahmayani, azka amalia	MC3-2
Ramingwong, Sakgasem	WA1-4
Ramirez, Charlene Mae	WB6-4
Ramos, Javier Ivy Mar	TB6-3
Rapi, Amrin	TB1-5
Redi, A.A.N Perwira	MA7-3
Redi, A.A.N. Perwira	MC4-5
Rhie, Ye Lim	MC3-4, POSTER-23
Rienkhemaniyom, Kanokporn	MC1-1, MC7-5, TA6-1
Risdiyono, Risdiyono	WB1-1
rochman, agusti yuli	MA3-3
Roh, Ji Eun	MB4-4
Rong, Ci-An	MC5-2
Rouzbeh, Mohammad	MA1-5
Rusman, Muhammad	TB1-5

S

Sai, Fuyume	MB4-3
Saithong, Chirakiat	MA4-1
SAITO, Hiroshi	MB2-4
Saito, Yuta	TA1-1
Sakashita, Ko	WA1-1
Samadhi, TMA Ari	WB4-4
Samadhi, Ari T.M.Agung	WB4-3
Samaranayake, Premaratne	WA5-4

Sampurno, Tio	WB3-1
San Miguel, Angela Camille	WB6-4
Sangsawang, Chatnugrob	WA4-4
Sari, Dila Amarria	MB3-5, MB3-6, MC3-2
Sari, Nurmaladevy	WB4-2
Sarvia, Elty	MC3-5
Saufa, Nanda Rusyda	MA2-2
Sawada, Ayako	TA4-2
Sentosa, Pratama Evan	MC3-5
Seo, Akihiko	POSTER-7
Seok, Seulgi	TA3-3
Septiani, Winnie	MC6-3
Sethanan, Kanchana	MB8-4, TB4-2, WA4-4
Sethi, P Suresh	TB6-5
Setiawan, Nashrullah	MB5-1
Setiawan, Setiawan Nasrullah	TB2-3
Seto, Shuichi	MB9-2, MB9-4, MC9-1
setyaningsih, ira	MC7-1
Shan, Hongying	TB4-1, WA4-2
Shao, Ting	MC3-6
Sheen, Dongyup	POSTER-25
Shen, Chia-Yu	TA5-3
Shen, Wan-Ling	MA2-5
Sheng, Howard	MB8-3
Sheu, Shey-Huei	WB2-4
Shibuya, Masahiro	WB1-2
Shih, Chi-Wei	TC3-3
Shih, Hsin-Yu	TA1-6
Shih, Jen-Ying	TB3-4
Shih, Mei-Hsu	MC5-3
Shimomura, Yuko	MB9-1, MB9-2, MB9-4, MC9-1
Shin, Jong-Ho	POSTER-6
Shin, Kee Yong	TB8-5
Shingyochi, Koji	WB5-3
Shitara, Asami	WB2-1
shuuzou, kishima	MB7-5
Siek, Suriawidjaja Daniel	WA6-4
Siritan, Chonnupong	TA6-1
Siswanto, Joko	MA8-3, MB1-1, MB5-6
Son, Le Thanh	MA1-1

Son, Youngdoo	MA8-2
Song, Jae Wook	MA8-4
Song, Ki-Hoon	MC2-2
Song, Minseok	POSTER-12, POSTER-13, TB5-2
Song, Peiya	MC4-1, WA6-3
Song, Tina Wheyming	TB3-5
Sornmanapong, Thitima	TC9-5
Su, Chi-Kang	TA5-5
Su, Teng-Sheng	MA6-2
subagyo, subagyo	TA1-5
Sudirman, Iman	MB5-6
Sugawara, Mitsumasa	TC2-3
Sugiura, Keita	TA6-6
Suh, Euiho	TB5-4
Suh, Heungwon	MB1-4
Sul, Sung-ook	MA3-4
Suliantoro, Hery	TA4-4
Sun, Baek An	TC2-4
Sun, Jing	MC4-1, WA6-3
Sun, Szu-Yuan	MA3-5
Sunaryo, Indryati	MA2-2
Sung, Meng-Ping	MC4-2
Sung, Shin Woong	MB4-4
Supakdee, Kanckwan	TC1-2
Suparman, Sribagjawati	MB5-6
Suparno, Suparno	MC8-6
Supithak, Anchalee	TA8-3
Supithak, Wisut	TC2-1
Suprayogi, Suprayogi	TA8-4
Suratno, Suratno Bambang	TB2-3
Surjani, Meitha Fosita	MB4-6
Suryoputro, Ragil Muhammad	MB3-5, MB3-6, MC3-2
Susanty, Aries	TA4-4, TB7-5
sutrisno, sutrisno	TB8-4
Sutrisnowati, Asriana Riska	MA3-4, MB1-3
Suttachat, Nipa	MC1-1
Suzuki, Koumei	WA2-1
SUZUKI, YOSHIHIKO	TA7-4
Syahputra, Ibnu Abi Said	TB4-4
Sze, San Nah	TC1-4

Sze, San-Nah WA4-5

T

Tae, Hyunchul MC4-4

Taha, Zahari MB7-4

TAHA, BIN ZAHARI MC3-1

Tahir, Muhammad Faseeh WA6-1

Takahara, Akira TA2-4

Takahashi, Katsuhiko MA6-4, WB4-1

Takahashi, Natsumi MC4-3

Takechi, Shoji MB9-5

Takemoto, Yasuhiko MA5-3, WA1-2

Takeo, Takeo TC2-3

Takeyasu, Daisuke WA2-3, WB2-1

Takeyasu, Hiromasa WB2-3

Takeyasu, Kazuhiro WA2-1, WA2-2, WA2-3, WA2-5, WB2-1, WB2-2, WB2-3

Takezawa, Tomohiro TA2-2, TA2-4, TA2-6

Talar, Yulianti MC9-6

Tamura, Takayoshi TA7-6

Tangsoc, Chong Jazmin MC7-3

Tansuk, Ledesma Carlo TA7-5

Tatebayashi, Jun WA2-5

Tatsushima, Yumi MC9-4

Tecson, Cruz Juan POSTER-4

Thian, Bui-Fat WA4-5

Ting, Ching-Jung MA7-4

Tomita, Daijiro TA1-2

Tomohiro, Ryosuke MA5-3, MA5-4

Toshiro, Masahiro MA8-1

Truc, Vinh Do MA1-1

Tsai, Du-Ming MC6-4

Tsai, Hsing-Tzu WA4-1

Tsai, Meei-Ing MA6-3, MA6-5, MC8-2

Tsai, Ming-Chi MA6-3, MA6-5, MC8-2

Tseng, Ming-Lang TA5-1

Tseng, Tai-Yen MC6-2

Tseng, Yan-Hsin MC6-4

Tuan Ya, Tuan Mohammad Yusoff Shah MB7-4

Tung, Pei-Ju TA3-6

tutuncu, yazgi gozde WA5-3

U

Udomsakdigool, Apinanthana TA8-5

Ueno, Masayoshi TA2-5

Ulil Albab, Azka Yasser TA3-4

Umarin, Primapun TB6-1

V

Vanany, Iwan MA5-2

W

Wada, Takumi MB6-2

Wang, Allen MC6-2

Wang, Chien-Chih MC7-2

Wang, Chi-Tai TA5-2

Wang, Hsiao-Fan MB7-3, MC4-2, MC7-4, TA5-3, TA5-4

Wang, Li-Chih MC6-2

Wang, Mao-Jiun MB3-1

Wang, Zih-Huei MC5-1

Wang, Hsuan Chih TB2-5

Wangsaputra, Rachmawati TB8-4

Watanabe, Ichie POSTER-8

Watanabe, Naoki TA1-4

Wee, Ming Hui WA6-4

Weng, Wei WB6-3

Wicaksono, Adi Purnawan TB7-5

Widodo, Djati Imam MC5-5, WB3-1

Wiratmadja, Iwan I. MB4-5

Wiratmadja, Inrawan Iwan MA2-2

Woldegiorgis, Haile Bereket MC2-5

Worasan, - Kongkidakhon MB8-4

Wu, Cheng-Hung TB1-3

Wu, Chien-Wei MB5-2, MB5-3, MB5-4, MC5-1, MC5-3, TA4-5, TA4-6

Wu, Chou-Chun MB5-3

Wu, Hsu-Che POSTER-17

Wu, Jui-Yu POSTER-16

Wu, Kuo-Jui WA4-1

Wu, Muh-Cherng MA2-5

Wu, Mu-Hsuan	MA7-4
Wu, Tai-Hsi	MB5-2
Wulandari, Destin Anizha	MB3-5

X

Xiao, Xiao	MC2-4, MC4-3, WB5-3
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Y

Yachi, Geraldine	TC9-5
Yaimana, Dusadee	MA4-1
Yamada, Syoji	MB9-1
Yamada, Tetsuo	WA1-1
YAMAGAMI, Kan	MB2-5
Yamaki, Naokazu	MC2-3
Yamamoto, Hisashi	MA1-3, MC2-4, MC4-1, MC4-3, WA6-3, WB5-3
Yamamoto, kohei	TC3-4
Yamasaki, Izumi	TA4-1
yamashita, hirotake	WA2-2, WB2-2
Yamazaki, Fumihiko	MB2-4
Yang, Chao-Lung	MA1-4
Yang, Feng-Cheng	MB8-3
Yang, Hanna	POSTER-12, TB5-2
Yang, Lixing	MA9-3
Yang, Wei-hao	POSTER-21
Yang, Yun-Ru	MC7-2
Yao, Kai	MA9-4
Yasuda, Kazuhiko	MA3-1, MA3-2
Yeh, Wei-Chang	WB5-4
Yin, Chi-Yen	POSTER-1
Yoon, JeongAh	POSTER-12
Yosephine, Sari Vina	WB1-4
Yoshida, Naoki	WB5-3
Yoshida, Taketoshi	TA4-2
You, Heecheon	TA3-2
Youn, Su-Jin	POSTER-10
Young, Nayat Michael	MA8-5
YU, RI	MC6-1
Yu, Taesun	WA4-3
Yu, Vincent F.	MC4-5
Yu, F. Vincent	MA7-3

Yuangyai, Chumpol	MC7-5, TA6-1
YUKAWA, Kiichiro	MB2-3
Yun, Myung Hwan	MC3-4
Yun, YoungSu	POSTER-22
Yuniartha, Ratna Deny	MB3-3, TB4-5
Yusof, Sha'ri Mohd	MC5-6
Yusof, Sha'ri Mohd.	MA5-5, WB5-5
Yusriski, Rinto	WB4-3
Yu-Ting, Wu	POSTER-17

Z

ZALATAR, FERNANDEZ WILLY	MA4-2
Zenke, Akihito	TC3-1
Zhang, Xinyi	WA 1-3
ZHANG, ZHE-GEORGE	WB2-4
Zhao, Haidan	WA4-2

Research in Supply Chain Management: Issue and Area Development

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Abstract. Today the study of supply chain management (SCM) is growing rapidly and provides a great opportunity to do research both empirical and theoretical development. Research opportunities in SCM has been reviewed by many researchers and grouped into many categories. This paper contains a review of research SCM and classify into 7 categories, namely (1) SCM Operational Management & Strategy, (2) knowledge management, (3) Relationship Management, (4) Information Technology in SCM, (5) Supply Chain Design, Logistics & Infrastructure, (6) Global Issues, (7) Environment, Legal & Regulations. The issue in each category and research opportunities will be discussed in this paper.

Keywords: Supply Chain Management, Research Opportunities in SCM, Issue in SCM

1. SUPPLY CHAIN MANAGEMENT ISSUE CLASSIFICATIONS

The development of the field of Supply Chain management (SCM) on all aspects of the business have provided great opportunities to do research. Research opportunities in SCM has been reviewed by many researchers.

They classified SCM issue and its feasibility into many categories. Shukla, Garg & Agarwal (2011) and Jain et al (2010) have classified based on the issues that arised in SCM. Shukla, Garg & Agarwal (2011) classified SCM issue into 10 issues, while Jain et al (2010) classified it into 15 issues. Kouvelis, Chambers & Wang (2006) divided it into 8 main areas in SCM research. Soni & Kodali (2011) called it as

Principal component bodies (PCB) and the issues that related to SCM consist of 5 issues. Meanwhile, Schoenherr (2009) has reviewed about logistic issue and SCM within global area and classified it into 5 categories. Burgess et al (2006) grouped SCM issues into 6 areas based on literature review ranging from 2000 to 2009. Classification has been done also by Borade & Bansod (2008), that grouped SCM base on the aspects and the issues that are to be managed in supply chain. For the detail of classification of each paper is showed on the Table 1.

2. RESEARCH OPPORTUNITIES IN SCM

Base on Table 1, the SCM issue can be classified into 7 categories, which includes: (1) SCM Operational Management & Strategy, (2) Knowledge Management, (3) Relationship Management, (4) Information Technology In SCM, (5) Supply Chain Design, Logistic & Infrastructure, (6) Global Issue, (7) Environment, Legal & Regulation. The following sections will explain each of the category.

2.1 SCM Operational Management & Strategy & Risk Management

SCM Operational Management & Strategy covers almost all issues that related to SCM strategy development and SCM operational in application as well as in theory. A variety topics that fall into this category, such as SCM Strategy Time Based Strategy, Quality, Outsourcing, Human resources, Supply Chain dynamics and Bulwhip effect, Buyer Behavior, Organization Behaviour, Operational Hedging and Risk Management in Supply Chain and Performance measurement. Various areas of research opportunities based on the literature review include: Integrated Information Technology and e-commerce within framework and SCM strategy, Allignment strategy among user in SCM, Combining SCM strategy with new theory, demand driven SC : aligning supply and demand in SCM, SC in food and service industry, Performance measurement in SCM level area (focal firm is not included) and power imbalances, sistematic organizational structure of SC, supply chain security, risk management in natural disaster.

2.2 Knowledge Management in SCM

Knowledge illustrates the intellectual capital of the company which can be related to work related experience, expertise, know how, best practice that can be achieved and distributed to all stakeholders of the company. According to Horwitch and Armacost (2002), knowledge management

involves individuals and groups that exist within company and among companies, management of tacid knowledge (invisible) and explicit knowledge to make better decision, better actions to support the company's business strategy. Knowledge is a critical key for companies to satisfy customer need through the development of products and services (Davenport and Khahr, 1998 in Sukla,2011). Some research opportunities in these area include: development of new culture based on empowerment, shared learning and continous improvement in SCM as well as research opportunities in order to develop knowledge management that occurs among company in SCM.

2.3 Relationship Management

One of the success key in SCM is the integration and relation between actors in SCM. Relationship management needs to supervise not only in relationship with supplier, but also the relationship with customer. Some issues that appear in relationship management include Alliances or Relationships Customer supplier relationship, Supplier Development Supplier Selection and Management, Trust and Commitment, Pameriship issue, Buyer supplier relationship. Some research opportunities in relationship management can be longterm relationship between actors in SCM, eliminate obstacles in a complex network of inter company, such as lack of common purpose, multiple and hidden goal, power imbalances, culture and procedure, conflict over autonomy and accountability, overdependence, lack of trust and mutual trust between users in SCM and modeling into mathematical model.

2.4 Information Technology In SCM

Rapid development in information technology and internet usage created knowledge based competition which was affecting company in SCM (Lang, 2001). The use of technology such as internet, e commerce, WWW, Vendor Managed Inventory, RFID facilitates transformation of goods, informations, financials that greatly affect the structure of SCM, SCM tranforms from traditional to modern SCM based on IT. Some issues are widely discussed in the SCM related to technology such as: Vendor Managed Inventory and Reengineering Programs, World Wide Web and Ecommerce, computer Application and Electronic Data Interchange. Some research opportunities in this category such as: E- commerce dan WWW based SCM application, decision model and internet technology, internet influences empirical study on some e-SCM processes, Cloud computing and software in SCM, Security data exchange dan Stored online.

Tabel 1. SCM Issue Classifications

N	Issue Classification	Authors
1	<ol style="list-style-type: none"> 1. Information Technologi 2. Knowledge management 3. Customer-Supplier relationship 4. Customer relation 5. SC design 6. Logistics 7. Global SC 8. Partnership 9. Environmental issue 10. Trush and commitment 	Shukla, Garg, & Agarwal (2011)
2	<ol style="list-style-type: none"> 1. SCM Strategy 2. SCM Frameworks, Trends And Challenges 3. Alliances Or Relationships 4. Transportations & Logistics 5. World Wide Web and Ecommerce 6. Time Based Strategy 7. Quality 8. Environmental and Social Responsibility 9. Outsourcing 10. Human Resource Issues 11. Supplier Development /Selection and Management 12. Computer Application and Electronic Data Interchange 13. Buyer Behavior 14. Intemational/Global Supply Chain 15. Manufacturing Resource Planning, Legal and Regulatory Issues 	Jain et al (2010)
3	<ol style="list-style-type: none"> 1. SC dynamics and Bulwhip effect 2. Supply Chain Design, Capacity, and Sourcing Decisions 3. Supply Chain Management Practice: Vendor Managed Inventory and Reengineering Programs 4. Supply Chain Planning and Scheduling 5. Supply Chain Coordination: Information Sharing, Incentives and Contracts 6. Multi-Channel Coordination Challenges: Coordinating Offline and Online Procurement and Distribution 7. Design for Supply Chain Management: Postponement and Product Variety. 8. Operational Hedging and Risk Management in Supply Chains 	Kouvelis, Chambers, & Wang (2006)
4	<ol style="list-style-type: none"> 1. Strategic Management 2. Best practice 3. Organization Behaviour 4. Relation and parnership 5. Logistic 6. Marketing 	Soni & Kodali (2011)
5	<ol style="list-style-type: none"> 1. Internal Factors: <ol style="list-style-type: none"> a. Human resources b. Isues practices LSCM 2. Logistics: <ol style="list-style-type: none"> a. 3 Pl b. Logistics design/infrastructur 3. Environment: <ol style="list-style-type: none"> a. Risk/Uncertainty b. Reform and political Development 	Schoenherr (2009)

N	Issue Classification	Authors
	c. Example of SC 4. Enabler: a. IT b. Buyer supplier relationship 5. External Pressure: a. Competitiveness b. Green LSCM and reverse Logistic	
6	1. Leadership 2. Intra-organizational relationships 3. Inter-organizational relationships 4. Logistics 5. Process improvement orientation 6. Information systems 7. Business results & outcomes	Burgess et al, (2006)
7	1. Postponement and build to order SCM 2. Supply chain risk 3. Supply chain performance 4. Sustainable supply chain management 5. Supply chain integration	Seuring & Gold (2012)
8	1. Information Technology and Information Management 2. Knowledge Management 3. Customer and Supplier Relationship Management 4. Supply Chain Design 5. Logistics and Distribution Management 6. Outsourcing and Global Issues 7. Partnership Issues 8. Performance Measurement 9. Environmental Issues	Borade & Bansod (2008)

2.5 Supply Chain Design, Logistic & Infrastructure

Supply chain design is based on integrated activity among companies. The design includes logistic structure design or another activities in supply chain include design performance measurement throughout supply chain. According to Shukla (2011), to the current static approaches and theoretical models in SC design has not been effective considering all variables and constrains that involves in supply chain design. There is difficulties to involve dynamic variables in SCM system. In logistic, some topics are still being observe such as outsourcing in 3PL and 4PL and reverse logistics. Some issues are widely discussed in supply chain design, logistic and infrastructure, such as Supply Chain Design, Capacity and Sourcing Decisions, 3 PL-4PL logistics, Logistics design/infrastructur, Supply Chain Planning and Scheduling, Supply Chain Coordination: Information Sharing, Incentives and Contracts, Multi-Channel Coordination Challenges: Coordinating Offline and

Online, Procurement and Distribution, Design for Supply Chain Management: Postponement and Product Variety. Research opportunity in this area includes system thinking, modeling and complex simulation system in SC, design and infrastructure on 3PL and 4 PL for specific country and across the nationality and reverse logistic.

2.6 Global Issue

Global issue of SCM involves user across the world in terms of infrastructure, regulatory, differences of currency, culture and behaviour, etc. Schoenherr (2009) distinguished global supply chain issues into 5 categories: internal Logistic & SCM (L&SCM) factors (human resource issues and practices of L&SCM), logistics (third-party logistics and logistics design/infrastructure), L&SCM enablers (information technology and buyer-supplier relationships), the environment (risk/uncertainty, reforms and political developments, and examples as to how environmental variables can impact the management of supply chains) and external pressures (competitiveness,

Table 2 . Research Opportunities in SCM

No	Categories	Issue	Development areas / Research	Authors
1.	SCM OPERATIONAL MANAGEMENT & STRATEGY	<ul style="list-style-type: none"> • SCM Strategy • Time Based Strategy • Quality • Outsourcing • Human resources • SC dynamics and Bulwhip effect • Buyer Behavior • Organization Behaviour • Operational Hedging and Risk Management in Supply Chain • Performance measurement 	<ul style="list-style-type: none"> • Integrate information technology and e commerce into framework and strategy SCM • Strategi allignment among user in SCM • combine management SCM strategy with new theory • Demand driven SC : aligning supply and demand in scm • SC in food and service industry • Performance measurement in SCM level (not focal firm level)and power 	<ul style="list-style-type: none"> • Jain et al (2010) • Shukla, Garg, & Agarwal (2011) • Soni & Kodali (2011) • Schoenherr (2009) • Kouvelis, Chambers, & Wang (2006) • Guinipro(2008) • (Zhu &Sarkis,2004)
2.	KNOWLEDGE MANAGEMENT	<ul style="list-style-type: none"> • Knowledge Management in SCM 	<ul style="list-style-type: none"> • Development new culture based on empowerment , on going , shared learning, continous improvement in SCM • Development of 	<ul style="list-style-type: none"> • Shukla, Garg, & Agarwal (2011)
3.	RELATIONSHIP MANAGEMENT	<ul style="list-style-type: none"> • Alliances Or Relationships Customer supplier relationship • Supplier Development Supplier Selection and Management • Trust and Commitment • Parnership issue • Buyer supplier relationship 	<ul style="list-style-type: none"> • Longterm relationship model between SCM staff • Eliminate obstacles in complex company's network, al ; lack of common purpose, multiple and hidden goals, power imbalances, 	<ul style="list-style-type: none"> • Jain et al (2010) • Shukla, Garg, & Agarwal (2011) • Soni & Kodali (2011) • Schoenherr (2009) • Kouvelis, Chambers, & Wang (2006) • Guinipro(2008)

			<p>overdependence , lack of trust</p> <ul style="list-style-type: none"> • Development of mutual trust model between staff in SCM and design 	
4.	INFORMATION TECHNOLOGY IN SCM	<ul style="list-style-type: none"> • Vendor Managed Inventory and Reengineering Programs • World Wide Web and Ecommerce • Computer Application and Electronic Data Interchange 	<ul style="list-style-type: none"> • E- commerce and www based scm application • decision model application • and internet usage • Empirical study by influence of internet at some process e scm a cloud computing and software in LSCM 	<ul style="list-style-type: none"> • Jain et al (2010) • Shukla, Garg, & Agarwal (2011) • Soni & Kodali (2011) • Schoenherr (2009) • Kouvelis, Chambers, & Wang (2006) • Agatz et al (2008)
5.	SUPPLY CHAIN DESIGN, LOGISTIC & INFRASTRUCTURE	<ul style="list-style-type: none"> • Supply Chain Design, Capacity and Sourcing Decisions • 3 PL • Logistics design/infrastructure • Supply Chain Planning and Scheduling • Supply Chain Coordination: Information Sharing, Incentives and Contracts • Multi-Channel Coordination Challenges: Coordinating Offline and Online • Procurement and Distribution • Design for Supply 	<ul style="list-style-type: none"> • system thinking and modeling and complex simulation system in design SC • Design and infrastructure on 3PL and 4 PL for specific country and across the nationality. • Reverse logistics 	<ul style="list-style-type: none"> • Jain et al (2010) • Shukla, Garg, & Agarwal (2011) • Soni & Kodali (2011) • Schoenherr (2009) • Kouvelis, Chambers, & Wang (2006)
6.	GLOBAL ISSUE	<ul style="list-style-type: none"> • International/Global Supply Chain 	<ul style="list-style-type: none"> • Interfirm relationship across nationality • Specific business culture, context 	<ul style="list-style-type: none"> • Jain et al (2010) • Shukla, Garg, & Agarwal (2011) • Soni & Kodali (2011)

			<ul style="list-style-type: none"> • Impact on regulatory, financial and economic system, deregulation and opening market in global LSCM • Performance measurement for global LSCM 	Chambers, & Wang (2006)
7.	ENVIRONMENT, LEGAL & REGULATION	<ul style="list-style-type: none"> • Environmental and Social Responsibility • Manufacturing Resource Planning, Legal and Regulatory Issues • Environmental issue • Reform and political Development 	<ul style="list-style-type: none"> • SC strategy for public good involved with government regulation • Green and reverse logistic in Multinational 	<ul style="list-style-type: none"> • Jain et al (2010) • Shukla, Garg, & Agarwal (2011) • Soni & Kodali (2011) • Schoenherr (2009) • Kouvelis, Chambers,

green L&SCM and reverse logistics). Some research opportunities in this area are interfirm relationship across nationality, Specific business culture, context and infrastructure, Risk and uncertainty in multinational LSCM, Impact on regulatory, financial and economic system, deregulation and opening market in global LSCM, Performance measurement for global LSCM.

2.7 Environment, Legal & Regulation

Future development of SCM will be more focused on environmental issues which still attract the researchers' attention (Shukla, 2011). It is driven by the global demand to increase practical management in level of supplier to improve

3. CONCLUSION

From the literature review it can be concluded that the research in the field of scm cover areas ranging from operational level within and between companies to the global level. Various issues concerning the environment and policies are also a focus of research today. Support the advancement of information technology makes the ease of communication and interaction between actors scm while providing research opportunities to apply various types of information technology. Similarly, the global problems facing by the actor scm provide new challenges for researcher in managing scm in the global era.

efficiency and effectiveness. Further recommended separately integrate environmental issues into decision making in SCM. Some issues in this area, such as environmental and Social Responsibility, Manufacturing Resource Planning, Legal and Regulatory Issues, Environmental issue, Reform and political Development, Risk Uncertainty. Research opportunity in this area include SC strategy for public good which associate to government policy and green and reverse logistic in Multinational.

3 Various categories of issues and research opportunities are given in Table 2.

REFERENCE

- Agatz, N. A. H., Fleischmann M. And Nunen J. A. E. E. V. (2008) *E-fulfillment and multi-channel distribution – A review*, European Journal of Operational Research, 339-356
- Borade, A., B. and Bansod, S., V. (2008) *The Discipline of Supply Chain Management: A Systematic Literature Review*, The Icfai Journal of Supply Chain Management, Vol. V, No. 1.
- Burgess, K., Singh, P., J., Koroglu, R. (2006) *Supply chain management: A structured literature review and implications for future research*, International Journal of Operations & Production Management, Vol. 26 No. 7, pp. 703-729

- Giunipero, L., C., ;Hooker, R., E., Joseph-Matthews, S., Yoon, T.E., and Brudvig, S., (2008) *A Decade of SCM Literature: past, Present and Future Implications*, Journal of Supply Chain Management, 4; ABI/INFORM Complete pg. 66
- Horwitch, M. and Armacost, R. (2002), *Helping knowledge management be all it can be*, Journal of Business Strategy, Vol. 23 No. 3, pp. 26-32.
- Jain,J., Dangayach,G,S., Agarwal,G., Banerjee,S., (2010) *Supply Chain Management: Literature Review and Some Issues*, Journal of Studies on Manufacturing ,Vol.1, pp. 11-25
- Kouvelis ,P., Chambers, C., and Wang,H. (2006) *Supply Chain Management Research and Production and Operations Management: Review, Trends, and Opportunities*, Production and Operations Management, Vol. 15, No. 3, Fall 2006, pp. 449–469
- Lang,J.C., 2001 *Managing in knowledge-based competition*,Journal of Organizational Change Management, 14 (6), pp.539- 553
- Schoenherr, T. (2009) *Logistics and Supply chain Management Applications Within a Global Context: An Overview*, Journal of business logistics, Vol. 30, No. 2
- Seuring,S., and Gold,S. (2012) *Conducting content-analysis based literature reviews in supply chain management*, Supply Chain Management: An International Journal 17/5, pg. 544–555
- Shukla,R.K., Garg,D. and Agarwal,A. (2011) *Understanding of Supply Chain: A Literature Review*, International Journal of Engineering Science and Technology (IJEST) ISSN : 0975-5462 Vol. 3 No. 3 March
- Soni, G., and Kodali, R. (2011) *A critical analysis of supply chain management content in empirical research*, Business Process Management Journal Vol. 17 No. 2, pp. 238-266
- Zhu, Q.; Sarkis, J., (2004). *Relationships between operational practices and performance among early adopters of green supply chain management practices in Chinese manufacturing enterprises*, Journal of Operation Management, 22, 265-289.

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