

**The 13th International Conference on  
Industrial Management  
ICIM2016**



**September 21 - 23, 2016**

**Hiroshima, Japan**

**CONFERENCE PROGRAM**

**Sponsors**

Beihang University (BUAA)

Japan Industrial Management Association Chugoku-Shikoku Branch (JIMA)

**Cosponsor**

The Japan Society of Mechanical Engineers (Manufacturing Systems Division)

**Cooperation**

National Natural Science Foundation of China

Hiroshima University

# Venue Information

## Opening Ceremony, Lunch, Banquet:

Hiroshima City Bunka Koryu Kaikan (広島市文化交流会館)

Address: Kakomachi 3-3, Naka-ku, Hiroshima 730-8787

(広島市中区加古町 3-3)

## Presentation Rooms:

JMS Aster Plaza (JMS アステールプラザ)

Address: Kakomachi 4-17, Naka-ku, Hiroshima 730-0812

(広島市中区加古町 4-17)

## Welcome Party:

Hiroshima Museum of Art (ひろしま美術館)

Address: Motomachi 3-2, Naka-ku, Hiroshima 730-0011

(広島市中区基町 3-2)

Walk: 23 min. (1.9km), Taxi: 10 min. (2km, 800 yen, no traffic jam), Bus: 20min. (180yen)

## Map:



# I. CONFERENCE SCHEDULE

**Wednesday, September 21, 2016**

|                    |                                     |                                                                 |
|--------------------|-------------------------------------|-----------------------------------------------------------------|
| 8:10 AM - 11:00 AM | Registration                        | Hiroshima City<br>Bunka Koryu Kaikan<br>(3 <sup>rd</sup> floor) |
| 9:00 AM - 11:00 AM | Opening Ceremony and Keynote Speech | Conference Room<br>Galaxy<br>(3 <sup>rd</sup> floor)            |

- (1) Speech by Prof. Katsuhiko TAKAHASHI  
Chairman of ICIM2016, Japan  
Faculty of Engineering, Hiroshima University, Japan
- (2) Speech by Prof. Huiwen WANG  
Chairman of ICIM2016, China  
School of Economics and Management, Beihang University, China
- (3) Keynote Speech: *Mazda's Monotsukuri Innovation at the Mexico Plant (MMVO)*  
Mr. Osamu TOMINAGA  
General Manager  
Production Control & Logistics Division, Mazda Motor Corporation
- (4) Keynote Speech: *The Optimal Design for Carbon Emission Trading*  
Prof. Ying FAN  
Dean  
School of Economics and Management, Beihang University, China

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| 11:00 AM - 11:30 AM | Photos |
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| 11:30 AM – 4:00PM | Registration | JMS Aster Plaza<br>(4 <sup>th</sup> floor) |
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**11:30 AM - 1:00 PM      Lunch      Hiroshima City Bunka Koryu Kaikan Restaurant**

| 1:00 PM –<br>2:40 PM | Track                                                                                                                | Session Chair                  | Meeting Rooms of<br>JMS Aster Plaza<br>(4 <sup>th</sup> floor) |
|----------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------|
| Session 1A           | Advanced Production<br>Management Methodologies (1)<br>&<br>Practice and Experiences in<br>Industrial Management (1) | <b>Yoshinarai<br/>YANAGAWA</b> | Meeting Room 1                                                 |
| Session 1B           | Advanced Production<br>Management Methodologies (2)                                                                  | <b>Hong ZHOU</b>               | Meeting Room 2                                                 |
| Session 1C           | Artificial Intelligence and<br>Information Technology<br>in Industrial Management (1)                                | <b>Shigekazu<br/>ISHIHARA</b>  | Meeting Room 3                                                 |
| Session 1D           | Artificial Intelligence and<br>Information Technology<br>in Industrial Management (2)                                | <b>Qihong ZHAO</b>             | Meeting Room 4                                                 |

**2:40 PM - 3:00 PM      Tea Break**

| 3:00 PM –<br>4:40 PM | Track                                                                                                                  | Session Chair               | Meeting Rooms of<br>JMS Aster Plaza<br>(4 <sup>th</sup> floor) |
|----------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------------------------------------------|
| Session 2A           | Advanced Production<br>Management Methodologies (3)                                                                    | <b>Katsumi<br/>MORIKAWA</b> | Meeting Room 1                                                 |
| Session 2B           | Advanced Production<br>Management Methodologies (4)                                                                    | <b>Zhong YAO</b>            | Meeting Room 2                                                 |
| Session 2C           | Artificial Intelligence and<br>Information Technology<br>in Industrial Management (3)                                  | <b>Shuichi<br/>TOKUNAGA</b> | Meeting Room 3                                                 |
| Session 2D           | Artificial Intelligence and<br>Information Technology<br>in Industrial Management (4)<br>&<br>Research and Development | <b>Liyan HAN</b>            | Meeting Room 4                                                 |

- 5:00 PM                      Open                      Hiroshima Museum of Art**
- 5:00 PM - 6:00 PM      Art Appreciation      Hiroshima Museum of Art (Hall)**  
**(Optional Event)**
- 6:00 PM - 7:30 PM      Welcome Party              Hiroshima Museum of Art (Garden Party)**

## Thursday, September 22, 2016

|           |              |                                            |
|-----------|--------------|--------------------------------------------|
| 9:10 AM - | Registration | JMS Aster Plaza<br>(4 <sup>th</sup> floor) |
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| 9:20 AM –<br>10:40 AM | Track | Session Chair | Meeting Rooms of<br>JMS Aster Plaza<br>(4 <sup>th</sup> floor) |
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|------------|---------------------------|-------------------|----------------|
| Session 3A | Production Management (1) | <b>Guozhu JIA</b> | Meeting Room 1 |
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| Session 3B | Project Management | <b>Takayuki<br/>KATAOKA</b> | Meeting Room 2 |
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| Session 3C | Energy and Environment<br>Management (1) | <b>Lei ZHU</b> | Meeting Room 3 |
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### 10:40 AM - 11:00 AM      Tea Break

|                        |       |               |                                                                |
|------------------------|-------|---------------|----------------------------------------------------------------|
| 11:00 AM –<br>12:20 AM | Track | Session Chair | Meeting Rooms of<br>JMS Aster Plaza<br>(4 <sup>th</sup> floor) |
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| Session 4A | Production Management (2) | <b>Weiguo FANG</b> | Meeting Room 1 |
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| Session 4B | Digital Factory (1) | <b>Yoshiomi<br/>MUNESAWA</b> | Meeting Room 2 |
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| Session 4C | Energy and Environment<br>Management (2) | <b>Zhuqi XU</b> | Meeting Room 3 |
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### 12:00 AM - 1:30 PM      Lunch      Hiroshima City Bunka Koryu Kaikan Restaurant

|                      |       |               |                                                                |
|----------------------|-------|---------------|----------------------------------------------------------------|
| 1:20 PM –<br>2:40 PM | Track | Session Chair | Meeting Rooms of<br>JMS Aster Plaza<br>(4 <sup>th</sup> floor) |
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| Session 5A | Quantitative Analysis in Industrial<br>Management (1)<br>&<br>Miscellaneous | <b>Shinji INOUE</b> | Meeting Room 1 |
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| Session 5B | Quantitative Analysis in Industrial<br>Management (2) | <b>Ronggang ZHOU</b> | Meeting Room 2 |
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| Session 5C | Quantitative Analysis in Industrial<br>Management (3) | <b>Seiko TAKI</b> | Meeting Room 3 |
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### 2:40 PM - 3:00 PM      Tea Break

|                      |                                                                                                        |                               |                                                                |
|----------------------|--------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------------------|
| 3:00 PM –<br>4:20 PM | Track                                                                                                  | Session Chair                 | Meeting Rooms of<br>JMS Aster Plaza<br>(4 <sup>th</sup> floor) |
| Session 6A           | Quantitative Analysis in Industrial<br>Management (4)<br>&<br>Energy and Environment<br>Management (3) | <b>Akimine<br/>NISHIKORI</b>  | Meeting Room 1                                                 |
| Session 6B           | Quantitative Analysis in Industrial<br>Management (5)                                                  | <b>Dongwen TIAN</b>           | Meeting Room 2                                                 |
| Session 6C           | Practice and Experiences in<br>Industrial Management (2)                                               | <b>Yukihiro<br/>MATSUBARA</b> | Meeting Room 3                                                 |

**4:20 PM - 4:40 PM      Tea Break**

|                      |                                                       |                              |                                                                |
|----------------------|-------------------------------------------------------|------------------------------|----------------------------------------------------------------|
| 4:40 PM –<br>6:20 PM | Track                                                 | Session Chair                | Meeting Rooms of<br>JMS Aster Plaza<br>(4 <sup>th</sup> floor) |
| Session 7A           | Quantitative Analysis in Industrial<br>Management (6) | <b>Yoshiaki<br/>ISHIHARA</b> | Meeting Room 1                                                 |
| Session 7B           | Digital Factory (2)                                   | <b>Ning ZHOU</b>             | Meeting Room 2                                                 |
| Session 7C           | Production Management (3)                             | <b>Mitsuru JINDAI</b>        | Meeting Room 3                                                 |

**7:00 PM - 9:00 PM      Banquet & Awards**

**Hiroshima City Bunka Koryu Kaikan, Galaxy (3<sup>rd</sup> floor)**

**Friday, September 23, 2016**

9:30 AM – 12:00 AM

**Factory Tour  
Mazda Motor Corporation**

## II. PRESENTATION SCHEDULE

### Day 1: Wednesday, September 21, 2016

| 1:00 PM - 2:40 PM (Venue: Meeting Room 1)                                                                  |                                                                                     | Session Chair: Yoshinarai YANAGAWA |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------|
| <b>1A: Advanced Production Management Methodologies (1) (4 Papers)</b>                                     |                                                                                     |                                    |
| <b>Practice and Experiences in Industrial Management (1) (1 Paper)</b>                                     |                                                                                     |                                    |
| ON SUPPLIER SELECTION OF EQUIPMENT R&D PROJECT BASED ON CLOUD TOPSIS METHOD                                | Xuefeng Lu, Wenbing Chang, Shenghan Zhou, Jianing Zhang, Zhengxiang Wang            |                                    |
| AGREEMENT CONDITION AND COOPERATIVE BARGAINING IN CAPACITY RESERVATION CONTRACT FOR SEMICONDUCTOR INDUSTRY | Yasuhiko Takemoto, Ikuo Arizono                                                     |                                    |
| EXPERIMENTAL STUDY OF PRISONER'S DILEMMA                                                                   | Xingnan Li                                                                          |                                    |
| THE STORAGE ASSIGNMENT RESEARCH IN THE SINGLE GATEWAY WAREHOUSE: AN EMPIRICAL STUDY                        | Renqian Zhang, Yunxia Pan                                                           |                                    |
| STUDY OF RURAL MIGRATION ACTIVITIES BY QUESTIONNAIRE                                                       | Naoki Takabayashi, Yoshiki Nakamura, Hisashi Yamamoto, Masaaki Ohba, Yukio Maruyama |                                    |

| 1:00 PM - 2:40 PM (Venue: Meeting Room 2)                                                                                                                                         |                                              | Session Chair: Hong ZHOU |
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| <b>1B: Advanced Production Management Methodologies (2) (5 Papers)</b>                                                                                                            |                                              |                          |
| RESEARCH ON THE PORT MANAGEMENT AND THE MODE OF LOGISTICS DEVELOPMENT --- A CASE ANALYSIS BASED ON THREE JAPANESE PORTS' DEVELOPMENT: TOKYO PORT, YOKOHAMA PORT AND KAWASAKI PORT | Peng Sun, Guozhu Jia                         |                          |
| IDENTIFICATION OF CRITICAL FACTORS AND THEIR INTERRELATIONSHIPS TO MEASURE SUPPLY CHAIN AGILITY LEVEL: CASES FROM OMANI OIL AND GAS INDUSTRIES                                    | Sujan Piya, Ahm Shamsuzzoha, Mohammed Khadem |                          |
| OPTIMIZATIONS AND EVALUATIONS OF PRODUCTION LOGISTICS FACILITY LAYOUT SCHEMES                                                                                                     | Jing Lu, Guozhu Jia                          |                          |
| DESIGNING OF INFORMATION SYSTEMS IN MANUFACTURING WITH IOT: INTRODUCING OBJECT-ORIENTED RFID FOR CONTROL SYSTEM                                                                   | Tamotsu Kamigaki                             |                          |
| IMPROVEMENT ON CO-OP ADVERTISING MODEL IN MANUFACTURER-RETAILER SUPPLY CHAINS                                                                                                     | Xiaoming Zhang, Weiguo Fang                  |                          |

| <b>1:00 PM - 2:40 PM (Venue: Meeting Room 3)</b>                                                  |                                                                                                       | <b>Session Chair: Shigekazu ISHIHARA</b> |
|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------|
| <b><u>1C: Artificial Intelligence and Information Technology in Industrial Management (1)</u></b> |                                                                                                       |                                          |
| <b>(5 Papers)</b>                                                                                 |                                                                                                       |                                          |
| MODELLING SEMANTIC SOCIAL NETWORK FOR RESEARCHER RECOMMENDATION: A CONCEPTUAL GRAPH PERSPECTIVE   | Yan Yu, Suling Jia,<br>Jin-Xing Hao                                                                   |                                          |
| SMARTPHONE BASED INORGANIC CHEMISTRY LEARNING SUPPORT SYSTEM USING AR APPROACH                    | Tsukasa Ishimura,<br>Masaru Okamoto,<br>Yukihiro Matsubara                                            |                                          |
| AN OPTIMAL SOLUTION APPROACH FOR THE K-MEDOIDS CLUSTERING BASED ON MATHEMATICAL PROGRAMMING       | Changhao Huang,<br>Xiaorong Zuo, Chuan Zhu,<br>Yiyong Xiao                                            |                                          |
| DEVELOPMENT OF VELOCITY CONTROL-BASED INTERFACE FOR VIRTUAL DOPPLER EFFECT EXPERIENCE             | Mizuki Kyogoku,<br>Masaru Okamoto,<br>Yukihiro Matsubara                                              |                                          |
| APPLICATIONS OF BLOCK CHAIN TECHNOLOGY IN CREDIT RATING                                           | Yaomeng Yue, Jiawei Tian,<br>Li Wang, Yingcheng Xu,<br>Yue You, Yao Zhong,<br>Xue Shen, Yuexiang Yang |                                          |

| <b>1:00 PM - 2:40 PM (Venue: Meeting Room 4)</b>                                                                                                       |                                                                                                      | <b>Session Chair: Qihong ZHAO</b> |
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| <b><u>1D: Artificial Intelligence and Information Technology in Industrial Management (2)</u></b>                                                      |                                                                                                      |                                   |
| <b>(5 Papers)</b>                                                                                                                                      |                                                                                                      |                                   |
| CORRELATION ANALYSIS OF MULTI-SOURCE PRODUCT QUALITY INFORMATION                                                                                       | Yue You, Yaomeng Yue,<br>Chan Lyu, Li Wang,<br>Yao Zhong, Jiawei Tian                                |                                   |
| MULTIMEDIA DAISY BOOKS AS LEARNING AIDS                                                                                                                | Keiko Ishihara,<br>Misuzu Miyake,<br>Yukari Rutson-Griffiths,<br>Fumio Matsukawa,<br>Tomoko Nakamura |                                   |
| A SYNTHETICAL APPROACH FOR PUBLIC EMERGENCY RELATED BLOG EVALUATION: COMBINING CONTENT RELEVANCE, CREDIBILITY, SEMANTIC ANALYSIS AND SOCIAL NETWORKING | Siqing Shan, Mengni Liu                                                                              |                                   |
| PSYCHOLOGICAL DYNAMIC MODEL AND ANALYSIS : EMERGENCY EVENTS FORWARDING BEHAVIOUR IN WEIBO                                                              | Hao Yu, Suling Jia                                                                                   |                                   |
| ASSESSMENT ON THE IMPLEMENTATION EFFECT OF NATIONAL INNOVATIVE RESEARCH GROUP FOUNDATION                                                               | Zhenyu Gao, Bang Xia,<br>Huiwen Wang                                                                 |                                   |



| <b>3:00 PM - 4:40 PM (Venue: Meeting Room 1)</b>                                                                                           |                                               | <b>Session Chair: Katsumi MORIKAWA</b> |
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| <b>2A: Advanced Production Management Methodologies (3) (5 Papers)</b>                                                                     |                                               |                                        |
| HOW DOES A FINANCIALLY CONSTRAINED RETAILER RESPONSE TO THE MARKET? A STUDY ON QUANTITY DISCOUNT AND DELAY IN PAYMENT                      | Tianyun Li, Weiguo Fang, Chen Yang            |                                        |
| SUITABLE GVRP ALGORITHM SELECTION FOR FUEL CONSUMPTION MINIMIZATION IN A PRACTICAL PRODUCT DISTRIBUTION CASE STUDY                         | Ruengsak Kawtummachai, Tsutomu Shohdohji      |                                        |
| BANK'S INTEREST RATE DECISION WHEN FINANCING WORKING CAPITAL-CONSTRAINED NEWSVENDOR RETAILER                                               | Chen Yang, Weiguo Fang, Tianyun Li            |                                        |
| PRODUCT DEMAND ALLOCATION AND DISTRIBUTION OPTIMIZATION MODEL USING TRANSSHIPMENT MODEL<br>(CASE STUDY: PT PERTAMINA LUBRICANTS INDONESIA) | Baninda Yurisuhihikmah, Yosi Agustina Hidayat |                                        |
| ANALYSIS FOR THE STRATEGY OF CLOSED-LOOP SUPPLY CHAIN WITH THE DOMINATION OF THE RETAILER AND DUAL RECYCLING CHANNELS                      | Min Gao, Guozhu Jia                           |                                        |

| <b>3:00 PM - 4:40 PM (Venue: Meeting Room 2)</b>                                                         |                                                                                              | <b>Session Chair: Zhong YAO</b> |
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| <b>2B: Advanced Production Management Methodologies (4) (5 Papers)</b>                                   |                                                                                              |                                 |
| OPTIMIZATION OF NOZZLE LOADING PROBLEM IN MULTIPLE PCB TYPES ASSEMBLY                                    | Shujuan Guo, Xiaoqing Zhang, Fei Geng, Zhihong Jin                                           |                                 |
| A STUDY ON A VEHICLE ROUTING PROBLEM OF FINISHED CARS CONSIDERING SERVICE ORDERS IN DISTRIBUTION CENTERS | Yoshiaki Ishihara, Keizo Wakabayashi, Kuninori Suzuki, Zhuqi XU, Yuanming SU, Shusaku Hiraki |                                 |
| OPTIMAL ORDERING POLICY OF PERISHABLE PRODUCT RETAILER BASED ON SUPPLY CHAIN CONTRACTS                   | He Hu, Li Li                                                                                 |                                 |
| INVENTORY CONTROL USING LINEAR FUNCTIONS FOR DUAL-CHANNEL SUPPLY CHAINS                                  | Mimori Hanataka, Daisuke Hirotsu                                                             |                                 |
| RESEARCH ON EMERGENCY VEHICLE ROUTING PROBLEM FOR LIMITED RELIEF SUPPLIES                                | Xue Rui, Hong Zhou                                                                           |                                 |

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| <b>3:00 PM - 4:40 PM (Venue: Meeting Room 3)</b>                                                                              |                                                             | <b>Session Chair: Shuichi TOKUNAGA</b> |
| <b>2C: Artificial Intelligence and Information Technology in Industrial Management (3)</b>                                    |                                                             |                                        |
| <b>(5 Papers)</b>                                                                                                             |                                                             |                                        |
| PRICING ON EARTHQUAKE INSURANCE BASED ON SKEWED DISTRIBUTIONS                                                                 | Junzhang Hao, Manying Bai                                   |                                        |
| DEVELOPMENT OF A VIRTUAL WINDOW COMMUNICATION SYSTEM FOR REMOTE COMMUNICATION                                                 | Takumi Shima, Mitsuru Jindai,<br>Tohru Sasaki, Shunsuke Ota |                                        |
| ANSWER EVALUATION IN Q&A COMMUNITY SITE ON THE TOPIC OF NATURAL DISASTER                                                      | Siqing Shan, Tong Zhang                                     |                                        |
| DEVELOPMENT OF A SMALL-SIZE HANDSHAKE ROBOT SYSTEM FOR GENERATION OF HANDSHAKE RESPONSE MOTION USING NON-CONTACT MEASUREMENTS | Shunsuke Ota,<br>Yoshihiro Sejima,<br>Mitsuru Jindai        |                                        |
| EMERGENCY RESPONSE DECISION ADAPTIVE UGC CLASSIFICATION EVALUATION MODEL FOR DECISION DEMAND                                  | Shan Siqing, Hou Yinfeng                                    |                                        |

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| <b>3:00 PM - 4:40 PM (Venue: Meeting Room 4)</b>                                                             |                                                                      | <b>Session Chair: Liyan HAN</b> |
| <b>2D: Artificial Intelligence and Information Technology in Industrial Management (4)</b>                   |                                                                      |                                 |
| <b>(2 Papers)</b>                                                                                            |                                                                      |                                 |
| <b>Research and Development (3 Papers)</b>                                                                   |                                                                      |                                 |
| PHAIIE- A DYNAMIC CITY DISASTER LOSS ASSESSMENT MODEL BASED ON UGC                                           | Shan Siqing, Lin Xiao                                                |                                 |
| DEVELOPMENT OF METHOD AND APPARATUS FOR THE WORK ANALYSIS IN WAREHOUSE OPERATION                             | Zhang Mingyu, Liang Shuyu,<br>Yasuhiro Kajihara,<br>Kiyoshi Fukunaga |                                 |
| A BENEFIT-DISTRIBUTION MECHANISM OF COLLABORATIVE INNOVATION ALLIANCES                                       | Lv Xiao-Dong, Zhang Tao,<br>Xue Chuan-Xing                           |                                 |
| CONSTRUCTING OF THE CREDIT EVALUATION SYSTEM OF SCIENTIFIC RESEARCH BASED ON FULL-LIFE CYCLE PERSPECTIVE     | Ning Zhou, Jinli Yu,<br>Xiaoting Han, Xiangyu Wang,<br>Yin Zhou      |                                 |
| THE SYSTEM OF PERFORMANCE APPRAISAL INDEX FOR TECHNICAL PERSONNEL IN THE IT ENTERPRISES —AN EXAMPLE IN CHINA | Ning Zhou, Shu Meng,<br>Lingyun Yu, Enlong Fan,<br>Bowen Cai         |                                 |

## Day 2: Thursday, September 22, 2016

| 9:20 AM - 10:40 AM (Venue: Meeting Room 1)                                                                     |                                                        | Session Chair: Guozhu JIA |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------|
| <b>3A: Production Management (1) (4 Papers)</b>                                                                |                                                        |                           |
| A NEW AREA LINEARIZATION METHOD AND SYMMETRY-BREAKING CONSTRAINTS FOR THE UNEQUAL-AREA FACILITY LAYOUT PROBLEM | Yiyong Xiao, Jianrui Dong, Changhao Huang, Yue Xie     |                           |
| NEIGHBORHOOD ALGORITHM FOR FLEXIBLE JOB SHOP SCHEDULING PROBLEMS                                               | Aya Ishigaki and Yuki Matsui                           |                           |
| HUMAN RELIABILITY OF MANUFACTURING SYSTEM BASED ON INTEGRATED THERP AND HCR                                    | Ye Lin, Xing Pan, Xi Chen                              |                           |
| USER EXPERIENCE EVALUATION FOR 3D VIRTUAL REALITY GLASSES                                                      | Mengli Yu, Ronggang Zhou, Weihua Zhao , Yongweijian Yu |                           |

| 9:20 AM - 10:40 AM (Venue: Meeting Room 2)                                                                   |                                                                         | Session Chair: Takayuki KATAOKA |
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| <b>3B: Project Management (4 Papers)</b>                                                                     |                                                                         |                                 |
| INFLUENCE OF XBRL ON INVESTMENT DECISIONS UNDER THE CONDITION OF INFORMATION CONFLICT: AN EXPERIMENTAL STUDY | Dan Wang, Lixin Pan, Maoran Meng                                        |                                 |
| CAPACITY SELECTION FOR HUBS AND HUB LINKS IN HUB LOCATION PROBLEMS OVER INCOMPLETE HUB NETWORKS              | Yusuke Tsukada, Keisuke Nagasawa, Katsumi Morikawa, Katsuhiko Takahashi |                                 |
| STUDY ON TARGET COST MANAGEMENT IN AERONAUTIC DEVELOPMENT PROJECT BASD ON EARNED VALUE METHOD                | Yigong Liu, Lixin Pan, and Jing Jin                                     |                                 |
| ACTIVE LEARNING AND ITS APPLICATION IN ENTERPRISE RISK WARNING                                               | Quanbao Li, Fajie Wei, Chen Li, Shan Lu                                 |                                 |

| 9:20 AM -10:40 AM (Venue: Meeting Room 3)                                                 |                                 | Session Chair: Lei ZHU |
|-------------------------------------------------------------------------------------------|---------------------------------|------------------------|
| <b>3C: Energy and Environment Management (1) (4 Papers)</b>                               |                                 |                        |
| A STUDY ON THE CORRELATION BETWEEN BOARD GOVERNANCE AND ENVIRONMENTAL PERFORMANCE         | Yihui Shi, Yan Zou              |                        |
| INVENTORY CONTROL WITH SWITCHING POINTS FOR REMANUFACTURING SYSTEMS                       | Hiroki Matoba, Daisuke Hirotani |                        |
| ENERGY CONSUMPTION EVALUATION IN SEWAGE TREATMENT BASED ON GREY RELATIONAL ANALYSIS       | Lei Zhang, Zhihong Zou          |                        |
| SEASONAL EVALUATION OF ENERGY CONSUMPTION OF SEWAGE TREATMENT BASED ON PROJECTION PURSUIT | Ranran Li, Zhihong Zou          |                        |

| <b>11:00 AM - 12:20 AM (Venue: Meeting Room 1)</b>                                                           |                                                       | <b>Session Chair: Weiguo FANG</b> |
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| <b>4A: Production Management (2) (4 Papers)</b>                                                              |                                                       |                                   |
| AMENDING THE CRITICAL VALUE OF BACKORDERING RATE IN THE DETERMINISTIC EOQ WITH PARTIAL BACKORDERING          | Ren-qian Zhang, Meng Yi                               |                                   |
| SEQUENCING METHOD CONSIDERING PICKING EFFICIENCY FOR MIXED-MODEL ASSEMBLY LINES WITH SET PARTS SUPPLY SYSTEM | Zhuqi Xu, Yoshiaki Ishihara, Fugejile, Shusaku Hiraki |                                   |
| CONSUMERS' ONLINE REVIEW SEARCH BEHAVIOR CONSIDERING SEARCH AND EXPERIENCE PRODUCTS: AN EYE-TRACKING STUDY   | Zhong Yao, Jing Luan, Futao Zhao, Cungen Zhu, Hao Liu |                                   |
| INTERACTION ANALYSIS OF DIFFERENT PARTICIPANTS IN PRODUCTION SAFETY SUPERVISION: A GAME THEORETIC APPROACH   | Jie Jin, Qiuhong Zhao                                 |                                   |

| <b>11:00 AM - 12:20 AM (Venue: Meeting Room 2)</b>                                                         |                                               | <b>Session Chair: Yoshiomi MUNESAWA</b> |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------|
| <b>4B: Digital Factory (1) (4 Papers)</b>                                                                  |                                               |                                         |
| EVALUATION OF PERCEIVED MUSCLE FATIGUE DUE TO REPETITIVE ELBOW HOLDING TASK                                | Ayana Nozawa, Takanori Chihara, Akihiko Seo   |                                         |
| EFFECT OF VERBAL INSTRUCTIONS ON PHYSICAL WORKLOAD DURING PICKING TASKS                                    | Ayana Goya, Takanori Chihara, Akihiko Seo     |                                         |
| ANALYSIS OF BUSES' REGULATORY IN URBAN INTELLIGENT TRANSPORTATION SYSTEM: BASED ON PORTRAIT DISCRIMINATION | Yao Wei, Su-Ling Jia                          |                                         |
| EFFECT OF VIEWING CONDITION OF HEAD-MOUNTED DISPLAY ON WORKING POSTURE AND PHYSICAL WORKLOAD               | Kazuki Hiranai, Takanori Chihara, Akihiko Seo |                                         |

| <b>11:00 AM - 12:20 AM (Venue: Meeting Room 3)</b>                                                                  |                                           | <b>Session Chair: Zhuqi XU</b> |
|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------|
| <b>4C: Energy and Environment Management (2) (3 Papers)</b>                                                         |                                           |                                |
| RESEARCH ON CORRELATION BETWEEN EXPORT TAX REBATE ADJUSTMENT AND INDUSTRIAL EMISSION                                | Chaofan Yang, Shengling Bai, Lu Bai       |                                |
| SPATIAL ANALYSIS OF UNDERGROUND WATER QUALITY USING MULTIVARIATE STATISTICAL TECHNIQUES IN SHUNYI DISTRICT, BEIJING | Hui Zou, Zhihong Zou, Xiaojing Wang       |                                |
| CARBON ASSET ASSESSMENT FOR NEW TECHNOLOGY AND ENVIRONMENTAL RISK                                                   | Liyan Han, Guobin Sun, Jia Kong, Yang Liu |                                |

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| <b>1:20 PM - 2:40 PM (Venue: Meeting Room 1)</b>                                                                  |                                                                          | <b>Session Chair: Shinji INOUE</b> |
| <b>5A: Quantitative Analysis in Industrial Management (1) (2 Papers)</b>                                          |                                                                          |                                    |
| <b>Miscellaneous (2 Papers)</b>                                                                                   |                                                                          |                                    |
| QUANTITATIVE INTERDEPENDENCY ANALYSIS BASED ON DEEP LEARNING FOR CLOUD AND DATABASE SOFTWARE                      | Yoshinobu Tamura,<br>Satoshi Ashida,<br>Shigeru Yamada                   |                                    |
| METHOD FOR SELECTIVE ASSEMBLY BASED ON ASSIGNMENT MODEL CONSIDERING TAGUCHI'S QUALITY LOSS                        | Lei Li, Wenbing Chang,<br>Yiyong Xiao, Shenghan Zhou,<br>Zhengxiang Wang |                                    |
| MEASUREMENT OF THE SEVERITY OF OPPORTUNISTIC FRAUD IN AUTO BODILY INJURY LIABILITY INSURANCE: EVIDENCE FROM CHINA | Jiantao Zhou, Jiangyuan Li,<br>Yonghui Lin, Tao Han                      |                                    |
| TRADE CREDIT, FINANCIAL CONSTRAINTS AND MONETARY POLICY: EVIDENCE FROM CHINA                                      | Li Wang, Ruiqi Liu                                                       |                                    |

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| <b>1:20 PM - 2:40 PM (Venue: Meeting Room 2)</b>                                                |                                                          | <b>Session Chair: Ronggang ZHOU</b> |
| <b>5B: Quantitative Analysis in Industrial Management (2) (4 Papers)</b>                        |                                                          |                                     |
| SOFTWARE QUALITY MANAGEMENT BASED ON PROCESS AND PRODUCT METRICS ANALYSIS WITH SOFTWARE FACTORY | Takashi Sato, Shigeru Yamada                             |                                     |
| THE APPLICATION OF BP ARTIFICIAL NEURAL NETWORK IN FLIGHT DATA                                  | Chen Hu, Shenghan Zhou,<br>Yue Xie, Wenbing Chang        |                                     |
| A SOFTWARE TESTING-RESOURCE ALLOCATION PROBLEM WITH MULTI-ATTRIBUTES FOR MODULE TESTING         | Yuka Minamino,<br>Shinji Inoue, Shigeru Yamada           |                                     |
| MODIFIED GENETIC ALGORITHM WITH VARIABLE-LENGTH CHROMOSOMES FOR BIN PACKING PROBLEM             | Kyosuke Yamamoto,<br>Yoshinari Yanagawa,<br>Ikuo Arizono |                                     |

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| <b>1:20 PM - 2:40 PM (Venue: Meeting Room 3)</b>                                                                               |                                                               | <b>Session Chair: Seiko TAKI</b> |
| <b>5C: Quantitative Analysis in Industrial Management (3) (4 Papers)</b>                                                       |                                                               |                                  |
| KANSEI ENGINEERING STUDY OF HIROSHIMA OKONOMIYAKI PACKAGE                                                                      | Yuuka Sugiyama,<br>Tatsuo Nishino,<br>Shigekazu Ishihara      |                                  |
| THE MODEL WITH BACKGROUND RISK FOR UNCERTAIN PORTFOLIO SELECTION                                                               | Jia Zhai, Manying Bai,<br>Junzhang Hao                        |                                  |
| SIMULATION BY DEVELOPING LARGE-SCALE MANAGEMENT SOFTWARE SYSTEM OF MATHEMATICAL PLANNING ~ REVIEW AND FURTHER CONSIDERATIONS ~ | Akimine Nishikori                                             |                                  |
| A MULTI-OBJECTIVE OPTIMIZATION MODEL TO MINIMIZE TEMPORARY WORKERS CONSIDERING THE DIFFICULTY OF TASKS                         | Takayuki Kataoka,<br>Katsumi Morikawa,<br>Katsuhiko Takahashi |                                  |

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| <b>3:00 PM - 4:20 PM (Venue: Meeting Room 1)</b>                                                                                                      |                                                                                  | <b>Session Chair: Akimine NISHIKORI</b> |
| <b>6A: Quantitative Analysis in Industrial Management (4) (2 Papers)</b>                                                                              |                                                                                  |                                         |
| <b>Energy and Environment Management (3) (2 Papers)</b>                                                                                               |                                                                                  |                                         |
| SETUP TIME MINIMIZATION IN ASSEMBLING PRINTED CIRCUIT BOARDS USING MATHEMATICAL PROGRAMMING MODELS                                                    | Masato Aohara,<br>Katsumi Morikawa, Keisuke Nagasawa,<br>Katsuhiko Takahashi     |                                         |
| ANALYSIS AND IMPROVEMENT PLANS FOR REHABILITATION SCHEDULE AND SERVICE TIMES: A DAY CARE NURSING HOME                                                 | Koki Karube, Tetsuo Yamada,<br>Masato Takanokura,<br>Munenori Takehi, Seiko Taki |                                         |
| STUDY ON THE RELATIONSHIP BETWEEN DEFERRED INCOME TAX AND THE EARNINGS MANAGEMENT OF LISTED COMPANIES                                                 | Bei Wang, Yan Zou                                                                |                                         |
| CAN AN EMISSION TRADING SCHEME PROMOTE THE OUTDATED CAPACITY WITHDRAWAL IN ENERGY-INTENSIVE SECTORS? -A CASE STUDY ON CHINA'S IRON AND STEEL INDUSTRY | Lei Zhu, Yuan Li,<br>Xu Wang                                                     |                                         |

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| <b>3:00 PM - 4:20 PM (Venue: Meeting Room 2)</b>                                        |                                                                                  | <b>Session Chair: Dongwen TIAN</b> |
| <b>6B: Quantitative Analysis in Industrial Management (5) (4 Papers)</b>                |                                                                                  |                                    |
| DEVELOPMENT OF SERVICE OPERATION ANALYSIS METHOD USING THE CASE STUDY OF RETAIL STORE   | Hiroki Okubo                                                                     |                                    |
| PROJECT SELECTION STUDY BY THE ORDINAL OPTION MODEL OF COMPOSITIONAL DATA               | Ruiping Liu, Huiwen Wang                                                         |                                    |
| DISPATCHING RULE GENERATION FOR MINIMIZING THE AVERAGE TOTAL WAITING TIME IN A HOSPITAL | Ryosuke Tamura,<br>Katsumi Morikawa,<br>Keisuke Nagasawa,<br>Katsuhiko Takahashi |                                    |
| STATISTICAL PREDICTION OF SOFTWARE QUALITY BASED ON GENERALIZED LINEAR MODELS           | Shinji Inoue,<br>Shigeru Yamada                                                  |                                    |

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| <b>3:00 PM - 4:20 PM (Venue: Meeting Room 3)</b>                                                                   |                                                                               | <b>Session Chair: Yukihiro MATSUBARA</b> |
| <b>6C: Practice and Experiences in Industrial Management (2) (4 Papers)</b>                                        |                                                                               |                                          |
| THE IMPACT OF SOCIAL CAPITAL AND ENTREPRENEURIAL OPPORTUNITY FOR THE NEW VENTURE PERFORMANCE IN THE START-UP STAGE | Liang Shuyu, Ding Ronggui,<br>Yasuhiro Kajihara                               |                                          |
| STUDY ON THE EVALUATION OF HIGH-TECH ENTERPRISES R&D EFFICIENCY AND STRATEGIES BASED ON KNOWLEDGE MANAGEMENT       | Xiaoling Si, Guozhu Jia,<br>Liang Chen, Xin Zhang,<br>Peng Sun, Shichang Luan |                                          |
| THE ENHANCEMENT OF EMPLOYEE SATISFACTION IN A DOCUMENT MACHINE MANUFACTURING COMPANY                               | Yu Yating, Liang Shuyu,<br>Yasuhiro Kajihara,<br>Kiyoshi Fukunaga             |                                          |
| A STUDY ON SHIMIZU'S "GLOBALIZED DEVELOPMENT-STAGE MODEL" AND SEVERAL PROBLEMS OF JAPANESE COMPANIES IN CHINA      | Wensu Wang, Yu Zhao,<br>Zhong Shao                                            |                                          |

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| <b>4:40 PM - 5:40 PM (Venue: Meeting Room 1)</b>                                                            | <b>Session Chair: Yoshiaki ISHIHARA</b>                                         |
| <b>7A: Quantitative Analysis in Industrial Management (6) (3 Papers)</b>                                    |                                                                                 |
| EVALUATION OF CARE SERVICES USING THE KANO MODEL AND ITS APPLICATION                                        | Yusaku Takehara,<br>Tatsuya Kurokawa,<br>Hironori Takimoto,<br>Akihiro Kanagawa |
| QUALITY ESTIMATION AND QUALITY CHOICE FOR CHINESE MANUFACTURING PRODUCTS                                    | Dongwen Tian, Ping Zhang,<br>Zixuan Tan, Yawei Jiang                            |
| THE IMPACT OF CORPORATE GOVERNANCE ON THE MANAGEMENT FORECASTS ACCURACY OF COMPANIES IN BANKRUPTCY IN JAPAN | Takuma Enomoto,<br>Ryuta Tsubouchi,<br>Ling Feng                                |

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| <b>4:40 PM - 6:20 PM (Venue: Meeting Room 2)</b>                                                   | <b>Session Chair: Ning ZHOU</b>                                                        |
| <b>7B: Digital Factory (2) (5 Papers)</b>                                                          |                                                                                        |
| SURFACE SHAPES ANALYSIS OF WELDED MATERIALS FOR TRANSFERRING SHIELDED METAL ARC WELDING SKILLS     | Yun Feng, Seiko Taki,<br>Ryoki Tamura,<br>Yasuhiro Kajihara,<br>Yoshiaki Matsuo        |
| THE RELATIONSHIP BETWEEN USER ATTENTION AND FIRM PERFORMANCE FOR CHINESE INTERNET INDUSTRY         | Chengqing Huang, Yuan Wei,<br>Huiwen Wang                                              |
| A METHOD FOR AESSING WORK POSTURES USING KINECT SENSOR                                             | Yuto Imai, Liang Shuyu,<br>Yasuhiro Kajihara,<br>Yoshiomi Munesawa,<br>Masanobu Eguchi |
| IMAGE DEBLURRING USING SPECTRAL ANALYSIS OF MESH DIVISION REGION                                   | Masaaki Nagaoka,<br>Hitoshi Yamauchi                                                   |
| A STUDY ON MEASUREMENT METHOD OF SCULPTURE MATERIAL POSITION FOR VIRTUAL SCULPTURE TRAINING SYSTEM | Shuichi Tokunaga,<br>Yuji Kondoh,<br>Ryuuya Kashihara,<br>Hirokazu Osaki               |

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| <b>4:40 PM - 6:20 PM (Venue: Meeting Room 3)</b>                                                         | <b>Session Chair: Mitsuru JINDAI</b>                     |
| <b>7C: Production Management (3) (5 Papers)</b>                                                          |                                                          |
| THE IMPACT OF GOVERNMENT REGULATION ON SAFETY EFFORT DECISION: FROM A COMPANY'S PERSPECTIVE              | Yanhong Ma, Qihong Zhao                                  |
| STUDY ON PRODUCTIVITY OF SERVICE INDUSTRY BASED ON WORK ELEMENT                                          | Hirokazu Osaki, Wen Tang,<br>Akio Ijiri                  |
| AN EFFICIENT SOLUTION APPROACH BASED ON HIERARCHICAL DECOMPOSITION FOR FACILITY LAYOUT PROBLEM           | Yue Xie, Yiyong Xiao,<br>Shenghan Zhou,<br>Wenbing Chang |
| A SCHEDULING PROBLEM OF THE MIXED MODEL ASSEMBLY LINE CONSIDERING WORK LOAD LEVELING IN SPS PICKING AREA | Hugejile, Shuki Jo,<br>Xue Ge                            |
| MIXED-MODEL ASSEMBLY LINE PROBLEM WITH CONSIDERATION OF CONVEYER SPEED                                   | Kenji Kurashige,<br>Yoshinari Yanagawa                   |

### **III. FACTORY TOUR SCHEDULE**

9:00 The Bus for Group A will start from the ANA Crowne Plaza Hiroshima.  
The Bus for Group B will start from the International Youth House.  
Group List will be posted near the registration desk.

NOTICE: Please check out of the hotel until 8:45

9:30 - 12:00 Factory Tour, Mazda Motor Corporation

#### **Tourist Information**

English <http://www.hiroshima-navi.or.jp/en/information/>

Chinese <http://www.hiroshima-navi.or.jp/cn/information/>

#### **Hiroshima Free Wi-Fi**

The City of Hiroshima has been offering free public LAN service (Hiroshima Free Wi-Fi and Hiroshima Free Wi-Fi Lite) around Hiroshima City.

Access Point:

Hiroshima City Bunka Koryu Kaikan (1F Front Desk Lobby)

JMS Aster Plaza (1F General Counter Vicinity), etc.

Prepare the appropriate Wi-Fi devices.

1. On the Wi-Fi settings screen of your device, please select SSID "Hiroshima\_Free\_Wi-Fi".
2. When you open the web browser (Internet Explorer, etc.) the usage registration screen will show. (For language options other than Japanese, select the appropriate language here.)
3. After confirming the Terms of Service, tap "I agree".
4. Enter your name and e-mail address.
5. After confirming the security level, tap "I agree".
6. After connecting to the internet the Hiroshima City tourism information website (Hiroshima Navigator) English page will automatically open. (To view other pages, you may visit your bookmarked pages or enter the URL for the page you want to go to.)

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