Program

August 16th (Saturday)

15:30 Registration (Voltaire, 5F)

18:00 Welcome Reception Dinner (Rousseau + Descartes + Voltaire + Pascal, 5F)

August 17th (Sunday)

08:30 – 09:00 Registration (Grand Hall A, 5F)

09:00 – 09:10 Opening (Grand Hall A, 5F)

Welcome Message by Tsing Hua Chair Professor Chen-Fu Chien, ISMI2014 General Chair

09:10 – 09:50 Keynote Speech (Grand Hall A, 5F)

Title: Data-based Scheduling of Semiconductor Manufacturing Fabrication Facility

Speaker: Professor Mengchu Zhou, New Jersey Institute of Technology, USA

Chair: Professor Jei-Zheng Wu, Soochow University, Taiwan

09:50 – 10:10 Coffee Break

10:10 – 10:50 Keynote Speech II (Grand Hall A, 5F)

Title: Models for the Throughput of Clustered Photolithography Tools with Applications

Speaker: Professor James R. Morrison, KAIST, South Korea

Chair: Dr. C. Hsu, Taiwan Semiconductor Manufacturing Company

10:50 – 11:00 Coffee Break

11:00 – 12:00 Student Paper Award Finalist (Grand Hall A, 5F)

Chair: Professor Chia-Yen Lee, National Cheng Kung University, Taiwan

17 A Robust Technical Platform Planning Method to Assure Competitive Advantage under Uncertainties
Jr-Yi Chiou, Yi-Hsuan Lin, Ming-Chuan Chiu, and Wu-Hsun Chung

31 Simulation Verification for Layout Design – Is Shortest Distance Always Good?
Junghoon Kim, Young Jae Jang, and Brandon Kurtz

21 A Similarity Ranking Approach to Reduce False Alarm of Defect Classification in CMOS Image Sensor Manufacturing
Chu-Yuan Fan, Ying-Jen Chen, Kuo-Hao Chang, and Chen-Fu Chien

18 A Prognostics and Health Management (PHM) Framework for Semiconductor Manufacturing Processes
Eun-Jung Park, Luan Mai Nhu, and Byung-Hyun Ha

29 A Web-based Capacity Planning System for a Semiconductor Wafer Fabrication: Design and Implementation
Liam Hsieh, Kuo-Hao Chang, and Chen-Fu Chien

12:00 – 13:00 Lunch (Rousseau + Descartes, 5F)
13:00 – 16:30 Technical Sessions

13:00 – 14:40 Tutorial Talk (Grand Hall A, 5F)
Chair: Dr. Yi-Chun Chen, Taiwan Semiconductor Manufacturing Company, Taiwan

Talk I: Post FAB Complexity – Litho is not the End of the Known World
Speaker: Dr. Kenneth Fordyce (IBM retired), Director of Analytics, Arkieva, USA

Talk II: Interpolation Approximations for Queues in Series
Speaker: Professor Kan Wu, Nanyang Technological University, Singapore

Talk III: Simulation-based Performance Assessment of Production Planning and Scheduling Approaches in Complex Manufacturing Systems
Speaker: Professor Lars Mönch, University of Hagen, Germany

13:00 – 14:40 Session A (Pascal, 5F)
Topic: Scheduling & Dispatching
Session Chair: Professor Juhong Gao, Tianjin University, China

34 Scheduling of Multi-purpose Machines using Simulation Techniques in a Hard Disk Drive Industry
Kanchana Sethanan, Chatnugrob Sangsawang, and Napit Wattanaweerapong

35 Parallel Machines Scheduling under Uncertain Conditions using Simulation Model in the Hard Disk Drive Industry
Napit Wattanaweerapong, Chatnugrob Sangsawang, and Kanchana Sethanan

27 Genetic Algorithm for Multi-objective Flexible Job-shop Scheduling Problem under Uncertain Processing Time
Thitipong Jamrus, Chen-Fu Chien, Mitsuo Gen, and Kanchana Sethanan

07 Decision-making and Coordination in Closed-loop Supply Chain Based on Greening Efforts
Juhong Gao, Hongshuai Han, Haiyan Wang, and Liting Hou

38 A New Priority to Computer Experimental System
Yu-Bin Lan, Shin-Chung Chuang, Chen-Fu Chien, and Jei-Zheng Wu

13:00 – 14:40 Session B (Voltaire, 5F)

Topic: Modeling & Decisions

Session Chair: Professor Shuguang He, Tianjin University, China

10 A Prescribed Probability Particle Swarm Optimization with Adjusting Random
Chien-Lung Chan and Chia-Li Chen

23 A Grey-Goal Programming based Approach for Managing Product Safety Risk in Supplier Selection Decision
Muhammad Saad Memon, Young Hae Lee, Sonia Irshad Mari, and Su Yeon Cho

24 A Three-level Sustainable and Resilient Supply Chain Network Design under Disruption
Sonia Irshad Mari, Young Hae Lee, Muhammad Saad Memon, and Su Yeon Cho

26 MECE Variable Selection: an Example of Semiconductor Manufacturing
Bo-Syun Chen and Chia-Yen Lee

16 An Application of Fuzzy Analytic Hierarchy Process in Evaluating Crisp Activity Relationship Chart based on the Lean Layout Concept
Anirut Pipatprapa, Hsiang-Hsi Huang, Ching-Hsu Huang, and Che-Min Hsu

14:40 – 14:50 Coffee Break

14:50 – 16:30 Session C (Grand Hall A, 5F)

Topic: Manufacturing Intelligence

Session Chair: Professor Young Jae Jang, KAIST, South Korea

28 Dynamic Production Control in Serial Production Systems with Queue Time Constraint Considerations
Cheng-Hung Wu, Yu-Ching Cheng, and Wen-Chi Chien

04 Application of Critical-Siphon Theory to Fastest Deadlock Controller to Enhance the Intelligence of Semi-Conductor Flexible Manufacturing Systems
Johannes K. Chiang and Cheng Lin Yu

25 Planning of Preventive Maintenance Activities: Incorporating Imperfect Maintenance into a G/G/m Queueing Model with Multiple Maintenance Cycles
Minho Lee and James R. Morrison

02 Analysis and Approximation of Dual Tandem Queues with Finite Buffer Capacity
Kan Wu and Ning Zhao

12 Parameterizing Dispatching Rules for Dynamic Complex Job Shops Using Local and Global Information
Rene Ramacher and Lars Mönch

14:50 – 16:30 Session D (Pascal, 5F)

Topic: Manufacturing Excellence

Session Chair: Professor Byung-Hyun Ha, Pusan National University, South Korea

08 Reduced Modeling Approach for Semiconductor Supply Chain
Hanna Ewen, Thomas Ponsignon, Hans Ehm, and Lars Mönch

09 Wafer Fabrication Capability Assessment - Opportunities and Challenges to Improve Responsiveness - a View from the Trenches
Ken Fordyce, R. John Milne, Chi-Tai Wang, and Horst Zisgen

15 A Novel Dynamic Policy for Shorting the Waiting Time of Big Jobs
Shih-Chung Chuang, Yu-Bin Lan, and Chen-Fu Chien

37 Development of a Simulation System for Semiconductor Capacity Planning
Chun-Ya Chueh, Allen Wang, Li-Chih Wang, Tzi-Li Chen, and Pu-Tai Yang

33 Electricity costs and minimizes idle time production control mechanisms: A Case Study of TFT-LCD Array Metal Process
An-Hsiang Lin, Taho Yang, and Anh Vu Bui

19 Total Factor Productivity of Logistics Industry: Case of Jiangxi Province
Weihua Gan, Ying Xu, Ru Ding, and Deshun He

14:50 – 16:30 Session E (Voltaire, 5F)

Topic: Quality Engineering

Session Chair: Professor Bin Nie, Tianjin University, China

36 Automatic Recognition of Defect Patterns in Semiconductor Wafer Bin Maps
Jing-Siang Chung, Tzu-Chun Lin, and Chia-Yu Hsu

13 Monitoring Wafer Geometric Quality using Additive Gaussian Process Model
Nan Chen

06 LED Packaging Process Monitoring using a CUSUM Chart based on Zero-inflated Binomial Distribution
Shuguang He and Wenchao Du

32 A Hybrid Chart to Detect Increased Incidence Rate under Unequal Population
Chien-hung Lin and Chen-Ju Lin

05 Detecting Multiple Change Points of Nonparametric Profile by Nonlinear Dimension Reduction
Bin Nie and Hui-Dong Sun

16:30 – 18:30 Break

18:30 Banquet & Award Ceremony (Rousseau + Descartes + Voltaire + Pascal, 5F)

August 18th (Monday)

09:30 – 11:30 Industrial Visit: Delta Electronics, Inc. (http://www.deltaww.com/)

Delta Electronics, Inc., founded by Mr. Bruce C.H. Cheng in 1971, is the world's largest provider of switching power supplies and DC brushless fans, as well as a major source for power management solutions, components, visual displays, industrial automation, networking products, and renewable energy solutions. And also known as an OEM for a number of brands in the home computing industry, the computer enthusiast sub-culture for PC components routinely comments upon Delta as a high quality brand in areas such as power supplies and cooling fans. Delta mission statement is to provide innovative, clean and energy-efficient solutions for a better tomorrow, thus, they focus their role in addressing key environmental issues such as global climate change, and continue to develop innovative energy efficient products and solutions.

In recent years they have transformed from a product provider toward a solution provider and their businesses now encompass power electronics, energy management, and smart green life. Delta's brand promise "Smarter, Greener, Together." encourages the development and broad application of smart, energy-efficient solutions. And they devoted to innovation and systematically developing new products and technologies, particularly those that are high efficiency and energy saving, and invests over 5% to 6% of their groups' annual sales revenue in R&D. They have worldwide R&D facilities in Taiwan, China, Thailand, Japan, the U.S., and Europe. Their national honors for innovation include the Taiwan National Industry Innovation Award (2008 and 2012) and the Thailand Prime Minister's Industry Award (1995, 2010, 2011, and 2012).

Throughout Delta Group's history they have received many global awards and recognition for their business, technology, and corporate social responsibility. In 2012 Delta was selected for two of the prestigious Dow Jones Sustainability Indexes — the DJSI World Index and the DJSI Asia/ Pacific Index—for the 2nd consecutive year. Delta was also ranked first among the 29 leading companies in the Electronic Equipment sector and named as "Sector Leader" for the first time. Since 2010, Delta has received 47 internationally recognized design awards including the iF, Reddot, CES Innovation, Computex Best Choice, and Taiwan Excellence awards.

Delta will continue its dedication to developing technologies and solutions that aim to reduce global warming and ensure mankind's sustainable future.