

Program

Thursday, July 18

**12:30-
Registration**

**13:30-14:00
Opening Session**

14:00-15:00

Technical Session 1A: Manufacturing Systems and Scheduling 1

1A1: OEE Measurement by Taguchi Method with Simulation 1
Dani Yuniawan, Effendi Mohamad and Teruaki Ito

1A2: Postponement of Stock Order management Using Multi Decoupling Point on
Bill-Of-Materials Structure..... 5
Shinsuke Nomoto and Yasuyuki Nishioka

Technical Session 1B: Workforce Scheduling 1

1B1: Assignment of Human Operators to Machine Tools and Scheduling Considering
Statistical Distribution of Processing Times 8
Koji Iwamura, Hiroya Tagashira, Yoshitaka Tanimizu and Nobuhiro Sugimura

1B2: Scheduling Work Shifts to Fit Customer Buying Behavior: Increasing Time Waiting
on Customers and Subsequently Retail Sales by Improving Work Efficiency 12
Yusuke Oe, Mayumi Takeda, Masaki Kato, Natsuko Yano and Tsutomu Saito

**15:00-16:00
Coffee Break**

16:00-17:30

Technical Session 2A: Manufacturing Systems and Scheduling 2

2A1: A Study on Optimal Lot Assignments in Semiconductor Production Scheduling
Problem 16
Takayuki Kita, Toshiya Kaihara, Nobutada Fujii and Ichiro Namioka

2A2: Dynamic Batch Job Shop Scheduling for Multi Items and Multi Due Dates with Total
Actual Flow Time as Performance Criteria 22
Nugroho Atma Hadi, T. M. A. Ari Samadhi, Yosi Agustina Hidayat and Suprayogi

2A3: A Dynamic Scheduling Using Rescheduling Strategy and Reduction Processing Time
..... 32
Toshihisa Fujiwara, Haruhiko Suwa and Hiroshi Morita

Technical Session 2B: Workforce Scheduling 2

- 2B1: Labor Scheduling Program for Supermarkets Focused on Monthly Productivity: Case Study on Checkout, Meat, and Delicatessen Departments 37
Takashi Ohyama
- 2B2: A Recursive Approach for Solving Nurse Rerostering Problems with a Sudden Absence for Several Consecutive Days 43
Manabu Kitada and Kazuko Morizawa
- 2B3: An Implementation of an Airline Pilot Scheduling System 49
Kento Hishida and Atsuo Suzuki

17:50-18:50

Keynote Speech

- Workforce Scheduling: Models, Methods and Future Challenges** 55

Janny M.Y. Leung

19:00-20:30

Reception

Friday, July 19

10:00-11:00

Technical Session 3A: Combinatorial Optimization 1

- 3A1: Pseudo-Polynomial Time Algorithms for Food Mixture Packing by Automatic Combination Weighers 59
Shinji Imahori and Yoshiyuki Karuno
- 3A2: Maximizing the Total Weight of Just-in-Time Jobs under Multi-Slot Conditions is NP-Hard 65
Eishi Chiba and Shinji Imahori

Technical Session 3B: SCM and Logistics 1

- 3B1: Possibilistic Programming Approach for Multi-Objective Inventory Problem in Two-Echelon Supply Chain System 68
Dicky Patrias and Yoshiaki Shimizu
- 3B2: Three Echelon Logistics Optimization for Operational Planning 74
Yoshiaki Shimizu and Tatsuhiko Sakaguchi

11:10-12:10

Technical Session 4A: Combinatorial Optimization 2

- 4A1: Efficient Construction Heuristic Algorithms for the Rectilinear Block Packing Problem 80
Y. Hu, H. Hashimoto, S. Imahori and M. Yagiura

- 4A2: Applications of Popular Matchings on Campus 86
Yutaro Ikeda, Ayumi Igarashi and Maiko Shigeno

Technical Session 4B: SCM and Logistics 2

- 4B1: Column Generation Heuristics to Route Planning Problems for Automated Guided Vehicles with Acceleration and Deceleration 91
S. Matsushita, T. Nishi, S. Kataoka, T. Hisano and K. Matsumura
- 4B2: A Multi-Objective Genetic-Algorithm Including Dynamic Control of New Chromosomes for Logistic Problem with Inventory Control 97
Masahiro Arakawa

12:10-13:00

Lunch

13:00-14:30

Technical Session 5A: Resource Allocation and Scheduling

- 5A1: Optimal Budget and Schedule for Projects with Upstream-Dependent Risks 103
Tomoichi Sato
- 5A2: Optimal Placement of Bikes Using Queueing Networks 109
Shinya Mizuno, Megumi Ishigami, Yui Maruyama, Naokazu Yamaki, Yasuyuki Muramatsu and Shogo Iwamoto
- 5A3: Worker Allocation Optimization of Two Special Workers with Random Variable Target Processing Time in Limited-Cycle Multiple Periods 115
Xianda Kong, Hisashi Yamamoto, Jing Sun and Masayuki Matsui

Technical Session 5B: SCM and Logistics 3

- 5B1: Models and Procedure of Supply Chain Management Game Using Cloud Data Exchange 121
Yasuyuki Nishioka and Yuto Banba
- 5B2: High Resolution Supply Chain Management: Analyzing the Impact of Point of Sale Data on Human Decision Making in a Virtual Supply Chain Scenario 125
Volker Stich, Niklas Hering, Marcel Groten, Simone Runge and Jacob Andreae
- 5B3: Real-Time Capable Supply Chain Planning: Designing a Collaborative Supply Chain Concept Based on Real-Time Data 131
Günther Schuh and Niklas Hering

14:30-15:00

Coffee Break

15:00-15:30

Invited Talk

Development of Dynamic Exchange Disassembly Order Algorithm for the Purpose of Fast Automatic Generation of Assembly Animation and 3D Work Instruction Sheets
..... 136

Atsuko Enomoto, Daisuke Tsutsumi, Qiqige Bayasi, Kiichiro Iida and Toshiaki Shibata

15:30-16:30

Keynote Speech

Disassembly: A Comprehensive Overview 142

Surendra M. Gupta

19:00-20:30

Banquet (Hotel Nikko Tokyo)

Saturday, July 20

9:00-10:30

Technical Session 6A: SCM and Logistics 4

6A1: Facility Location Design Methodology of Global Supply Chain: Automatic Extraction of Optimal Facility Location Design Idea in Cost Standard 166
Yasutaka Koga and Satoshi Yoshida

6A2: A Game Theoretic Approach to Three-Echelon Supply Chains with Asymmetric Quality Information..... 172
Sisi Yin, Tatsushi Nishi and Guoqing Zhang

6A3: A Closed-Loop Supply Chain Model for Parts Reuse Considering Economic Efficiency 178
Yoshitaka Tanimizu, Yusuke Shimizu, Koji Iwamura and Nobuhiro Sugimura

Technical Session 6B: Green Logistics

6B1: Low-Carbon Supplier Selection Using Life Cycle Inventory Database in China and Japan..... 184
Yuta Yoshizaki, Tetsuo Yamada, Norihiro Itsubo and Masato Inoue

6B2: An Optimal Design for Global Supply Chain Network Considering CO2 Emissions of Part Production 190
Tomoyuki Urata, Tetsuo Yamada, Norihiro Itsubo and Masato Inoue

6B3: Simulation Analysis of Supply Chain Network with Stochastic Lead Time..... 196
Tetsu Kawasaki and Tetsuo Yamada

10:30-11:00

Coffee Break

11:00-12:00

Invited Tutorial

**Cyclic Re-Entrant Flow Shop Scheduling Problem: Approach from Mathematical
Programming 202**

Rei Hino

12:00-12:10

Closing Session