



IEOM Society

"Achieving and Sustaining Operational Excellence"

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March 9, 2016 (JW Marriott Kuala Lumpur Hotel)

Undergraduate Student Paper Competition Sponsored by SIEMENS Winner Awards

1st Place

A Deterministic Model for Managing System Inventories in a Disaster Supply Chain

Hazel Lynne C. Lim, Steven Kristopher L. Ong, Martin Julian F. Ongchuan and Charlle L. Sy, De La Salle University, Manila, Philippines

2nd Place

Optimal Aggregate Production Planning by using Genetic Algorithm

Poonam Savsani, Gaurav Banthia, Juhi Gupta and Ronak Vyas, Department of Industrial Engineering, Pandit Deendayal Petroleum University, Gandhinagar, Gujarat, India

3rd Place

Feasibility Analysis of Indonesian Traditional Shipping Industry to Strengthen Domestic Maritime Logistic System

Wegit Triantoro and Rahmat Nurcahyo, Department of Industrial Engineering, Universitas Indonesia, Depok, Indonesia

3rd Place

Fuzzy AHP based Multi-Criteria Decisions Support System for Eco-Design

Chanjief Chandrakumar & Asela K. Kulatunga, Department of Production Engineering, University of Peradeniya, Sri Lanka
Senthana Mathavan, School of Mechanical and Manufacturing Engineering, Loughborough University, UK

Graduate Student Paper Competition sponsored by EATON Corporation Winner Awards

1st Place

Geometric Chip Analysis of Helical End Milling Based on a Variable Flow Stress Machining Theory

Majed Masmali and Philip Mathew, University of New South Wales, Sydney, NSW, Australia

2nd Place

Superstructure Optimization of Multiple Gas-Solid Cyclone Arrangements

Ali ElKamel and Muhamad Fariz Failaka, University of Waterloo, Canada
Rois Fatoni, Universitas Muhammadiyah Surakarta, Indonesia

3rd Place

A Prospective Solution for Consistent Aerostatic Lift for a Hybrid Buoyant Aircraft

Anwar Ul Haque, Waqar Asrar, Erwin Sulaeman, and JS Mohamed Ali, International Islamic University Malaysia (IIUM)
Ashraf Ali Omar, University of Tripoli (UOT), Tripoli, Libya

3rd Place

Determining the Effect of Key Process Parameters on Forming Force of Single Point Incremental Sheet Metal Forming

Abdulmajeed Dabwan, Adham Ragab, Mohammed Saleh and Abdelnaser Daoud, King Saud University, Riyadh, Saudia Arabia

IEOM Outstanding Dissertation Award

Ong Ker Hsin, An optimal design of S²-EWMA control chart based on median run length using Markov chain approach, Universiti Sains Malaysia

Senior Design Project Poster Competition Winner Awards

1st Place

Designing Personalized Tourism Packages for Oman Tourism Industry

Abdulwahab M., Amur M., Rashid H. and S. Piya, College of Engineering, Sultan Qaboos University, Oman

Dissertation Presentation Competition Winner Awards

1st Place

Next Generation of Interactive contact centre for efficient customer recognition: Conceptual Framework

Morteza Saberi, Elizabeth Chang, Omar Khadeer Hussain, School of Business, UNSW, Canberra, Australia
Zahra Saberi, Department of Industrial Engineering, University of Tehran, Iran

2nd Place

Solutions to ammoniacal nitrogen presence in CMP effluent from oxide process

Muhammad Asyraf, Ahmad Termizi, Sulong Mamat & Mohamed Ariff, Silterra Malaysia Sdn. Bhd., Malaysia
Abdul Talib Din, Universiti Teknikal Malaysia Melaka

3rd Place

Design of Single-Phase Grid-Connected Based on Dual-MPPT for Photovoltaic Generation Systems

Slamet, Rasli bin Abd Ghani and Fuminori Kobayashi, Malaysia – Japan International Institute of Technology (MJIT),
University Teknologi Malaysia Kuala Lumpur, Kuala Lumpur, MALAYSIA

Best Poster Awards

1st Place

Applying 5S Method on Trims Store's Documentation System in an Apparel Industry

Ishat Islam, Taieba Tuba Rahman, Department of Industrial Engineering & Management, Khulna University of
Engineering & Technology, Bangladesh

Mr. Mariam Pillege Jayantha Rajkumar, SQ Birichina Limited, Bangladesh

Ashma Ahmed, Department of Mechanical Engineering, Bangladesh University of Engineering & Technology

2nd Place

Integration of economic and environmental aspects in sustainable supply chain management: A review

Noraida Azura Md Darom and Hawa Hishamuddin, Department of Mechanical and Materials Engineering, Faculty of
Engineering and Built Environment, University Kebangsaan Malaysia

3rd Place

Selection of Green suppliers based on GSCM practices: Using fuzzy MCDM approach in an Indian Electronics Company

Akshay Kumar Uppala, Rohit Sharma, Harshita Raj and Vijaya Kumar Manupati, School of Mechanical and Building
Sciences, Vellore Institute of Technology, India

3rd Place

Debugging Operation of Automated Assembly Line using Signal Noise Ratio

Masatoshi Kitaoka, Kanagawa University, Yokohama city, Japan

Hitosh Takeda, Bunkyo University, Chigasaki, Kanagawa, Japan

Undergraduate Research Presentation Competition

1st Place

Optimizing the Final Exam Scheduling Process at King Abdulaziz University

Abrar Saeed Al Amoudi, Raneem Gashgari, Lamees Alhashimi, Lujain Aljawi and Raed Obaid, King Abdulaziz
University, KSA

2nd Place

The Impact of Maintenance Systems on Water Supply: A case Study of a Utility Company

Bupe Mwanza and Charles Mbohwa, University of Johannesburg, South Africa

3rd Place

The environmental impact of inputs used in the vitivinicultural sector in Algeria

Kaddour El Heit, Université Mouloud Mammeri,, Algeria

Hamama Anderazak, University Tizi Ouzou, Algeria

Mellak Abderrahmane, Boumerdes University – Algeria

High School STEM Project Presentation

1st Place

Using Mathematical Programming for Investment Assessment and Optimal Investment

Hohyun Lee, Jinwoo Lee and Myeonghun Ji, Paul Math School, Goesan-gun, Chungcheongbuk-do, Korea

2nd Place

Composition Methodology for Optimal Portfolio and Performance Measures Considering Indian SENSEX

Hohyun Lee, Hyunha Cho and Yuchan Han, Paul Math School, Goesan-gun, Chungcheongbuk-do, Korea

3rd Place

Crime Trend Analysis by Changes of Spatial Autocorrelation and Hot-spot

Hohyun Lee and Dain Kim, Data Science Lab, Paul Math School, Goesan-gun, Chungcheongbuk-do, Korea

3rd Place

Selection of Optimal Portfolio Model by Comparing Mock Stock Trading

Hohyun Lee, Youngjoo Lee, Minsung Kim, and Taeheon Kim, Paul Math School, Goesan-gun, Chungcheongbuk-do, Korea

Best Track Papers Awards

Artificial Intelligence

Two Calibrated Metaheuristic Algorithms for Solving a Multi-Plant Capacitated Lot-Sizing Problem in an Integrated Production-Distribution Network

Maryam Mohammadi and S. Nurmaya Musa, University of Malay

Automation and Control

A Study on the Business Strategy of Highly Profitable Electronic Component Manufacturers

Chihiro Sato, Graduate School of Economics and Management, Tohoku University, Japan

Case Studies

Relationship between Human Errors in Maintenance and Overall Equipment Effectiveness in Food Industries

Yunos Ngadiman, Yunos Ngadiman, Universiti Tun Hussein Onn Malaysia (Malaysia)

Nor Aziati Abdul Hamid, Universiti Tun Hussein Onn Malaysia (Malaysia)

Rohaizan Ramlan, Universiti Tun Hussein Onn Malaysia (Malaysia)

Liew Kai Boon, (Malaysia); Burairah Hussin, Universiti Teknikal Malaysia Melaka (Malaysia)

Computers and Computing

Towards Risk Managed Cloud Adoption - A Conceptual Framework

Anil Kumar Saini, University School of Management Studies, New Delhi, India

Shikha Gupta, Ansal University, Gurgaon, Haryana, India

Kulbhushan Saxena, FIIB, Gurgaon, Haryana, India

Construction Management

Real Estate Investment Management and Macroeconomic Sustainability: Case of Latvia and International Experience

Linda Kauškale and Ineta Geipele, Riga Technical University (Latvia)

Data Analytics

Structural Analysis of Page Access Behaviors of Sessions at Website of a Housing Equipment Company

Ushio Sumita and Mikio Komatsu, Keio University, Yokohama, Kanagawa, Japan

Decision Sciences

Evaluation of Innovative Product Development Practices in an Organization: A Case Study

Vinayak Kalluri, BML Munjal University, Gurgaon, Haryana, India

Decision Analysis View of Higher Education Planning Activities of Admission and Recourses Allocation in Oman

Mahmood Al Kindi, Mechanical and Industrial Engineering, Sultan Qaboos University, AlKhoud, Oman

E-Business and E-Commerce

Evaluating the Location of Effective Product Advertising on Facebook Ads

Aulia F. Hadining, Atya Nur Aisha and Dimas Kurniantoro Aji, Industrial Engineering Department, Telkom University, Bandung, Indonesia

Engineering Education

Fostering creativity and innovation in engineering design education: A case study

Karl Hain and Christoph Rappl, Technische Hochschule Deggendorf, Bavaria, Germany

Entrepreneurship and Innovation

Analyzing the Adoption of Malaysian Standards (MS) on SME Performances: The Mediating Effects of Innovation Adoption Factors

Haslinda Musa, Fadhlur Rahim Azmi, Fararishah Abdul Khalid and Ahmad Rozelan Yunus, Faculty of Technology Management & Technopreneurship, Universiti Teknikal Malaysia Melaka, Melaka, Malaysia

Facilities Planning and Management

Modified Cluster Boundary Search Technique for Improved Layout Designs

Mohammed Al-Saleh, Umm Al-Qura University, Makkah, Saudi Arabia

Mustahsan Mir, Ajman University of Science & Technology, UAE

Ahmed Hassanin, RWTH Aachen, Germany

A Modified ABC Algorithm with Genetic and Neighborhood Search for solving QAP

Suman Samanta and Deepu Philip, IIT Kanpur, Kanpur, Uttar Pradesh, India

Financial Engineering

Selection of Optimal Portfolio Model by Comparing Mock Stock Trading

Hohyun Lee, Paul Math School (Korea, Republic of); Youngjoo Lee, Data Science Lab, Paul Math

School (Korea, Republic of); Minsung Kim, Data Science Lab, Paul Math School (Korea, Republic of);

Taeheon Kim, Data Science Lab, Paul Math School (Korea, Republic of)

Healthcare Systems

Fuzzy Multi-Criteria Simulated Evolution for Nurse Re-rostering

Michael Mutingi, Namibia University of Science & Technology, School of Engineering, Windhoek, Namibia

Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

Charles Mbohwa, Faculty of Engineering & the Built Environment, University of Johannesburg,

Johannesburg, South Africa

Human Factors and Ergonomics

Car Drivers with Higher Perceived Safety Tend to Drive Their Vehicles with Higher Risk - A Unique Phenomenon on The Roads In Jakarta, Indonesia

Hwi Chie Ho and Dyah Lestari Widaningrum, Industrial Engineering Department,

Bina Nusantara University, Jakarta, Indonesia

Information Technology and Information Systems

Implementation of Mobile Event Monitoring Agents for Manufacturing Execution and Intelligence Systems Using a Domain Specific Language

Christoph Wunck, Jade University of Applied Sciences, Wilhelmshaven, Germany

Inventory Management

Analyzing optimization techniques in inventory models: the case of fuzzy economic order quantity problems

Ehsan Shekarian, Nima Kazemi, Ezutah Udony Olugu and Salwa Hanim Abdul-Rashid, University of

Malaya, Kuala Lumpur, Malaysia

Lean and Six Sigma

Application of Lean Manufacturing Concepts to Reduce Manufacturing Lead Times within the Meatball Production Process

Jirathavee Wejwitwarakul and Rungchat Chompu-inwai, Department of Industrial Engineering, Faculty of Engineering, Chiang Mai University, Chiang Mai, Thailand

Quality Improvement in Plastic Based Toy Manufacturer Using Six Sigma Method

Rahmat Nurcahyo, Lukito Rini and Dendi P. Ishak, Industrial Engineering, Faculty of Engineering, Universitas Indonesia, Kampus Baru UI Depok, Indonesia

Logistics Management

A Practical Case Study of a Heterogeneous Fleet Vehicle Routing Problem with Various Constraints

Kusuma Soonpracha and Anan Mungwattana, Department of Industrial Engineering, Kasetsart University, Chatuchak, Bangkok, Thailand

Tharinee Manisri, Sripatum University, Jatujak, Bangkok, Thailand

Manufacturing and Design

Copper Sheet Resistance characteristics in the production staging time limitation study between Copper Seed and Copper Electroplating in Semiconductor Wafer manufacturing

Mohd Razali Muhamad, Universiti Teknikal Malaysia Melaka, Malaysia

Anuar Fadzil Ahmad, Silterra Malaysia Sdn Bhd, Kulim, Kedah, Malaysia

Zarifah Syazana Hashim, Universiti Teknikal Malaysia Melaka (UTeM), Kulim, Kedah, Malaysia

Md Nizam Abdul Rahman, Universiti Teknikal Malaysia Melaka, Durian, Tunggul, Melaka, Malaysia

Material Flow Cost Accounting (MFCA)

Ceramics Process Improvement with Material Flow Cost Accounting

Wimalin Laosiritaworn, Chaing Mai University, Chaing Mai University, Muang, Chiang Mai, Thailand

Modeling and Simulation

Manufacturing cell layout improvement using Simulation Modeling and Group Technology

Annamalai Pandian, Saginaw Valley State University, Michigan, USA

Occupational Safety and Health (OSH)

The Level of Safety Culture Beliefs and Practices amongst Safety and Health Officers (SHOs) in Malaysian Manufacturing Companies

Rozlina Md Sirat and Jafri Mohd Rohani, Faculty of Mechanical Engineering, Universiti Teknologi Malaysia, Skudai, Johor Bahru, Malaysia

Awaluddin Mohamed Shahraroun and Habibah Haron, UTM Razak School of Engineering and Advanced Technology, UTM KL

Operations Management

Development of Comprehensive WIP Performance Monitoring Systems for Semiconductor Fabrication Foundry

Mohamad Zambri Mohd Darudin and Nor'Azah binti Khusairi, Silterra Malaysia Sdn. Bhd., Kulim Hi-Tech Park, Kulim, Kedah, Malaysia

Hasbullah Haji Ashaari, School of Technology Management and Logistic, Universiti Utara Malaysia, Sintok, Kedah, Malaysia

Operations Research

Mathematical Model for Maritime Inventory Routing Problem with Multiple Time Windows

Nurhadi Siswanto, Industrial Engineering Department, Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia

Particle Swarm Optimization for Just-In-Time Trucks Scheduling in Cross Docking Terminals

Warisa Wisittipanich and Piya Hengmeechai, Department of Industrial Engineering, Faculty of Engineering, Chiang Mai University, Chiang Mai, Thailand

Production Planning and Management

An Improved Analogy-based Demand Forecasting Method for Service Parts

Masaru Tezuka, Hitachi Solutions East Japan, Ltd., Japan

Project Management

Expert System Model Structure for Feasibility Study Using Strategic Planning and Systems Engineering Principles

Mohammed Salem Alzahrani, Industrial Engineering department, College of Engineering at Al-Leith, Umm Al-Qura University, Al-Leith, Makkah, Saudi Arabia

Quality Control and Management

A Bayesian LASSO Algorithm for Simultaneous Variation Fault Diagnosis in III Conditioned Multistage Manufacturing Processes

J Maiti, Department of Industrial and Systems Engineering, Indian Institute of Technology, Kharagpur, India
Sandipan Karmakar, Department of Production and Industrial Engineering, National Institute of Technology, Jamshedpur, India

Reliability and Maintenance

Development of a condition index matrix to support technical feasibility of life extension in the offshore oil and gas industry

Mahmood Shafiee and Isaac Animah, Cranfield University, Bedford, Bedfordshire, United Kingdom

Optimized Measures to Improve TAT in Product Maintenance

Tanoy Kumar Paul and Vinay V Kabadi, Lokesha, R. and Tanoy Kumar Paul, DF&PD, Siemens, Bangalore, India

Service Systems and Service Management

Activating Organizational Learning Capabilities through Service Operations Design

Christopher Backhouse, Loughborough University, Loughborough, Leicestershire, United Kingdom
Ayham Jaaron, An-Najah National University, Nablus, West Bank, Palestine

Statistics and Optimization

D-Optimal Equivalent-Estimation Second-Order Strip-Strip-Plot Designs for Three Multi-Stage Processes

Prapassorn Tantiphanwadi and Prapaisri Sudasna na Ayudhya, Department of Industrial Engineering, Faculty of Engineering, Kasetsart University, Chatuchak, Bangkok, Thailand

Supply Chain Management

Inventory Routing Problem for Deteriorating Items with Multi Tours

Gede Agus Widyadana, Petra Christian University, Surabaya, Indonesia
Takashi Irohara, Sophia University, Tokyo, Japan
Syarif Daniel Budiman, Petra Christian University, Surabaya, Indonesia

Sustainability and Green Systems

An AHP Based Methodology to Evaluate Social Life Cycle of an Apparel Manufacturing Plant

M. I. Rashangani, H.M.M.M. Jayawickrama, A.K. Kulatunga and C. Chandrakumar, Dept. of Production Engineering, Univ. of Peradeniya, Sri Lanka
H.D.P. Premarathne, Department of Sociology, University of Peradeniya, Sri Lanka

Sustainable Manufacturing

FSMER – Systematic Approach for Modeling Energy and Resource Efficient Factories

Hendrik Hopf and Egon Müller, Technische Universität Chemnitz, Germany

Transportation and Traffic

A Two-stage Stochastic Programming Model for Districting and Transportation Lot-size of Sugarcane"

Kanchala Sudtachat, Suranaree University of Technology, Muang, Nakhon Ratchasima, Thailand