



IEOM Society

"Achieving and Sustaining Operational Excellence"

www.ieomsociety.org

March 5-7, 2019 (JW Marriott Hotel)

Undergraduate Student Paper Competition Awards Sponsored by SIEMENS

1st Place

ID 379 Developing an SPC-EPC Unified Framework to Improve Production Disruption in Chemical Industry in Kuwait
Ali Issawy, Bader AlMutawaa, Samer Al khateeb, Osama Ahmad, Abdullah AlHaj Hasan, and Walid Smew, Industrial Engineering Department, American University of the Middle East (AUM), Eqaila, Kuwait

2nd Place

ID 488 The Design of Hybrid Flowshop Scheduling System With Nawaz Enscore Ham (Neh) and Campbell Dudek Smith (CDS) Algorithm to Minimize Makespan in Pt. Plasindo Elok
Liesly Liesly, Lina Gozali, and Lilyana, Department of Industrial Engineering, Tarumanagara University, Jakarta, Indonesia

3rd Place

ID 803 Calculation of Safety Stock and Bottleneck Minimization with Theory of Constraints Method Approach on Sand Coated Metal Roof Production in XYZ Ltd.
Jason Nathanael Chandra, Lina Gozali, Lilyana Jap, Wilson Kosasih, Lamto Widodo, Lithrone Laricha Salomon and Frans Jusuf Daywin, Department of Industrial Engineering, Tarumanagara University, Jakarta, Indonesia

ID 634 Occupational Health and Issue in the Low Back Pain among Filipino – Aged People through Ordinal Logistic Regression
Angelo M. Alindogan, Felix John F. Amin, Nicole P. Clave, Queenie Colleen Guadalupe, Lynnette P. Salas, Ritz Jerard A. Tan, Arriane A. Palisoc and Yoshiki B. Kurata, Department of Industrial Engineering, Technological Institute of the Philippines, Quezon City, Philippines

Graduate Student Paper Competition Awards sponsored by EATON Corporation

1st Place

ID 364 Multi-objective Robust Optimization for the Design of Biomass Co-firing Networks
Jayne Lois G. San Juan and Charlle L. Sy, Industrial Engineering Department, De La Salle University, Manila, Philippines

2nd Place

ID 091 Critical Success Factors for the implementation of Operational Excellence
Jacobco Tijerina Aguilera and Diego Andrés Martínez Treviño, Extension, Consulting and Research Department, University of Monterrey, NL, Mexico

3rd Place

ID 428 The Paths from Service Quality Dimensions to Customer Loyalty: An Application on Sri Lankan Supermarket Customers
M. T. Dimantha Jayasanka and L. H. T. De. S. Wickramasuriya, Dept. of Decision Sciences, University of Sri Jayawardenepura, Gangodawila, Nugegoda, Sri Lanka

Senior Design Project Competition Awards

1st Place

ID 787 Expanding Central Craft Company
Dalal Al-Beshayer, Nour Al Enezi, Noor Khoureshed, Rawan Al-Elaj, Sherifa Al-Kandari and Mustafa Sendil, Industrial Engineering Department, College of Engineering and Technology, American University of the Middle East – AUM, Egaila, Kuwait

2nd Place

ID 784 Development of Framework for the Core Soft Skills and Competencies Required by Project Managers in Oil and Gas Industry
Students Name: Esra' Abusharkh and Asila Al-Shamli
Supervisor(s): Dr. Nasr Al-Hinai (Supervisor) and Dr. Emad Summad (Co-Supervisor)
Sultan Qaboos University, Maskat, Oman

Doctoral Dissertation Awards

1st Place

ID 617 The Impact of Customized Service and Guest Satisfaction in the Tourism and Hospitality Industry
Thobile Yvonne Bhila, Faculty of Eng. and the Built Environment, Dept. of Quality and Operations Management, University of Johannesburg, Auckland Park, South Africa

Competitions Winners and Best Track Papers – 2019 IEOM Bangkok Conference

2nd Place

ID 672 Lean Manufacturing and Ergonomics in the Metallurgical Industry: An Integrated Approach for Performance Improvement
Ana Luísa Ramos, University of Aveiro (DEGEIT/GOVCOPP), Aveiro, Portugal
Marlene Brito, DEGEIT - University of Aveiro, Aveiro, Portugal
Paula Carneiro, University of Minho (ALGORITMI Centre of Engineering), Braga, Portugal
Maria Antónia Gonçalves, Polytechnic of Porto - Research Center of Mechanical Engineering (CIDEM), Porto, Portugal

Master Thesis Competition Awards

1st Place

ID 232 Time Driven Activity Based Costing in Outpatient Logistics
Kakrona Din and Duangpun Kritchanhai, Department of Industrial Engineering, Mahidol University, Nakhon Pathom, Thailand
Atchara Dokkulab, Ramathibodi Hospital, Bangkok, Thailand

2nd Place

ID 341 Design issues in Maheshwar handcrafts (MP, India)
Pratik Mukesh, Master of Design, Design Discipline, PDPM Indian Institute of Information Technology, Design and Manufacturing, Jabalpur, India

3rd Place

ID 491 Sustainable Construction through the Application of Lean Principles
Mary Yrene B. Paguio, ChE, OD, MS Industrial Engineering & Management Student, PUP, Philippines

Poster Competition Awards

1st Place

ID 094 Assessment of Accessibility to a Facility Using a Geographic Information System: Case Study of a Food Desert Problem in a Suburban Area of Tokyo
Shun Odahara, Advanced Course in Production Systems Engineering, Salesian Polytechnic Machida, Tokyo 194-0215, Japan
Yoichi Shimakawa, Department of Computer Science and Technology, Salesian Polytechnic Machida, Tokyo 194-0215, Japan

2nd Place

ID 778 Surfactant and Polymer-Nanoparticle Interaction with Heavy Crude Oil
Rahul Saha, Ramgopal Uppaluri and Pankaj Tiwari, Department of Chemical Engineering, Indian Institute of Technology Guwahati, India

3rd Place

ID 147 Throughput Rate Calculation by Cycle Time Modeling for Multi Aisles ASRS Using Timed Petri Nets
Yassine Boudghene Stambouli, MELT laboratory, University of Tlemcen, Algeria
Samir Hamacl, Quartz Laboratory (EA 7393), ECAM-EPMI, Cergy-Pontoise, France

ID 111 Location Model Minimizing Distances between EV Charging Stations
Yohei Kakimoto, Graduate School of Science and Engineering, Hosei University, Tokyo, Japan
Hiroyuki Goto, Department of Industrial & System Engineering, Hosei University Tokyo, Japan
Yoichi Shimakawa, Department of Computer Science and Technology, Salesian Polytechnic Machida, Tokyo, Japan
Prommas Panote, Graduate School of Science and Engineering, Hosei University, Tokyo, Japan

Undergraduate STEM Research Competition Awards

1st Place

ID 633 Human Error Assessment in the Accident Causations Experienced among Vehicle Drivers in the Philippines
Gann Sebastian B. Quiban, Bryan D. Caventa, Patricia Paula H. Corpuz, Francesco Nicolai L. Datu, Rica Jonell A. Millet and Yoshiki B. Kurata, Department of Industrial Engineering, Technological Institute of the Philippines, Quezon City, Philippines

2nd Place

ID 401 Developing a Mobile Application for Safety Engineers for Detailed Hazard Analysis
Fay AlDallal, Nojoud AlMutairi, Mastourah AlRasheedi, Munerah AlShadad, Sarah AlShadad, and Suat Kasap, Industrial Engineering Department, College of Engineering and Technology, American University of the Middle East – AUM, Egaila, Kuwait

3rd Place

ID 660 Gorelax: A User-Ergonomically Designed Backpack for Stress Prone Millennials in the Philippines
Ryan Christopher Malicdem, Chrisjohn Paul Angelo Reyes, Angel Joy Quizon and Yoshiki Kurata, Technological Institute of the Philippines, Quezon City, Philippines

Simulation Competition Award

ID 400 Improving the Fabrication and Welding Workshop at Kuwait Oil Company for Better Worker Performance by Using Digital Human Modeling and Simulation
Fatimah AlKhozam, Hebah AlEnezi, Muneerah AlMetlaqem, Rahaf AlAjmi, Shareefah Haji, Kareem Abbady, and Suat Kasap, Industrial Engineering Department, College of Engineering and Technology, American University of the Middle East – AUM, Egaila, Kuwait

Supply Chain and Logistics Competition Awards

1st Place

ID 377 Developing Green Supply Chains for New Kuwait: A Strategic Approach
Ghaliah Al-Mutairi, Mariam Al-Ajran, Hawraa Al-Bather, Fatma Mhaisen, Rawan Al-Humaidi, and Walid Smew, Industrial Engineering Department, American University of the Middle East (AUM), Eqaila, Kuwait

2nd Place

ID 135 Multiperiod Reliable Uncapacitated Facility Location Problem
Megha Sharma and Sumanta Basu, Operations Management Group, Indian Institute of Management Calcutta, Kolkata, India
Arnab Adhikari, Operations Management Department, Indian Institute of Management Ranchi, Ranchi, India

Best Track Papers Awards

Automation

ID 224 Design and Simulation Based Validation of a Reconfigurable Manufacturing System
Bashir Salah, Industrial Engineering Department, College of Engineering, King Saud University, P.O. Box 800, 11421, Riyadh, Saudi Arabia

Business

ID 176 Analysis Forecast Production Model: A Mexican Family Firm Proposal
Gonzalo Maldonado-Guzmán, Centro de Ciencias Económicas y Administrativas, Universidad Autónoma de Aguascalientes, Aguascalientes, Ags., México
Jose Arturo Garza-Reyes, Centre for Supply Chain Improvement, University of Derby, Derby, DE22 1GB, UK
Lizeth Itziguery Solano-Romo, Centro de Ciencias Básicas, Universidad Autónoma de Aguascalientes, Aguascalientes, Ags., México

Case Studies

ID 12 Operations improvement in a manufacturing business of make-to-order special vehicles
Inês Azevedo (1) and Vera L. Migueis (1,2) and Americo Azevedo (1,2)
(1) Faculty of Engineering, University of Porto, Rua Dr. Roberto Frias, s/n 4200-465 Porto, Portugal
(2) INESC TEC, Rua Dr. Roberto Frias, Campus da FEUP, 4200-465 Porto, Portugal

Construction Management

ID 571 Conflict Avoidance in Construction Stage through Proper Practice in Pre Contract Stage
Kanishka Gajaman, Vijitha Disaratna, Pavithra Ganeshu and Fathima Sabrina Nazeer
Department of Building Economics, University of Moratuwa, Sri Lanka

Data Analytics

ID 538 - The LASSO (Least Absolute Shrinkage and Selection Operator) Method to Predict Indonesian Foreign Exchange Deposit Data
Trisha Magdalena Adelheid Januaviani, Master Program in Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran Bandung, Indonesia
Nurul Gusriani, Khafsah Joebaedi, and Sukono, Department Program in Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Bandung, Indonesia
Subiyanto, Department of Marine Science, Faculty of Fishery and Marine Science, Universitas Padjadjaran, Bandung, Indonesia
Abdul Talib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Malaysia

Decision Science

ID 469 An Interactive Analytic Hierarchy Process for Product Recommendation: A Case Study in Studio Recording
Sudatip Puengrusme, Stamford International University, Bangkok 10110, Thailand
Udom Janjarassuk, Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand

Energy

ID 333 An Energy Harvesting Alternative to Wellhead Gas Chokes
Albertus Retnanto, Ph.D., Petroleum Engineering, Texas A&M University at Qatar, Doha, Qatar
Mohamed Idris, Petroleum Engineering, Texas A&M University at Qatar, Doha, Qatar

Engineering Education

ID 449 Exploring the efficacy of blended learning and innovative assessments in town planning students at the University of Johannesburg.
Trynos Gumbo, University of Johannesburg, Department of Town and Regional planning, Johannesburg, South Africa
Siphwe Given Mbatha, University of Johannesburg, Department of Quality and Operations Management, Auckland Park, South Africa
Emaculate Ingwani, University of Venda, Department of Urban and Regional Planning, Thohoyandou, 0950, Thohoyandou, South Africa

Engineering Management

ID 407 Renewable Energy Management: Technical and Economic Evaluation of an Optimized Photovoltaic System
Hamed Allaham, Industrial Engineering and Engineering Management Department, College of Engineering, University of Sharjah, Sharjah, UAE
Abdul Kadir Hamid, Electrical and Computer Engineering Department College of Engineering, University of Sharjah, Sharjah, UAE
Ali Cheaitou, Sustainable Engineering Asset Management (SEAM) Research Group and Industrial Engineering and Engineering Management Department, College of Engineering, University of Sharjah, Sharjah, UAE

Inventory Control

ID 71 A Dual Approach to the Harmonized Model between Inventory Reduction and Heijunka (Production Leveling) Based on the Minimum Average-Energy Principle
Tsuyoshi Kurihara, Certified and Accredited Meteorologist, Hiroshima, Japan
Takaaki Kawanaka, Institute for Innovation in International Engineering Education, Graduate School of Engineering, University of Tokyo, Japan
Hiroshi Yamashita, Department of Commerce, Meiji University, 1-1 Kanda-Surugadai, Chiyoda-ku, Tokyo, Japan

Competitions Winners and Best Track Papers – 2019 IEOM Bangkok Conference

Facility Planning

ID 276 A New Layout Problem for Order-Picking Warehouses
Ömer Öztürkoğlu, Department of Business Administration, Yaşar University, Izmir, 35100 TURKEY
Ayşegül Mağara, Schneider Electric, Izmir, 35100 TURKEY

Healthcare

ID 278 Decentralization of Medical Emergency Service to Minimize Response Time
Muhammad Isnaini Hadiyul Umam, Diva Kurnianingtyas, Doctoral Student of Industrial Engineering Department, Institut Teknologi Sepuluh Nopember, Surabaya, 60111, Indonesia
Budi Santosa, Nurhadi Siswanto, Department of Industrial Engineering, Institut Teknologi Sepuluh Nopember, Surabaya, 60111, Indonesia

Healthcare

ID 80 The Improvement of Healthcare Management in Thailand via IE Tools: A Survey
Chawis Boonmee and Chompoonoot Kasemset, Department of Industrial Engineering, Chiang Mai University, Chiang Mai, Thailand

Human Factors

ID 236 An Ergonomic Design of Light Rail Transit (LRT) in the Philippines for Persons with Special Needs
Ma. Janice J. Gumasing, Marion Ollie V. Zerrudo and Josephine D. German, School of Industrial Engineering and Engineering Management, Mapua University, Philippines

Industry 4.0

ID 296 Suitability of Industry 4.0 Concepts for Small and Medium Sized Enterprises: Comparison between an Expert Survey and a User Survey
Erwin Rauch, Thomas Stecher, Marco Unterhofer, Patrick Dallasega and Dominik T. Matt, Industrial Automation and Engineering (IEA), Faculty of Science and Technology, Free University of Bolzano, Piazza Università 5, 39100 Bolzano, Italy

ID 578 Internet of Things, Big Data and Simulation as a Competitive Advantage in the New Age of Industry 4.0
Rafaela Soares dos Santos and Sandro Alberto Vianna Lordelo, Anhanguera University Center, Rio de Janeiro, Brazil

Lean Six Sigma

ID 376 Identifying Drivers of Lean Six Sigma Implementation in the Process Industries: A Case Study
Ferdous Sarwar, Farzana Islam, Md Sadman Sakib and Sampa Halder, Department of Industrial & Production Engineering, Bangladesh University of Engineering & Technology, Dhaka, Bangladesh

Logistics

ID 167 An Efficient Storage Allocation in Warehouse to Minimize Travel Distance of Pickers
Md. Saiful Islam, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna, Bangladesh
Md. Kutub Uddin, Department of Mechanical Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

Manufacturing

ID 572 Mathematical Modeling to Predict the Mechanical Properties of Hot Rolled Steel Sheets
Chaovarat Junpradub, Department of Industrial Engineering, Faculty of Engineering, King Mongkut's University of Technology North Bangkok
Krisada Asawarungsangkul, Operations Research and Engineering Management Research Center, Department of Industrial Engineering, Faculty of Engineering, King Mongkut's University of Technology North Bangkok, Thailand

Modeling and Simulation

ID 467 Optimal Control Applied to an Economic Model for Reducing Unemployment Problems in Bangladesh
Md. Haider Ali Biswas, Uzzwal Kumar Mallick, Mst. Shanta Khatun, Mathematics Discipline, Khulna University, Khulna-9208, Bangladesh
Kazi Masum Parves, Joint Director, Bangladesh Bank, Khulna, Bangladesh

ID 382 Investigating the Adoption of Internet of Things Technology Using Agent-Based Simulation
Mohammed Basingab, Industrial Engineering Department, King Abdulaziz University, Jeddah, 22252, Saudi Arabia

Optimization

ID 679 Minimizing Mean Weighted Expected Tardiness by Integrating Preventive Maintenance and Production Scheduling Using Genetic Algorithm
Sumiharni Batubara, Iveline Anne Marie, Cattelya F.H, Industrial Engineering Department, Faculty of Industrial Technology, Trisakti University, Jakarta Barat 11440, INDONESIA

Circular Economy

ID 279 Coalescing the Lean and Circular Economy
Simon Peter Nadeem, Jose Arturo Garza-Reyes, Anthony I Anosike, Centre for Supply Chain Improvement, University of Derby, Derby, U.K.
Vikas Kumar, Bristol Business School, University of the West of England, Bristol, U.K.

Operations Management

ID 526 A Principal Criteria Searching Approach Based Leanness Assessment Method Considering Industrial Diversity
Geng Cui, Fei Xie and Cunrong Li, Department of Industrial Engineering, School of Mechanical and Electronics Engineering, Wuhan University of Technology, China

Operations Research

ID 074 Including Containers with Dangerous Goods in the Slot Planning Problem
Kiros Gebrearegawi Kebedow, School of Mathematical and Statistical Sciences, Hawassa University, Hawassa, Ethiopia
Johan Oppen, Molde University College, Specialized University in Logistics, Molde, Norway

ID 088 Particle Swarm Optimization for Post Box Collection Routing Problem
Warisa Wisittipanich, Excellent Center in Logistics and Supply Chain Management, Department of Industrial Engineering, Faculty of Engineering, Chiang Mai University, Chiang Mai, Thailand

Competitions Winners and Best Track Papers – 2019 IEOM Bangkok Conference

Kritsada Ananthapanyasut, Department of Industrial Engineering, Faculty of Engineering, Chiang Mai University, Chiang Mai, Thailand

Product Development

ID 40 Device design for SAE 1020 steel tool storage applied to automotive industry

Marcílio Antunes Leite Filho, Rosinei Batista Ribeiro, Adriano José Sorbille de Souza, José Wilson de Jesus Silva and Wellington de Oliveira, Post-Graduation Program in Design, Technology and Innovation, Lorena, UNIFATEA, Brazil

PLM

ID 85 Theoretical Framework to Analyze Conflict between Marketing and Operations Strategy: A Product Life Cycle Perspective

Chitresh Kumar and Anirban Ganguly, Jindal Global Business School, O. P. Jindal Global University, Sonapat, Haryana 131001, India

Project Management

ID 257 Modeling and Analyzing Interrelationships among Project Success Factors and Criteria

Gordian Udechukwu Ojiako, Anwar Hamdan, and Hamdi Bashir, Department of Industrial Engineering and Engineering Management, College of Engineering, University of Sharjah, Sharjah, UAE

Quality

ID 20 Integrated Quality Environmental Management Practices and its Impact on Operational and Environmental Performances in Food Processing SMEs

Jamaludin K.R., Hayati Habibah Abdul Talib & Syed Ali Raza Shah, Razak Faculty of Technology and Informatics, Universiti Teknologi Malaysia, Jalan Sultan Yahya Petra, 54100 Kuala Lumpur, Malaysia

Reliability

ID 756 Stochastic Modeling of Rail Under-head Failure Risks

Sagheer Ranjha, Faculty of Science, Engineering and Technology, Swinburne University of Technology, Hawthorn, Victoria 3122, Australia
Ekambaram Palaneeswaran, Faculty of Science, Engineering and Technology, Swinburne University of Technology, Hawthorn, Victoria, Australia

SPC

ID 363 Modified Multivariate Control Chart Using Spatial Signs and Ranks for Monitoring Process Mean: A Case of t-Distribution

Thidathip Haanchumpol, Prapaisri Sudasna-na-Ayudthya, and Chansiri Singhtaun, Department of Industrial Engineering, Faculty of Engineering, Kasetsart University, Bangkok, Thailand

Supply Chain

ID 96 Advanced preservation policy for deteriorating products during transportation and at retailer within a supply chain

Muhammad Waqas Iqbal and Yuncheol Kang, Department of Industrial Engineering, Hongik University, Seoul, South Korea.

Food Supply Chain

ID 137 Factors Affecting the Performance of Cold Chain for Export of Thailand's Longan Fruit

Narathip Titlo, Graduate program in Logistics Engineering and Supply chain Management, Department of Industrial Engineering, Chiang Mai University, Chiang Mai, Thailand

Apichat Sopadang, Department of Industrial Engineering, Excellence Center in Logistics and Supply Chain Management, Chiang Mai University, Chiang Mai, Thailand

Sustainability and Green Systems

ID 605 Assessing the Effects of Sustainability Practices on Product Life Cycle- Clustering Approach

Abdul Salam Khan, NUST Business School, National University of Sciences and Technology, NUST, Islamabad

Sustainable Manufacturing

ID 598 Factors Investigation for the Development of Medical Device towards Sustainable Product

Taisy Mak, Department of Industrial Engineering, Mahidol University, Salaya, Nakhon Pathom, 73170, Thailand

Duangpun Kritchanhai, Department of Industrial Engineering, Mahidol University, Salaya, Nakhon Pathom, 73170, Thailand

Technology Management

ID 479 Factors Influencing Knowledge Transfer activities in Enterprise Resource Planning Success for Food Manufacturing

Nur Izzah Muallah, A.H. Nor Aziati, T. Rosmaini, A. Nor Hazana, S.W. Chan

Faculty of Technology Management & Business, University of Tun Hussein Onn Malaysia

Transportation

ID 237 - Logistic Strategy to Face Disruption in Freight Multimodal Transportation Network

Erlly Ekayanti Rosyida, Doctoral Student at Dept. of Industrial Engineering, Institut Teknologi Sepuluh Nopember Surabaya, Indonesia
And Universitas Islam Majapahit, Mojokerto, East Java, Indonesia

Budi Santosa and I Nyoman Pujawan, Department of Industrial Engineering, Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia

Traffic and Safety

ID 95 Risk Exposure and Factor Effect Study of Selected Car Accident Parameters on Accident Severity

Khalid Alzoubi, Department of Industrial Engineering, Jordan University of Science and Technology, Irbid 22110, Jordan

Sharaf Alkheder, Department of Civil Engineering, Kuwait University, P.O. Box 5969, Safat 13060, Kuwait

Waste Management

ID 568 A reverse logistics network optimization model for residual OTR tires from the mining industry: A Colombian case study

Jorge Oyola and René Amaya-Mier, Department of Industrial Engineering, Universidad del Norte, Barranquilla, Atlántico 081007, Colombia

Work Design, Measurement, Standards and ISO

ID 413 Increasing Productivity in Garments Manufacturing through Time Standardization and Work Measurement

Valerie B. Peralta, Cohesir V. Sims, Patrick James M. Palma, Lara Carissa A. Fernandez, Jerran R. Del Mundo, Bert Regin S. Santiago, Juan Miguel N. Dinglasan, Industrial Engineering Department, Technological Institute of the Philippines – Quezon City