IEOM Society International

2020 IEOM Awards – Detroit, Michigan

The 5th North American Industrial Engineering and Operations Management Conference, August 10-14, 2020

IEOM Distinguished Excellency in Academia Award
- **Dr. C.R. Rao**, Professor Emeritus at Pennsylvania State University, USA

IEOM Distinguished Industry Leadership Award
- **Chris Stevens**, VP of Industry Verticals, Siemens Digital Industries Software, Troy, Michigan, USA

IEOM Diversity and Inclusion Award
- **Dr. Tonya Smith-Jackson**, Senior Vice Provost for Academic Affairs at NC A&T State University in Greensboro, NC, USA

IEOM Woman in Industry and Academia Award
- **Shannon Dare**, Global Product Planning & Strategy Leader at Ford Motor Company, Dearborn, MI, USA
- **Dr. Jean Ann Larson**, Chief Leadership Development Officer, University of Alabama at Birmingham (UAB) Health System & Senior Associate Dean for Leadership Development at UAB's School of Medicine, Birmingham, Alabama
- **Cheryl Thompson**, Founder and CEO, CADIA, Center for Automotive Diversity, Inclusion & Advancement, Detroit, MI

IEOM Distinguished Educator Award
- **Dr. Katta Murty**, Professor Emeritus, Industrial & Operations Engineering, University of Michigan, Ann Arbor
- **Dr. Maria Jesus Saenz**, Executive Director, MIT SCM Blended Master's Program, Director, MIT Digital Supply Chain Transformation, MIT Center for Transportation and Logistics, USA
- **Dr. Brett Peters**, Dean, College of Engineering and Applied Sciences, University of Wisconsin-Milwaukee

IEOM Distinguished Industry Achievement Award
- **Dr. Donna Bell,** Global Director, Technology and Features Strategy and Planning, Ford Motor Company, Dearborn, MI
- **Dr. Jeffrey Abell**, FSME, PE, Director, Manufacturing Systems Research Lab and Chief Scientist for Global Manufacturing, Global Research & Development, General Motors Company, MI
- **Dr. Raj Kawlra,** Director, Global Manufacturing Methods and Measurements, Fiat Chrysler Automobiles, Auburn Hills, MI
- **Damien Duclair**, Director of Manufacturing Engineering, Faurecia, Auburn Hills, Michigan
- **Dr. Adrian Sumarjadi,** Director, Global Operational Improvement & Lean Manufacturing, Magna Powertrain, Toronto, Canada

Distinguished Professor Award
- **Dr. Scott E. Grasman**, Professor & Head, Industrial & Manufacturing Engineering Dept., Kettering University, Flint, MI
- **Dr. Luz María Valdez de la Rosa**, Professor of Engineering Management, School of Engineering & Technologies, University of Monterrey, San Pedro Garza García, Nuevo León, Mexico

Distinguished Professor in LSS Award
- **Dr. Jiju Antony**, Professor of Quality Management, Edinburgh Business School, Heriot-Watt University, UK

Distinguished Professor in Supply Chain Management Award
- **Dr. Kannan Govindan**, Distinguished Professor and Head of the Center for Intelligent Supply Chain, China Institute of FTZ Supply Chain, Shanghai Maritime University & Chair Professor of Operations & Supply Chain Management and Head of the Center for Sustainable Supply Chain Engineering, Danish Institute for Advanced Study, University of Southern Denmark

Outstanding Professor Award
- **Dr. Mónica Blanco-Jiménez**, Professor and Graduate Center Academic Coordinator, School of Business at Nuevo León State University (UANL), Monterrey, San Pedro Garza García, Nuevo León, Mexico

- **Dr. Ricardo Ambrocio Ramírez Mendoza**, Associate Dean of Research, School of Engineering and Science, Tecnológico de Monterrey, Mexico

Champion for Innovation Award

- **Dr. Steven Marshall**, CFD Senior Expert at Valeo Thermal Systems, Oxford, Michigan

IEOM Rising Star Award

- **Dr. Yanchao Liu**, Assistant Professor, Department of Industrial and Systems Engineering, Wayne State
- **Dr. Xi Jessie Yang**, Assistant Professor, Industrial & Operations Engineering, University of Michigan, Ann Arbor, MI

IEOM STEM Award

- **Dr. Sibrina N. Collins,** Executive Director, The Marburger STEM Center, Lawrence Tech University, Southfield, MI
- **Dr. Chan-Jin (CJ) Chung,** Professor of Computer Science and Director of Robofest, Lawrence Tech, Southfield, MI

IEOM Ambassador Award

- **Prof. Edward Williams**, Senior Technical Specialist at PMC and Adjunct Faculty, University of Michigan - Dearborn

IEOM Global Engineering Education Award

- **Dr. Matthew W. Ohland**, Professor and Associate Head of Engineering Education, Purdue University, West Lafayette, IN
- **Dr. Jihong Yan**, Professor in Industrial Engineering, Deputy Dean of School of Mechatronics Engineering, Head of intelligent Manufacturing Scientific Research Team, Harbin Institute of Technology, Harbin, China
- **Prof. Kazim Sari,** Vice Rector & Head, Dept. of Industrial Engineering, Beykent University, Ayazağa Campus, Istanbul

IEOM Industry 4.0 Award

- **Mike Koper**, Sr. Director - Industry 4.0 AR Digital Transformation, OPS Solutions, Detroit, Michigan, USA –
- **Ryan Treece**, Automotive Business Manager-IIOT Industry 4.0 Solutions, Banner Engineering, Berkley, MI

IEOM Industry Solutions Award

- **Noman Husain**, Founder, TRANSFORMability, Detroit, Michigan, USA
- **Dr. Shahrukh A. Irani**, President, Lean and Flexible LLC, Houston, Texas, USA

Curriculum Innovation Award

- **Dr. Jenny Díaz-Ramírez**, Engineering Department Professor, Universidad de Monterrey, Monterrey, N.L., Mexico
- **Manuel Woschank**, Chair of Industrial Logistics, Montanuniversitaet Leoben, Leoben, Austria
- **Imane Aboutajedyne**, Laboratory of Mechanical Engineering, Faculty of Science and Technology of Fez, Sidi Mohamed Ben Abdellah University, Fez, Morocco

IEOM Teaching Excellency Award

- **Dr. Milton Soto-Ferrari,** Operations and Supply Chain Management Dept., Indiana State University, Terre Haute, IN
- **Dr. Sagit Kedem-Yemini**, Logistics Department, Sapir Academic College, Sderot, Israel
- **Dr. Sankar Sengupta**, Professor, Industrial and Systems Engineering Dept., Oakland University, Rochester, MI

IEOM Industrial Engineering Excellence in Teaching and Learning

- **Dr. Craig Downing**, Interim Associate Dean of Lifelong Learning, Professor and Head, Department of Engineering Management, Rose-Hulman Institute Of Technology, Terre Haute, IN
- **Dr. Sharon Johnson**, Professor, Operations and Industrial Engineering at WPI, Boston, MA

Outstanding Contribution to 2020 IEOM Detroit Conference Award

- **M. Affan Badar**, Department of Applied Engineering and Technology Management, Indiana State University, Terre Haute
- **Dr. Mohamed Awwad**, Assistant Professor in the Department of Industrial and Manufacturing Engineering at California Polytechnic State University (Cal Poly), San Luis Obispo, CA
- **Dr. Mayra I. Méndez-Piñero**, Professor, Dept. of Industrial Engineering at the University of Puerto Rico-Mayagüez
- **Dr. Ebisa Wollega**, Assistant Professor of Engineering at Colorado State University Pueblo
- **Dr. Bilquis Ferdousi**, Associate Professor of Information Assurance & Cyber Defense, Information Technology in School of Information Security and Applied Computing at the Eastern Michigan University
- **Dr. Keivan Sadeghzadeh**, Assistant Professor of Operations Management in the Charlton College of Business at the University of Massachusetts Dartmouth
- **Dr. Girish Upreti**, Assistant Professor of Engineering, Methodist University, Fayetteville, NC

IEOM Distinguished Service Award

- **Dr. Muhammad Sohail Ahmed**, Professor, Engineering Management, School of Engineering, Eastern Michigan University
- **Dr. Leslie Monplaisir**, Professor and Chair, Dept. of Industrial and Systems Engineering, Wayne State University
- **Dr. Wilkistar Otieno**, Associate Professor and Chair, Industrial & Manufacturing Engineering, University of Wisconsin-Milwaukee

LSS Champion Award
- **Steve Sibrel**, Sr. Supplier Quality Manager, Harman International, Novi, Michigan, USA

IEOM Society Service Award
- **Dr. Andy Pandian,** Associate Professor, Director, Bachelor of Science in Engineering Technology Management, Department of Mechanical Engineering, Saginaw Valley State University, University Center, Michigan, USA
- **Dr. Hayder Zghair**, Assistant Teaching Professor, Penn State Berks, PA, USA
- **Dr. Joseph M. Ogundu**, MBB, President and CEO, Emerald Global Consulting Inc., West Bloomfield, Michigan, USA
- **Dr. Neil Murray,** Engineering Manager at ZF, Farmington, Michigan

IEOM Conference Service Award
- **Dr. Saso Krstovski**, MBB, Lean Manufacturing Coach /Six Sigma Master Black Belt, Van Dyke Transmission Plant, Ford Motor Company, Michigan, USA
- **Dr. Kapil Gupta**, Associate Professor, Department of Mechanical and Industrial Engineering Technology, University of Johannesburg, South Africa

IEOM NA Student Chapter Awards and Recognition

Faculty Advisor Award
Concordia University
- **Dr. Anjali Awasthi**, Associate Professor, Concordia Institute for Information Systems Engineering, Faculty of Engineering and Computer Science, Concordia University, Montreal, QC, Canada

Humber Institute of Technology and Advanced Learning
- **Dr. Nabeel Mandahawi**, Professor, The Business School, Humber Institute of Technology & Advanced Learning, Toronto, ON
- **Dr. Paul Griffin**, Associate Dean – Bachelor of Commerce Degree Programs, Faculty of Business, Humber College, Toronto, ON

Polytechnique Montreal
- **Dr. Soumaya Yacout**, Professor, Department of Mathematical and Industrial Engineering, Polytechnique Montréal, Montreal, Quebec, Canada

University of New Brunswick at Fredericton
- **Dr. Abdur Rahim**, Professor, Faculty of Business Administration, UNB Fredericton, Canada

University of Waterloo
- **Dr. Ali ElKamel**, Professor, Department of Chemical Engineering, University of Waterloo, Waterloo, ON, Canada

University of Windsor
- **Dr. Walid Abdul Kader**, Professor, Department of Mechanical, Automotive and Materials Engineering, Faculty of Engineering, University of Windsor, ON, Canada

Eastern Michigan University
- **Dr. Muhammad Sohail Ahmed**, Professor of Engineering Management, School of Engineering, Eastern Michigan University, Ypsilanti, MI, USA

Lawrence Technological University
- **Prof. Don Reimer**, Adjunct Professor, A. Leon Linton Department of Mechanical, Robotics and Industrial Engineering, Lawrence Technological University, Michigan

Central Connecticut State University
- **Dr. Mohammad Anwar Rahman**, Associate Professor, Program Coordinator: Supply Chian & Logistics Management (MS), School of Engineering & Technology, Central Connecticut State University, New Britain, CT

Student Chapter Leadership Award
Concordia University
- Ujjwal Khanna

Humber Institute of Technology and Advanced Learning -
- Paul-Michael Broz

Polytechnique Montreal
- Mohamed Ossama

University of New Brunswick at Fredericton
- Mignault Michael

University of Waterloo
- Samer Khalil

University of Windsor
- Mostafa Abdelrahman Moussa

Eastern Michigan University
- Ross Wenk

Lawrence Technological University
- Swapnamurti Wagh and Kushtubh Kale

Central Connecticut State University
- Moses Taaboo

IEOM IE Student Excellence Award
- **Mr. Muhammad Akram**, University of Windsor
- **Ahmed M Gailan Qasem**, Binghamton University
- **Nicole Schumacher**, University of Wisconsin, Milwaukee
- **Joshua Emakhu**, Wayne State University, Detrioit, Michigan
- **Juan Alberto Estrada-García**, University of Monterrey, Mexico
- **Afshan Roshani**, Oakland University, Rochester, Michigan

IEOM High School Student Leadership Award
- **Mason Chen**, Stanford Online High School

Undergraduate Student Paper Competition Award Sponsored by SIEMENS
1st Place
ID 561 Designing The Iron Sandbag for Knee Osteoarthritis Exercise Tool
Dwi 'Sa Nu 1, Manik Mahachandra 1,2 and Heru Prastawa 1,2
1 Industrial Engineering Department, Faculty of Engineering, Diponegoro University, Semarang, Indonesia
2 Center for Biomechanics, Biomaterial, Biomechatronics, and Biosignal Processing, Diponegoro University, Semarang, Indonesia

ID 066   Feasibility Study of Cellular Manufacturing System in a Wooden Furniture Industry: A Case Study
Raihan Ahmed Joy, Dept. of Industrial and Production Engineering, National Institute of Textile Engineering and Research (NITER), Dhaka, Bangladesh
Himadri Sen Gupta, Department of Industrial and Production Engineering, Military Institute of Science and Technology (MIST), Dhaka, Bangladesh

2nd Place
ID 352 Increase of the Production Lines' Performance in a Chewing Gum Confectionery
Mariana García-Carrasco, Paulina Guerrero-Kim, and Verónica Esper-Safi, Industrial and Systems Engineering Program University of Monterrey, Monterrey, Mexico
Jenny Díaz-Ramírez, Engineering Department, School of Engineering and Technologies, University of Monterrey, Monterrey, Mexico

3rd Place
ID 684 A Concept Relationship Map for Industry 4.0
Samantha Melnik, Michael Magnotti, Cameron Butts, Carol Putman, and Faisal Aqlan
Pennsylvania State University, The Behrend College, Erie, PA 16563, USA

ID 690   Examining Equipment Condition Monitoring for Predictive Maintenance, A case of typical Process Industry
Rafif Nova Riantama, Abiyyu Dimas Prasanto, Nani Kurniati and Dewanti Anggrahini, Department of Industrial and System Engineering, Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia

Graduate Student Paper Competition Award sponsored by EATON Corporation
1st Place
ID 665   Flexible Model to Design Closed Loop Supply Chain Network Under Uncertainties
Murtadha Aldoukhi, Department of Mechanical and Industrial Engineering, College of Engineering, Northeastern University Boston, MA, USA
Surendra M. Gupta, Director of Laboratory for Responsible Manufacturing (LRM), Department of Mechanical and Industrial Engineering, College of Engineering, Northeastern University Boston, MA, USA

2nd Place
ID 257   An Inventory Model for Growing Items with Quality Inspections and Permissible Shortages
Abdul Rehman Afzal and Hesham K. Alfares, Department of Systems Engineering, King Fahd University of Petroleum and Minerals, Dhahran 31261, Saudi Arabia

3rd Place
ID 543 Modelling an Automobile Assembly Layout Plant Using Probabilistic Functions and Discrete Event Simulation
Nurul Nadiah Abdul Halim, S. Sarifah Radiah Shariff and Siti Meriam Zahari, Centre for Statistics and Decision Science Studies Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia

Senior Design Project Competition Award sponsored by Tooling Tech Group
1st Place

ID 688   Cape Fear Valley Medication Return Process Improvement
Alex Kachler, Thembela Shabangu, and Girish Upreti, Methodist University, Fayetteville, NC, United States

2nd Place
ID 805   Intelligent Smart Real Time Vision (ISRTV) as an Embedded System for Advanced Applications: A Student Educational Platform on Vehicle Collision Avoidance and Driver Safety" Collision Avoidance System
Dana Bigham, BSEE, Trevor Bonnivier, BSEE, Parker Hodges, BSCE, Tyler Mueller, BSEE
Advisor: Dr. George Pappas, Lead Faculty: George Pappas (Electrical and Computer Engineering), Hamid Vejdani (Mechanical, Robotics and Industrial Engineering), Ali Fallahi, PhD (Civil and Architectural Engineering)
Lawrence Tech University, Michigan

3rd Place
ID 806   Cintas Loading and Unloading Process Improvement
Treasa Rost, Jessica Hensley, Anwar Abdullah, Ahad Ali and Don Reimer, Lawrence Technological University,

Doctoral Dissertation Award
1st Place
ID 157 Investment-Based Site Selection Model for Interconnected Mini-Grid
Akintunde K. Akinlabi and Victor O. Oladokun, Department of Industrial and Production Engineering, University of Ibadan, Ibadan Nigeria

2nd Place
ID 567 Stochastic Optimization Methods for Resource Management in Edge Computing Systems
HOSSEIN BADRI, Department of Industrial & Systems Engineering, Wayne State University, Detroit, MI 48202, USA

Master Thesis Competition Award
1st Place
ID 687   Information systems in Industry 4.0: Mechanisms to support the shift from data to knowledge in Lean environments
Juliana Salvadorinho, Master's degree student in Industrial Engineering and Management, Department of Economics, Management, Industrial Engineering and Thourism, University of Aveiro, Aveiro, Portugal
Leonor Teixeira, Advisor, Institute of Electronics and Informatics Engineering of Aveiro (IEETA), Department of Economics, Management, Industrial Engineering and Thourism, University of Aveiro, Aveiro, Portugal

2nd Place
ID 236   Knowledge assessment for radiation protection practices among dental professionals- A literature review
Fatma Eltarabishi, Hamad Rashid, and Walid A. Metwally, Industrial Engineering and Engineering Management Dept., University of Sharjah, UAE

3rd Place
ID 605   Computer Vision and Internet of Things Application to Enhance Pedestrian Safety
Ujjwal Khanna, Concordia Uniersity, Montreal, Quebec, Canada

ID 566   A Parallel Randomized Approximation Algorithm for Single Machine Scheduling With Applications to Flow Shop Scheduling
HOSSEIN BADRI, Department of Computer Science, Wayne State University, Detroit, MI 48202, USA

ID 106   A Review on Comparative Study to Detect Fraud Financial Statement using Data Mining and Machine Learning Algorithms
Swati Srivastava, Jaipur, IN, India

Undergraduate Research Competition Award
1st Place
ID 378 Pandemic Response Based Healthcare Services System Architecture among Urbanized Communities In The Philippines
Jesraah Nadine C. Sedavia, Lance Paolo D. Sacdalan Christian James G. Madrid, Zaira Angelica L. Baliday, Jerick P. Timbang, Arriane A. Palisoc, and Yoshiki B. Kurata, Department of Industrial Engineering, Technological Institute of the Philippines, Quezon City, Philippines

2nd Place
ID 471   Description of the CAD-AM Process for 3D Bone Printing: the Case Study of a Femur
Leonardo Frizziero, Giampiero Donnici, Alfredo Liverani, Gianmaria Santi, Marco Neri, Paola Papaleo, and Francesca Napolitano, Department of Industrial Engineering, Alma Mater Studiorum University of Bologna, Bologna, Italy

3rd Place
ID 311 Quay Crane Scheduling Based Problem: A Process Optimization for an International Container Terminal in the Philippines
Vincent M. Salosagcol, Princess Faith Z. Fernandez, Mark Angelo D. Martinez, Martin Rafael D.S. Valencia, Giovanni O. Ables, and Yoshiki B. Kurata, Industrial Engineering Department, Technological Institute of the Philippines, Quezon City, Philippines

High School and Middle School STEM Competition Award

HIGH SCHOOL

1st Place
title
ID 125   Monitoring Run-off Toxicity Using Daphnia Magna
Saloni Patel, Stanford Online High School, Redwood City, CA 94063

ID 476   "STEAMS" Approach of Preparing Freshest STEAMed Dumplings
Mason Chen 1, Yvanny Chang 2, Patrick Giuliano 3, and Charles Chen 3
1 Stanford University, Palo Alto, USA
2 Prospect High School
3 Morrill Learning Center, San Jose, USA

2nd Place
ID 123   A Study on the Effects of Sleep on Children's Reaction Time
Alina Zhong, Stanford Online High School, Redwood City, CA, USA

3rd Place
ID 114   Demographic Factors that Impact Anxiety Levels
Amelia Zai, Stanford Online High School, Westwood, MA, United States

4th Place
ID 563   Use of Ultrasonic Sensor to Guide the Visually-Impaired
Mahbuba Sumiya, Detroit, Michigan, United States

5th Place
ID 126   Analysis of Stock Market Reactions to COVID-19 Pandemic
Lily Sun, Stanford Online High School, San Ramon, CA, United States

MIDDLE SCHOOL

1st Place
ID 116   ARTEMIS Robot: Building Artificially Intelligent Robots with Child-like Curiosity
Artash Nath, 8th Grade Student, Toronto, Ontario, Canada

1st Place
ID 686   Renewable Energy - Wind Energy - Offshore vs. Onshore
Anas Ali, Crescent Academy International, Canton, MI, United States

Simulation Competition Award
1st Place
ID 785   Simulation Analysis to Compare and Improve Throughput for Automobile Insurance Claim Process
Devi Suruliraj, Lawrence Technological University, Southfield, Michigan, USA

2nd Place
ID 393   A Simulation-Aided Lean Application to an Automated Production Line
Raid Al-Aomar, Professor of Industrial Engineering, School of Applied Technical Sciences, German Jordanian University, Amman, Jordan
Areen Alshwailat, Aseel Alfarraj and Tulip Odeh, Graduate students, Department of Industrial Engineering, German Jordanian University, Amman-Jordan

3rd Place
ID 646   Reliability Modelling and Quality Analysis of SQL Servers in Database Reporting
Praveen Kumar Guraja, and Pawan Bhandari, Department of Applied Engineering and Technology Management, Indiana State University, Terre Haute, IN 47809, USA

Supply Chain and Logistics Competition Award
1st Place
ID 115 A Cross-Industry Study Identifying Enabling Factors of Supply Chains that Successfully Responded to COVID-19
Hana Chitgari, Jorden Carroll, Gudrun Derickson, Sarah McRory, Karlyn Tremaine and Mohamed Awwad
Industrial and Manufacturing Engineering Department, California Polytechnic State University, San Luis Obispo, CA, USA

2nd Place

ID 110   Case Study Review of the Effects of COVID-19 on the Supply Chain of Manufacturing Companies in California

Camille Garlick, Mitchell McMillan, Roxanne Peterson, Timothy Scheuermann, Kyle Smith and Mohamed Awwad
Industrial and Manufacturing Engineering Department, California Polytechnic State University, San Luis Obispo, CA 93407, USA

3rd Place

ID 077 Disinfectant Shortage: A Multicountry Comparison of Breweries and Distilleries Responses to the COVID-19 Pandemic

Christian Thomas Nis Nissen, Department of Industrial Engineering, University of Applied Sciences Munich, 80335 Munich, Germany

Niklaus Bendicht Bangerter, School of Engineering and Architecture, Lucerne University of Applied Sciences and Arts, 6048 Horw, Switzerland

Louis Tran, Michael Thomas Bobke and Mohamed Awwad, Department of Industrial and Manufacturing Engineering, California Polytechnic State University, San Luis Obispo, CA 93407, USA

Lean Six Sigma Competition Award sponsored by Tooling Tech Group

1st Place

ID 475: Development of Scoring Methodology for Ergonomics Risk Assessment in the Workplace

Abdulrahman Shamsan and Ahmed Gailan Qasem, Department of Systems Science and Industrial Engineering, State University of New York at Binghamton, Binghamton, NY 13902, USA

Faisal Aqlan, Department of Industrial Engineering, Penn State University, The Behrend College, Erie, PA, USA

2nd Place

ID 591: On Socioeconomic Impacts of Technological Advancements in Healthcare

Pawan Bhandari and M. Affan Badar, Department of Applied Engineering and Technology Management, Indiana State University, Terre Haute, IN 47809, USA

Vincent Childress, Department of Graphic Design Technology, North Carolina A&T State University, Greensboro, NC, USA

3rd Place

ID 163: Using Design of Experiment & Steepest Ascent Methodologies to Improve Air Leak Testing in Engine Block Manufacturing System

Khaleel Al ithawi and Kingman Yee, A. Leon Linton Department of Mechanical Engineering, Lawrence Technological University, Southfield, MI, USA

Sabah Abro, Engineering Technology Department, Lawrence Tech University

M. Ishtiaq Hussain, General Motors Powertrain, Pontiac, Michigan

Best Track Papers Awards

Artificial Intelligence

ID 440   Identification of Vehicle Plate Number Using Convolutional Neural Networks

Indra Jaya Rukmana, Esmeralda C. Djamal and Fatan Kasyidi, Dept. of Informatics, Jenderal Achmad Yani University, West Java, Indonesia
Abdul Talib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Malaysia

Business Management

ID 237   Lesson Learned in Developing and Implementing Global Business Strategy to Commercialize Battery Swap Technology: A Comparative Study

Era Febriana Aqidawati, Master Program of Industrial Engineering Dept. Faculty of Engineering, Universitas Sebelas Maret, Surakarta, Indonesia
Wahyudi Sutopo and Eko Pujiyanto, Industrial Engineering Dert., Faculty of Engineering, Universitas Sebelas Maret, Surakarta, Indonesia

ID 238   Global Business Strategy for Commercializing a Technology of Drone: A Lesson Learned from DJI Drones and Parrot Drones

Nida An Khofiyah, Master Program of Industrial Engineering Dept., Faculty of Engineering, Universitas Sebelas Maret, Surakarta, Indonesia
Wahyudi Sutopo, Research Group Industrial Engineering and Techno-Economic, Department of Industrial Engineering, Universitas Sebelas Maret, Surakarta, Jl. Ir. Sutami, 36 A, Surakarta, Indonesia
Rakhman Ardiansyah, Head of Production & Procurement Department StartUp Frogs Indonesia, PT. Inovasi Solusi Transportasi Indonesia, Jl. Tarudan 43 b, Bangunharjo, Sewon, Bantul, Daerah Istimewa Yogyakarta, 55188

e-Business

ID 480   Data Security Concerns and Consumers' Trust in Online Business

Bilquis Ferdousi, School of Information Security and Applied Computing, Eastern Michigan University, Ypsilanti, MI 48197, USA

Energy

ID 197   Planning Hydroelectric Power Distribution under Uncertain Supply

Govind R. Joshi and Ebisa D. Wollega, Department of Engineering, Colorado State University-Pueblo, Colorado, USA

Engineering Education

ID 447   Fostering Transformative Learning Processes in Industrial Engineering Education

Manuel Woschank, Chair of Industrial Logistics, Montanuniversitaet Leoben, Leoben, Austria

Corina Pacher, Resources Innovation Center Leoben, Montanuniversitaet Leoben, Leoben, Austria

ID 327   A Semester Project to Promote Increase Understanding of Ethical Principles
Ralph Ocon, Construction Science and Organizational Leadership, Purdue University Northwest, Hammond, IN 46323, USA

Ergonomics
ID 475   Development of a Scoring Methodology for Ergonomic Risk Assessment in the Workplace
Abdulrahman Shamsan and Ahmed Gailan Qasem, Department of Systems Science and Industrial Engineering, State University of New York at Binghamton, Binghamton, NY 13902, USA
Faisal Aqlan, Department of Industrial Engineering, Penn State University, The Behrend College, Erie, PA 16563, USA

Industry 4.0
ID 253   Profile-based Matching of Clients and Agents in Remote Customer Support
Negin Mehrbod, Ahmad Mehrbod and António Grilo, UNIDEMI, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa Caparica, Portugal

ID 103   Vision-Based Operator Activity Recognition System for Personnel Efficiency Analysis
Pamela Lin and Ch'ng Wei Luen, Infineon Technologies Asia Pacific, 8 Kallang Sector, Singapore

Industry Solutions
ID 008   Optimization of Review Periods and (s, S) Levels of Floor Stock Items in a Paint Production Environment
Banu Yetkin Ekren, and Gizem Mullaoğlu, Department of Industrial Engineering, Yasar University, Izmir, Turkey

ID 402   A Resilient Vendor Selection Approach
Ahmed Mohammed, Faculty of Transport & Logistics, Muscat University, Al Ghubra North, Muscat, Oman

Lean and agility
ID 316   Assessing Agility Implementation in Manufacturing
Elma Nassar, Electrical and Computer Engineering Department, Lebanese American University, Beirut, Lebanon
Raed El-Khalil, Information Technology and Operations Management Department, Lebanese American University, Beirut, Lebanon

Manufacturing
ID 246   EDM Die Sinking of Tool Steel: Performance Evaluation of Electrode Materials for Surface Roughness and Dimensional Accuracy
Sadaf Zahoor and Walid Abdul-Kader, Department of Mechanical, Automotive, and Materials Engineering, University of Windsor, Windsor, Canada
Amjad Hussain, Aftab Ahmad Rao, Department of Industrial and Manufacturing Engineering, University of Engineering and Technology, Lahore, Pakistan

Operations Management
ID 518   Impact of Employee Satisfaction on Work Discipline in Government Office in Indonesia
Dedi Iskamto, Sekolah Tinggi Ilmu Ekonomi Riau, Pekanbaru Indonesia
Kurniati Karim, Sekolah Tinggi Ilmu Ekonomi Sakti Alam Kerinci, Jambi, Indonesia
Sukono, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia.
Abdul Talib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Malaysia

Optimization
ID 144   On the Derivation of Complex Linear Models from Simpler Ones
Carla Santos, CMA -Center of Mathematics and its Applications -FCT- New University of Lisbon and Polytechnic Institute of Beja, Campus da Caparica, 2829-516 Caparica, Portugal
Cristina Dias, CMA -Center of Mathematics and its Applications -FCT- New University of Lisbon and Polytechnic Institute of Portalegre, Campus da Caparica, 2829-516 Caparica, Portugal
Célia Nunes, Department of Mathematics and Center of Mathematics and Applications, University of Beira Interior, Rua Marquês d'Ávila e Bolama, 6201-001 Covilhã, Portugal
João Tiago Mexia, Department of Mathematics and CMA - Center of Mathematics and its Applications –FCT, New University of Lisbon, Campus da Caparica, 2829-516 Caparica, Portugal

ID 500   Comparison of Conjugate Gradient Method on Solving Unconstrained Optimization Problems
Maulana Malik, Department of Mathematics, Universitas Indonesia (UI), Depok 16424, Jawa Barat, Indonesia
Mustafa Mamat, Siti Sabariah Abas, and Ibrahim Mohammed Sulaiman, Faculty of Informatics and Computing, Universiti Sultan Zainal Abidin (UniSZA), Besut 22200, Terengganu, Malaysia
Sukono, Department of Mathematics, Universitas Padjadjaran (Unpad),Sumedang 45363, Jawa Barat, Indonesia
Abdul Talib Bon, Department of Production and Operations, Universiti Tun Hussein Onn Malaysia (UTHM), Parit Raja 86400, Johor, Malaysia

Production Planning and Control
ID 037   A Time-Series Forecasting Performance Comparison for Neural Networks with State Space and ARIMA Models
Milton Soto-Ferrari, Operations and Supply Chain Management Department, Indiana State University, Terre Haute IN 47807, USA
Odette Chams-Anturi, Department of Economic Science, Universidad de la Costa, Barranquilla, Colombia
Juan P. Escorcia-Caballero, Department of Entrepreneurship and Management, Universidad del Norte, Barranquilla, Colombia

ID 310   Comparison of First In First Out with Shortest Job First in a Production Schedule Development: A Case of Backpack Production Scheduling System
Iqbal Abdul Jabbar, Ade Kania Ningsih and Faiza Renaldi, Department of Informatics, Universitas Jenderal Achmad Yani, Indonesia
Abdul Talib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Malaysia

Product Design and Development
ID 232   A Foldable Product: Implementing Techniques of Product Design Process
Shahriar Tanvir Alam and Israt Humayra, Dept. of Industrial and Production Engineering, Military Institute of Science and Technology, Mirpur Cantonment, Dhaka-1216, Bangladesh.

Simulation
ID 031   Simulation Models for Multi-echelon Inventory Management Problem: A Literature Review
Nouçaiba Sbai and Abdelaziz Berrado, Equipe AMIPS, Ecole Mohammadia d'Ingénieurs, Mohammed V University in Rabat, Morocco

Supply Chain
ID 273   A Modified Firefly Algorithm for Global Optimization of Supply Chain Networks
Abdulhadi Altherwi, Department of Industrial Engineering, Jazan University, Jazan, Saudi Arabia and Department of Industrial & Systems Engineering, Oakland University, Rochester, MI 48309, USA
Mohamed Zohdy, Department of Electrical & Computer Engineering, Oakland University, Rochester, MI 48309, USA
Richard Olawoyin, Department of Industrial & Systems Engineering, Oakland University, Rochester, MI 48309, USA
Daw Alwerfalli, A. Leon Linton Department of Mechanical Engineering, Lawrence Technological University, Southfield, MI 48075, USA

ID 304   Multilevel Reorder Strategy-based Supply Chain Model
Hesamoddin Tahami, and Hengameh Fakhravar, Engineering Management & Systems Engineering Department, Old Dominion University, Norfolk, VA 23529, USA

ID 557   Application of Blockchain Technology in Optimizing E-tailer Supply Chain Costs: Public and Consortium Blockchains
Sahani Rathnasiri, and Sardar M. N. Islam, Institute of Sustainable Industries and Liveable Cities, Victoria University, Australia
Pritee Ray, Department of Operations Management, Indian Institute of Management Ranchi, Jharkhand, India

Sustainability
ID 356   Environmental and Economic Impacts of EV Battery Management and State Changes
Muhammad Nadeem Akram and Walid Abdul-Kader, Department of Mechanical, Automotive, and Materials Engineering, University of Windsor, Windsor, Ontario, Canada

ID 534   An Empirical Assessment on the Transportation Sustainability Indicators and their Impact on Economic Productivity
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