



IEOM Society

"Achieving and Sustaining Operational Excellence"

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Washington, DC, USA, September 27-29, 2018

IEOM STEM HS and Middle School Competition Awards

ID 037 An Alerting Device to Prevent Death Risk in Dental Treatment

Kanticha Hothai and Thanadon Pitakwarin, Princess Chulabhorn's College Chonburi, Thailand

ID 125 Apply Statistics on Playing Strategic Video Games

Mason Chen, Stanford Online High School, California, United States

ID 144 Deceptively Sweet: Finding Hidden Sugars (Sucrose and Glucose)

Akshara Karthik and Priya Shah, Orchard Lake Middle School, West Bloomfield, MI, USA

ID 184 Electromagnetic Train

Rohan Pavuluri, Schroeder Elementary School, Troy, MI, United States

ID 423 Preparation and Evaluation of Carbon Synthesized by Chemical Activation of Mango Seeds

Alicia Chen and Emily Chen, Dublin High School, Dublin, CA 94568, USA

- Talhah Rahman Huda, Thomas A. Edison High School, Alexandria, Virginia
- Raffu Khondaker, Thomas Jefferson High School for Science and Technology, Alexandria, VA
- Ramisa Resha, Robert Lee High School, Springfield, VA
- Muhtasim Hossain, 7th grade, Irving Middle School, Springfield, VA
- Noor Ruman, Oakton High School, Virginia, VA
- Arham Ahammad, 8th Grade, Glasgow Middle School, Falls Church, VA
- Anika Ahammad, 10th grade, Justice High School, Falls Church, VA
- Mahir Mannan, 10th Grade, Robert Lee High School, VA
- Afifa Mannan, 6th grade, Washington International Academy, VA
- Nabila Ava, 6th Grade, Washington international Academy, VA

Undergraduate Student Paper Competition Awards Sponsored by SIEMENS

1st Place

Dalal Al-Munayes, Fatima Al-Mahdi, Sarah Bahman, Sara Sadeq, Shahad Bojbara and Lawrence Al-Fandi
Industrial Engineering Department, American University of the Middle East, Kuwait

"Reduction of Patient Prolong Length of Stay in the ED using Lean Six Sigma"

Graduate Student Paper Competition Awards sponsored by EATON Corporation

1st Place

André Mendes de Carvalho, University of Minho, Guimarães, Portugal and Sociotechnical Systems Research Center,
Massachusetts Institute of Technology, MA, United States

Paulo Sampaio, University of Minho, Guimarães, Portugal

Eric Rebentisch, Sociotechnical Systems Research Center, Massachusetts Institute of Technology, Cambridge, MA, USA

"Business Excellence Models: Supporting the Cultural Perspective to Operationalize Excellence Sustainability in Manufacturing Organizations"

2nd Place

Meshal AIQtaibi, Architectural Engineer, and PhD candidate, University of Kansas, Lawrence, KS, USA

"The Effect of Ceiling Height on the Performance of Air-Distribution Systems Based on thermal Comfort and it's Environmental Effects"

Muztoba Ahmad Khan and Thorsten Wuest, West Virginia University, Morgantown, WV, USA

"Mapping of PSS Research: A Bibliometric Analysis"

Competitions Winners and Best Track Papers – IEOM Washington, DC

3rd Place

Seyedmohammad Salehi, University of Delaware, Newark, USA
Maghsoud Amiri, Allameh Tabataba'i University, Tehran, Iran
Saeed Ramezanzadeh, Amin Olum-e-entezami University, Tehran, Iran
Mohammadali Abedini, University of Tasmania, Launceston, Tasmania 7250, Australia
“An Enhanced VIKOR MCDM Model to Solve Complex and Multi-Objective Optimization Problems”

César Alanís Díaz, Edgar Marco Aurelio Granda Gutiérrez and Mtro. Refugio Chávez Hernández, Universidad de Monterrey, Mexico
“Model to Define the Optimal Production Program in a Food Processor SME Optimizing Human and Economic Resources”

Senior Design Project Competition Awards

1st Place

Anfal Al-Safar, Eman Al-Khayat, Hajar Al-Shawaf, Hawra Othman, Shahad Al-Shawaf, and Magdy Helal, Industrial Engineering Department, American University of the Middle East, Kuwait
“Solving the School Bus Routing Problem at a Local School in Kuwait”

2nd Place

Pradeep K Behera, Professor and Chair, Department of Civil Engineering, School of Engineering and Applied Sciences, University of the District of Columbia, Washington DC, USA
“Can Senior Capstone Project Course provide Real-world Work Experience?”

Doctoral Dissertation Awards

Vahab Vahdat, Department of Mechanical and Industrial Engineering, Northeastern University, MA, USA
“Simulation and Optimization Methods Applied to Outpatient Health Center Operations”

Best Poster Awards

1st Place

Charles Mutigwe and Myra Zhinin, Western New England University, Springfield, Massachusetts, USA
“The Case for Unified Query Language”

2nd Place

Argelia Vargas-Moreno, Leonardo Gabriel Hernández-Landa, Elva Patricia Puente-Aguilar and Patricia Gómez-Fuentes Industrial Engineering and Management Area, Facultad de Ciencias Químicas, Universidad Autónoma de Nuevo León, San Nicolás de los Garza, NL. 66451, México
“Application of Open Jackson Networks for Time and Costs Reduction in the Quality Control Process in an Electronic Assembler”

Javel Wilson, University of the District of Columbia (UDC), USA
“Metal Matrix Nanocomposite Powder for Laser Powder Bed Fusion”

Olaseni Adeniji, University of the District of Columbia (UDC), USA
“Application of SWIR Camer in the monitoring and Control of Overhang Quality in Selection Melting”

3rd Place

Guelmani-Hesnaoui Naima, Houamdi-Idir Ouiza, Mellak Abderrahmane, and El Heit Kaddour, Mouloud Mammeri University, Algeria
“Study of the Impact of Vegetation management on Microclimatic Dynamics and Grape Quality”

Undergraduate Research Competition Awards

1st Place

Anwar Ebrahim, Fatemah AbdulRahman, Fatemah Mohammad, Hala Alhouti, Hessah Alrabiah, and Rifat Ozdemir Industrial Engineering Department, American University of the Middle East (AUM), Kuwait
“A Two Stage Risk Assessment and Hazard Prevention Approach: A Case Study for Noise Hazard in Oil Industry”

2nd Place

Paola Puentes Vera, Astrid Gándara Martínez and Jenny Díaz Ramírez, Universidad de Monterrey, Nuevo Leon, Mexico
“Improvement of Material Supply System through Kitting Concept and IT Solutions”

Lean Six Sigma Competition Award

Nourhan Hassan, Lina Hamdan, Noor Khourshed and Walid Smew, Industrial Engineering Department, American University of the Middle East (AUM), Kuwait
“Utilization Improvement of Insulation Material Using Lean Six Sigma in Duct Manufacturing Company in Kuwait”

Best Track Papers Awards

Case Study

ID 210 An Analysis of Cargo Release Services with Process Mining: A Case Study in a Logistics Company

Sagit Kedem-Yemini, Naor S. Mamon and Gal Mashiah, Logistics Department, Sapir Academic College, Sderot, Israel

Case Studies

ID 237 Supply Model Design for a Dairy Company: A Case Study

Carlos A. Machado Orges, Diego J. Haro Morales, Leandro L. Lorente Leyva, Yakcleem Montero Santos and Israel D. Herrera Granda, Facultad de Ingeniería en Ciencias Aplicadas, Universidad Técnica del Norte, Ibarra, Ecuador
Ivet Challenger Pérez, Facultad de Ingeniería Informática y Matemática, Universidad de Holguín, Cuba

Data Analytics

ID 35 Using Categorical Variables in Linear Models

Jolene Liu, Sarah Kim, and Cesar Acosta-Mejia, Daniel J. Epstein Department of Industrial & Systems Engineering, University of Southern California, Los Angeles, CA 90089, USA

Design and Analysis

ID 192 The Influence of Consumer Behavior on Purchase Decision on Regression-based Model: Application to Portable Kitchen

Muhammad Reza Do. Bagus, Information System Department, School of Information Management and Computer Tidore Mandiri (STMIK Tidore Mandiri), North Mollucas Province, 97812, Indonesia

E-Business/E-Service

ID 94 Alternative Digital Packaging Design Strategies to gain visibility in E-tailing

Leila Denmamode, School of Innovative Technologies and Engineering, Department of Creative Arts, Film and Media Technologies, University of Technology, Mauritius, La Tour Koenig, Mauritius.
June Ngo Siok Kheng, Faculty of Applied and Creative Arts, Universiti Malaysia Sarawak, Malaysia

Energy

ID 145 Rice Husk Briquette with Shredded Paper Additives: a Potential Energy Source at par with the Progress of Bangladesh

Muhammad Mahbulul Alam, Professor, Mechanical Engineering Department, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

Manik Miah, Assistant Engineer, Titas Gas Transmission and Distribution Company Limited, Dhaka, Bangladesh

Engineering Education

ID 214 Equipping graduates for the future: The need for higher institutions to collaborate

John Aliu, Dept. of Civil Engineering, Faculty of Engineering and the Built Environment, University of Johannesburg, RSA
Clinton Aigbavboa, Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa.

Undergraduate Engineering Education

ID 223: Design of an Architectural Traceability as an Observatory for Decision Making in Undergraduate Curriculums

Lina Nataly Alvarado Riaño, and Jefferson Aldamer Rubiano Forero, Department of Industrial Engineering, Investigative group of Industrial and Environmental Processes (GIPIA), University of Cundinamarca, Bogotá D.C - Soacha, Colombia

ID 286 Empowering Undergraduate Student Researchers Through Inclusive Research Learning Systems

Tonya Smith-Jackson, Department of Industrial and Systems Engineering, North Carolina Agricultural and Technical State University, Greensboro, NC 27411, USA

G. Don Taylor, Learning Systems Innovation and Effectiveness, Virginia Tech, Blacksburg, VA 24061, USA

Engineering Management

ID 426 Investigating the relationship between Lean Six Sigma and Innovation

Mohamed Alblooshia and Mohammad Shamsuzzamanab, bSustainable Engineering Asset Management (SEAM) Research Group, Department of Industrial Engineering and Engineering Management, University of Sharjah, UAE

Environmental Engineering

ID 205 Design of a Lab-scale Anaerobic Biodigester for Renewable Energy from Municipal Solid Waste

Leandro L. Lorente Leyva, Yakcleem Montero Santos, Israel D. Herrera Granda, Carlos A. Machado Orges, Santiago M. Vacas Palacios and Robert M. Valencia Chapi, Facultad de Ingeniería en Ciencias Aplicadas, Universidad Técnica del Norte, Ibarra, Ecuador

Financial Engineering

ID 5 Mixtures-based Value at Risk Estimates of Financial Stocks

Competitions Winners and Best Track Papers – IEOM Washington, DC

Raven Castro, Shengyu Huang, Jolene Liu, and Cesar Acosta-Mejia, Daniel J. Epstein Department of Industrial & Systems Engineering, University of Southern California, Los Angeles, CA 90089, USA
Rafael Blay, Department of Computer Science, University of Southern California, Los Angeles, CA 90089, USA

Healthcare

ID 82 Multiple Criteria Master Surgical Scheduling Problem: A Case Study

Amirhosein Mohsenigol, Dept. of Industrial Engineering, Mazandaran University of Science and Technology, Mazandaran, Iran
Ashkan Mozdgir, Department of Industrial Engineering, K. N. Toosi University of Technology, Tehran, Iran
Shabnam Bozorgzadeh, Dept. of Obstetrics and Gynecology, Iran University of Medical Sciences, Tehran, Iran
Azin Samiei, Bachelor of Industrial engineering, West Tehran Islamic Azad University, Tehran, Iran
Behnood Ghasriani, Department of management, Islamic Azad University Central Tehran Branch, Tehran, Iran

Human Factors

ID 282 Ergonomic Assessment of Snow Shovels Using Digital Human Modeling

Carly Wolkiewicz, Katherine Collins and Faisal Aqlan, Industrial Engineering Department, Penn State Erie, The Behrend College, Erie, PA 16563, USA
Osama T. Al Meanazel, The Hashemite University, Zarqa 13115, Jordan

ID 346 Intertwining Trilogy Premises of Hope, Social Support and Trust Relieving Work Stress Influencing to Well-being

Hwi-Chie Ho, Industrial Engineering Department, Bina Nusantara University, Jakarta, Indonesia

Information system and management:

ID 198 How Much Demographically Diversified Are They in Making Decision to Invest in ICT Companies?

A Study on Two Million Bangladeshi Investors

Md. Rakibul Hasan and Asif Imtiaz, Lecturer, Department of Management Information Systems, Faculty of Business Studies, University of Dhaka, Dhaka – 1000, Bangladesh
Md. Shakil Ahmad, Department Head- Advisory Services, United Finance Limited, Dhaka-1000
Mina Mahbub Hossain, Assistant Professor, Dept. of Tourism and Hospitality Management, University of Dhaka, Bangladesh

Inventory

ID 401 A multi-product multi-supplier combined inventory and suppliers' selection model

Mohamed Grida and Boshra Taha, Industrial Engineering Department, Zagazig University, Zagazig, Egypt
Abdel Nasser Zaied, Faculty of Computer and Informatics, Zagazig University, Zagazig, Egypt

Lean

ID 265 Cost Based Overall Equipment Effectiveness Analysis via Application of Value Stream Mapping

Sadaf Zahoor and Walid Abdul-Kader, Department of Mechanical, Automotive, and Materials Engineering, University of Windsor, Windsor, N9B 3P4, Canada
Hamza Ijaz, Atif Qayyum Khan, Zeeshan Saeed and Shoaib Muzaffar, Department of Industrial and Manufacturing Engineering, University of Engineering and Technology, Lahore, Pakistan

ID 283 Analysis of Production Layout Alternatives Using Lean Techniques and Monte Carlo Simulation

David Henry, David Shindlecker and Faisal Aqlan, Master of Manufacturing Management (MMM) Program
Penn State Erie, The Behrend College, Erie, PA 16563, USA

Logistics

ID 400 Modeling Prepositioning of Resources for Humanitarian Logistics

Shaligram Pokharel, Department of Mechanical and Industrial Engineering, Qatar University, Doha, Qatar
Jose Holguin-Veras, Department of Civil and Environmental Engineering, Rensselaer Polytechnic Institute, Troy, NY, USA

ID 271 Reliable capacitated single allocation hub network design under hub failure: A scenario-based approach

Zahra Booyavi, Department of Industrial Engineering, Science and Culture University, Tehran, Iran
Hamidreza Eskandari, Faculty of Management and Economics, Tarbiat Modares University, Tehran, Iran
Ehsan Teymourian, Department of Management Science and Information Systems, Rutgers, the state university of New Jersey, Newark & New Brunswick, USA

Maintenance

ID 112 Availability Based Comparison of Fixed Age and Life Cycle Cost Replacement Maintenance

Paul Amaechi Ozor and Charles Mbohwa, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

Manufacturing

ID 260 Effect of FSW on the Mechanical Properties and Microstructure of 6082-T6 AA

Stephen Akinlabi, Department of Mechanical and Industrial Engineering, University of Johannesburg, South Africa
Samuel Fatoba, Esther Akinlabi, Department of Mechanical Engineering Science, University of Johannesburg, South Africa

Modeling and Simulation

ID 77 Digital Predistortion Modeling in DSL Systems Using Volterra Series and Prediction Error Method

Emad Abd-Elrady, Abu Dhabi Women's College, Higher Colleges of Technology, Abu Dhabi, UAE.

Operations Management

ID 228 Batch Sizing in Sustainable Production Systems with Imperfect Quality

Farnaz Ghazi Nezami, Department of Industrial and Manufacturing Engineering, Kettering University, Flint, MI 48504, USA
Mojtaba Heydar, School of Electrical Engineering and Computing, University of Newcastle, Callaghan, NSW 2308, Australia

ID 156 Integrating Lean, Green, and Resilience Criteria in Designing a Sustainable Food Supply Chain

Kanchan Das, College of Engineering and Technology, East Carolina University, Greenville, NC 27858, USA

ID 335 Warehouse Storage Assignment by Genetic Algorithm with Multi-objectives

Chi-Bin Cheng & Yu-Chi Weng, Dept. of Information Management, Tamkang University, New Taipei City, Taiwan

Operations Research

ID 216 Application of open Jackson networks for time and costs reduction in the quality control process in an electronic assembler

Argelia Vargas-Moreno, Leonardo Gabriel Hernández-Landa, Elva Patricia Puente-Aguilar and Patricia Gómez-Fuentes, Industrial Engineering and Management Area, Facultad de Ciencias Químicas, Universidad Autónoma de Nuevo León, San Nicolás de los Garza, NL. 66451, México

ID 247 Resource Scheduling Algorithm for Maintenance Planning

Sarma Yadavalli, Rikus Kellerman and Kirsten Young, Department of Industrial Engineering, University of Pretoria

166 Large Neighborhood Search for Outbound Truck Scheduling Problem in a Cross-docking

Warisa Wisittipanich and Nattapong Kamsura Department of Industrial Engineering Excellence Center in Logistics and Supply Chain Management Faculty of Engineering, Chiang Mai University

Production planning and management

ID 150 Identification and Evaluation of Critical Success Factors for Construction Projects

Antonio Carlos Pacagnella Junior, School of Applied Sciences-FCA, State University of Campinas – UNICAMP, Limeira, BRA
Marcelo Sales Paschoal, Methodist University of Piracicaba, Santa Bárbara D'Oeste - BRA
Ornella Pacifico, Universidade Estácio de Sá, Ribeirão Preto – BRA

169 An Optimization Method for Sustainable Multi-level Capacitated Production Planning with Carbon Emissions

Tao Wu, Ameya Dhaygude, Barnali Bhattacharjee Advanced Analytics Department, Dow Chemical, 48642 Midland, MI, USA

Project Management

Identification and Evaluation of Critical Success Factors for Construction Projects

Antonio Carlos Pacagnella Junior, School of Applied Sciences – FCA, State University of Campinas, Limeira, BRA
Marcelo Sales Paschoal, Methodist University of Piracicaba, Santa Bárbara D'Oeste - BRA
Ornella Pacifico, Universidade Estácio de Sá, Ribeirão Preto – BRA

Supply Chain

ID 151 Block chain Technology for Efficient Management of Supply Chain

Mohamed Awwad, Sohith Reddy Kalluru, Varun Kazhana Airpulli, Madhubala Santosh Zambre, Aniket Marathe and Prasham Jain, Industrial and Systems Engineering Department, University at Buffalo, The State University of New York, Buffalo, USA

Sustainability

ID 220 Sustainable Supply Chain Design using Two-stage Stochastic Modeling under Demand Uncertainty

Vahab Vahdat, Amir T. Namin, and Rana Azghandi, Department of Mechanical and Industrial Engineering, Northeastern University, Boston, MA 02114, USA

Sustainability

ID 457 Evaluating the sustainability of Rea Vaya System through measuring the service quality.

Omphemetse Lengana, Phindile Mabaso, Bhenkumuzi Mavuso and Sebonkile Thaba, Department of Transport and Supply chain Management, University of Johannesburg, Auckland Park, Johannesburg, RSA

Transportation

ID 399 Ridge Penalization-based Generalized Linear Model (GzLM) for Predicting Risky-Driving Index

Khadija B. Abdur Rouf, Department of Civil and Architectural Engineering, Qatar University, Doha, Qatar
Galal M. Abdella, Department of Mechanical and Industrial Engineering, Qatar University, Doha, Qatar
Khalifa N. Al-Khalifa, Department of Mechanical and Industrial Engineering, Qatar Transportation and Traffic Safety Center (QTTSC), Qatar University, Doha, Qatar