



IEOM Society

"Achieving and Sustaining Operational Excellence"

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2023 IEOM Houston Awards

8th North American International Conference on Industrial Engineering and Operations Management, Hilton Hotel, University of Houston

<http://ieomsociety.org/ieom/awards/>

Distinguished Industry Leadership Award

Mark A. Bolen
VP of Quality, Engineering & Fleet
Cintas Corporation
Lebanon, Ohio, United States

Arun Adat
Senior Director, Supply Chain Operations
Hewlett Packard Enterprise
Houston, Texas, United States

Distinguished Industry Achievement Award

Bruce Webb
Chief Pilot and Director of Aviation Education and Community Outreach
Airbus Helicopters, Inc., Prairie, Texas, USA

José Rivera
Chief Admin Quality Officer
MD Anderson Cancer Center
Houston, Texas, United States

Robert Swearingen, PhD, PMP, CSSBB
Head of Strategic Sourcing and Supply Chain Management
Siemens GCI
Tomball, Texas, United States

Suresh Vaidyanathan
Chief Engineer & General Manager
Refining Business Improvement
Phillips 66
Westchase, Houston, Texas

Distinguished Researcher Award

Dr. Satish Bukkapatnam
Professor, Industrial & Systems Engineering and Rockwell International Professor
Director, TEES Institute for Manufacturing Systems
Wm. Michael Barnes '64 Department of Industrial and Systems Engineering
Affiliated Faculty, Multidisciplinary Engineering and Biomedical Engineering
Texas A&M University, College Station, Texas, USA

Distinguished Educator Award

Dr. Gino Lim
Fellow of IISE, SVP of IISE International Operations
R. Larry and Gerlene (Gerri) R. Snider Endowed Chair
Professor & Chair, Department of Industrial Engineering
University of Houston – University Park, Houston, Texas, USA

Amatrol Innovation and Curriculum Development Award

Dr. Amarnath Banerjee
Professor and Associate Department Head for Undergraduate Studies
Wm. Michael Barnes '64 Department of Industrial and Systems Engineering
Texas A&M University, College Station, Texas 77843

Ergonomics and Reliability Award

Eric Ayanegui, CPMM, CRL
Director Operations Engineering
Cintas Corporation
Houston, Texas, USA

Distinguished Professor Award

Dr. Christopher Cox, P.E.
Professor Construction Management
College of Engineering and Technology
Western Carolina University
Cullowhee, North Carolina, USA

Outstanding Professor Award

Magdy Akladios, Ph.D., PE, CSP, CPE, CSHM
Chair, Department of Physical and Applied Sciences
Professor of Occupational Safety and Health with specializations in industrial hygiene or safety
College of Science and Engineering
University of Houston-Clear Lake
Texas, USA

Outstanding Professor in Operations Management Award

Manohar S. Madan, PhD
Professor, ITSCM Department
University of Wisconsin-Whitewater
Whitewater, WI – 53190

Industry University Collaboration Award

Paul Perkins
President, Amatrol, Inc.
Jeffersonville, Indiana, USA

Outstanding Undergraduate Advisor Award

Dr. Luis Rabelo
Professor and Undergraduate Program Director
Department of Industrial Engineering & Management Systems
University of Central Florida, Orlando, FL, USA

Teaching, Learning and Assessment Award

Dr. Albertus Retnanto
Professor and Chair
Petroleum Engineering
Texas A&M University at Qatar
HBKU, Doha, Qatar

Diversity, Equity, and Inclusion Award

Tanya Hill
Chief Executive Officer and Founder
ForeverFresh, Detroit, Michigan, USA

Young Researcher Award

Dr. Hrayr Aprahamian
Assistant Professor, Industrial & Systems Engineering
Wm Michael Barnes '64 Department of Industrial & Systems Engineering
Texas A&M University, College Station, Texas, USA

Industry Solutions Award

Michael Ehsani (MBA, DBA)
Global Quality Director
Arcadis, Houston, Texas, USA

Engineering Education Award

Dr. Bimal Nepal
Rader 1 Professor and Associate Director, Industrial Distribution
Department of Engineering Technology and Industrial Distribution
Texas A&M University, College Station, Texas 77843

Global Engineering Education Award

Anjum Ali, Ph.D.
Professor of Electrical Engineering (Retd.), FAST-NU, Lahore, Pakistan
Ex. Associate Professor of Computer Engineering, LUMS, Lahore, Pakistan

Global Business Management Award

Dr. Meng Li
Associate Professor, Bauer Fellow and SCM PhD Coordinator
C.T. Bauer College of Business
University of Houston, Houston, Texas, USA

Manufacturing Engineering Education Award

Pawan Bhandari, Ph.D.
Assistant Professor, Department of Manufacturing Engineering Technology
Minnesota State University, Mankato, Minnesota, USA

Global Supply Chain and Logistics Award

Dr. Yinliang (Ricky) Tan
Associate Professor and Area Coordinator in Supply Chain Management
C.T. Bauer College of Business
University of Houston, Texas

Healthcare Improvement Award

Caitlin McVey, MBA, RN, CPHQ, CLSSBB
Associate Vice President
Memorial Hermann Institute for Nursing Excellence
Houston, Texas

Innovation Award

Md Anwar Hossain, PhD
Senior Director, Applied Development Center
Daikin Applied
Plymouth, Minnesota

Industry 4.0 Award

Dr. Hayder Zghair
Assistant Professor of Industrial Engineering
Director of Industrial Engineering Development
College of Science and Engineering
Southern Arkansas University
Magnolia, Arkansas, USA

Data Analytics Award

Dr. Ying Lin
Assistant Professor
Industrial Engineering Department
Director, Smart Health & Intelligent Engineering Systems (SHINES) Lab
University of Houston, Houston, Texas, USA

Assaf Gottlieb, PhD
Assistant Professor
UTHealth School of Biomedical Informatics (SBMI)
Houston Texas Medical Center
Houston, TX 77030

Lean Six Sigma Award

Dr. Jamison Kovach
PMI Houston Endowed Professor in Project Management
University of Houston, Texas, USA

Megan Moore, MBA, CMQ/OE, CSQP, CLSSGB
Director of Quality
Ryerson, Sugarland, Texas

Distinguished Service Award

Hamid R. Parsaei, Ph.D., P.E., Fellow, IISE, ASEE, SME, IEOM
Professor, Department of Industrial and Systems Engineering
Director, College of Engineering Accreditation and Assessment
Texas A&M University, College Station, Texas, USA

Outstanding Contributor Award

Genesis Abah Agbo
IMT Atlantique
Nantes, France

Dr. Farizal
University of Indonesia
Jakarta, Indonesia

Anass Bayaga
Nelson Mandela University
Port Elizabeth, South Africa

Outstanding Student Chapter Leadership Award

Hamad Alsubhi
President, IEOM Student Chapter at
Indiana State University
Terre Haute, Indiana, USA

Outstanding Student Conference Volunteer Leadership Award

Abhiram Surattu, University of Houston, Texas
Fariha Kabir Torsha, University of Houston, Texas
Kiran Adhikari, University of Houston, Texas
Nagi Reddy Maneendra, University of Houston, Texas
Reza Mirjalili, University of Houston, Texas
Sahba Baniyadi, University of Houston, Texas
Yanlin Xiang, University of Houston, Texas

Competition Winners

Undergraduate Student Paper Competition Sponsored by Siemens

First Place

ID 375 Defect Detection in Solar Photovoltaic Systems Using Unmanned Aerial Vehicles and Machine Learning

Althea Miquela, Dhiraj Bagul and Ahmed Aziz Ezzat, Rutgers, The State University of New Jersey, Piscataway, NJ, 08854, United States

Second Place

ID 290 Application of Balanced Scorecard Method in Measuring Halal Frozen Food Supply Chain Performance

Rifqah Sansinova, Iftitah Salsabila Lukman Siregar, Bernike Putri Sembiring, and Batrisyia Atikah, Bachelor Student at Department of Industrial Engineering, Faculty of Engineering, University of Sumatera Utara, Medan, Sumatera Utara, Indonesia
Dini Wahyuni, Department of Industrial Engineering, University of Sumatera Utara, Medan, Sumatera Utara, Indonesia

Third Place

ID 302 Development of 2 In 1 Back Support Tool Using the Quality Function Deployment Method

Arnold Benedict Chris, Christopher Davin, Favian Lorenzo Hendrawan, Fredy Johnson and Darril Tiovan, Undergraduate Student at Department of Industrial Engineering, Faculty of Engineering, University of Sumatera Utara, Medan, Sumatera Utara, Indonesia

ID 284 Improvement of the Internal Audit Planning System in an IT Company through Predictive Analytics

Patricio Alejandro Zamora Navarro, Rafael Alejandro Ruiz Miller, Roberto Serna Zuazua, José D. Morcillo, Ph.D., Escuela de Ingeniería y Tecnologías, Universidad de Monterrey, México

Supply Chain and Logistics Competition

First Place

ID 342 A Framework for Reverse Engineering Process for an Electronic Manufacturing Company: A Case Study

Basel Sultan and Daryl Santos, Thomas J. Watson College of Engineering and Applied Science, The State University of New York at Binghamton, Binghamton, NY 13902, USA
Michael Hsieh, Foxconn Industrial Internet, Houston, TX 77064, United States

Second Place

ID 3 Proposing a new promising constraint to the single stage capacitated warehouse location problem (SSCWLP)

RRK Sharma, Department of IME, IIT Kanpur 208016, India

Ajay jha, Department of Operations Management, Jaipuria Institute of Management, Lucknow, 226010, India
Priyank Dubey, Kanpur Divisional Office, Indian Oil Corporation Ltd, Kanpur 208001, India
KK Lai, President, CYUT Taiwan

Graduate Student Paper Competition sponsored by Eaton

First Place

ID 200 Development of an Innovative Family Car Prototype through the use of IDeS method

Giacomo Mascitelli, Master's degree Student, Department of Industrial Engineering, Alma Mater Studiorum University of Bologna, Bologna, Italy
Curzio Pagliari, Giulio Galiè, and Edoardo Pignatelli, Ph.D. Students, Department of Industrial Engineering, Alma Mater Studiorum University of Bologna, Bologna, BO 40136, Italy
Leonardo Frizziero, Senior Assistant Professor, Department of Industrial Engineering, Alma Mater Studiorum University of Bologna, Bologna, Italy

Second Place

ID 84 A Feasibility Study of Carbon Capture and Storage in the United States

Louis Noel, Master of Engineering Management and Leadership, Rice Center for Engineering Leadership, Rice University, Houston, Texas, USA
Erick Danyi, Professional Master of Chemical Engineering, Department of Chemical Engineering, Rice University, Houston, Texas, USA
Edgar Avalos-Gauna, Ph. D., Faculty Lecturer, Researcher, Rice Center for Engineering Leadership, Department of Statistics, Rice University, Houston, Texas, USA

Third Place

ID 202 Enhancing Operational Efficiency: A Study on Lean Manufacturing Implementation in Small and Medium-sized Enterprises

Hossein Soltani and Pawan Bhandari, Department of Manufacturing Engineering Technology, Minnesota State University, Mankato, MN 56001, United States

Fourth Place

ID 213 E-Delphi Prioritization of Capital Structure Determinants in Small and Medium Size Business in Puerto Rico

Karen Albor Medina, Graduate Student of Industrial Engineering, University of Puerto Rico, Mayagüez, Puerto Rico
Mayra I. Méndez Piñero PhD., Professor of Industrial Engineering, University of Puerto Rico, Mayagüez, Puerto Rico

Human Factors and Ergonomics Competition sponsored by CINTAS

First Place

ID 124 Flight Attendant Injury Prevention Via the Use of VR and Motion Tracking Techniques While Pushing and Pulling the Service Trolley

Ethan Swierski, Maria Arenas and Xiaoxu Ji, Biomedical Engineering Department, Gannon University, Erie, PA, 16541, United States

Second Place

ID 197 Correlational Analysis of Physical and Cognitive Workload Factors to Musculoskeletal Discomfort Experienced by Machine Operators in Semi-automated Hollowblock Manufacturing Sites

Roland Emerson Mabuting, Dominic F. Dastas, Sean Joseph Z. Rabe, Dr. James Louie R. Meneses and Engr. Luzviminda D. Sinapilo, College of Engineering, Manuel S. Enverga University Foundation, Lucena City, Quezon, Philippines

Third Place

ID 268 Impact of Work Demand and Job Autonomy on Employee Sustainable Performance with Digital Leadership as Moderating Variable: A Proposed Framework

Eko Yulianto, Triaji Prio Pratomo, Zulkifli Zein and Lalu Supardin, Doctoral Students, Faculty of Business and Economics, Islamic University of Indonesia (UII), Yogyakarta, Indonesia

Doctoral Dissertation Competition

First Place

ID 286 Enhancing Sustainable Competitiveness through Application of Kaizen Philosophy Practices in Ethiopian Manufacturing Industries

Haftu Hailu, Hailekiros Sibhato and Kinfe Tsegay, Industrial Engineering Department, Ethiopian Institute of Technology-Mekelle (EiT-M), Mekelle University, Mekelle, Tigray, Ethiopia

Second Place

ID 98 A Study on The Application Feasibility in The Steel Industry of Existing Maturity Models of Assessing Industry 4.0 Readiness

Alexandre Pimentel Sampaio, PhD Program of Department of Economics, Management, Industrial Engineering and Tourism, University of Aveiro, Aveiro, Portugal

Ana Maria Pinto de Moura, GOVCOPP, University of Aveiro, Aveiro, Portugal

Ricardo Henriques Leal, Director of Innovation Agency (AGIR), University of Federal Fluminense (UFF), Niterói, Brazil

Masters Thesis Competition

First Place

ID 5 Impact of Workload Balancing on the Sustainability of Processes in a Manufacturing Company

Arturo Realyvásquez-Vargas, Perla María Larrañaga, Karina Cecilia Arredondo-Soto, Guadalupe Hernández-Escobedo and Amalia Carmina Salinas-Hernández, Department of Industrial Engineering, Tecnológico Nacional de México/Instituto Tecnológico de Tijuana, Tijuana, Baja California, Mexico

Second Place

ID 190 A Spatial Analyze Approach for Determining the Best Possible Locations of Police Stations in Azaz

M.Radwan Mouket, Department of Industrial Engineering, Gaziantep University, Gaziantep, Turkey
Alptekin Durmuşoğlu, Department of Industrial Engineering, Gaziantep University, Gaziantep, Turkey

Third Place

ID 63 Deep Reinforcement Learning in Optimal Policy Design for Maintenance and Outsourcing of Manufacturing Systems

Hao Wang, Department of Systems Science and Industrial Engineering, Binghamton University, 2023, United States

Dr. Changqing Cheng, Faculty Advisor, Department of Systems Science and Industrial Engineering, Binghamton University, United States

ID 137 Spare Parts Sales Demand Forecasting Model using Seasonal Autoregressive Integrated Moving Average

Wahyu Wibowo Putro and Arian Dhini, Industrial Engineering Department, Faculty of Engineering, University of Indonesia, Depok, West Java, Indonesia

Senior Design Project Competition sponsored by Tooling Tech Group

First Place

ID 127 Improving Outbound Logistics in A Food Factory

Lara Alzain, Bashayer Alkhamisi and Aldana Basuni, Department of Industrial Engineering, Faculty of Engineering, King Abdulaziz University, Jeddah – Saudi Arabia

Dr. Ammar Y. Alqahtani, Associate Professor at Department of Industrial Engineering, Faculty of Engineering, King Abdulaziz University, Jeddah – Saudi Arabia

Second Place

ID 304 Design and Manufacturing of Front/Rear jack for Formula Student Competition

Zainb Alshammari, Dalal Alrashidi, Lamyaa Alharbi, Shahad Malek and Muneerah Shehab, College of Engineering and Technology, American University of the Middle East, Kuwait

Third Place

ID 324 "LRMTW: A Goal Programming-Based Reactive Model for Sustainable and Resilient Supply Chains in the Aftermath of Disasters"

Abdullah, King Fahd University of Petroleum and Minerals, Saudi Arabia

COVID-19 Analytics Competition

First Place

ID 373 Dynamic Design of Water Flow Management in Lebak Swamp Land, Pesisir Selatan District, West Sumatra During the Covid-19 Period

Yenita and Agustinus Purna Irawan, Faculty of Engineering, Universitas Tarumanagara, Letjen S. Parman No. 1, West Jakarta, Indonesia

Second Place

ID 243 Time-delayed correlation of two time series through class-based forecasting: the Covid 19 case in Puerto Rico

Nanette R Xu-Cuevas, UPRM, Industrial Engineering, Puerto Rico
Cristian D Rosario-Marcán, UPRM, Biology/Microbiology, Puerto Rico
Lemuel R Ríos Santiago, UPRM, Industrial Engineering, Puerto Rico
Mauricio Cabrera Ríos, UPRM, Industrial Engineering, Puerto Rico
Clara Eugenia Isaza, UPRM, Biology, Puerto Rico

High School STEM Poster Competition

First Place

ID 159 Convolutional Neural Network Architectures Analysis for Image Captioning

Jun Seung Woo and Shin Dong Ho, Student and Professor, MY PAUL SCHOOL, Goesan-gun, Chungcheongbuk-do, Republic of Korea

Second Place

ID 232 The Gendered World of Advertising: A Microeconomic Review

Alina Zhong, Stanford Online High School, Redwood City, CA 94063, USA

Third Place

ID 207 Just be tobacco free

Rishi Kalikant Jha, High School student, Dadra Nagar Haveli & Daman Diu, India

Lean Six Sigma Competition sponsored by Tooling Tech Group

First Place

ID 134 Application of lean manufacturing to increase productivity in the finishing area in an industrial rubber company

Daniela Milagros La Rosa – Castañeda and Edwar Marcelo Castillo – Carbajal, Bachelor of Industrial Engineering, Faculty of Engineering and Architecture, Universidad de Lima, Lima, Lima, Perú
Ávalos Ortecho Edilberto Miguel, Professor, Faculty of Engineering and Architecture, Universidad de Lima, Lima, Lima, Perú

Second Place

ID 234 Application of Lean Manufacturing and TOC to increase productivity in a company in the hermetic windows sector

Erik Andrade Rozas, Giancarlo Robello Ponce and Edilberto Miguel Avalos-Ortecho, Facultad de Ingeniería y Arquitectura, Universidad de Lima, Lima, Perú

Third Place

ID 292 Applying Lean Thinking to Improve Processes in the Trucking Industry

Abhiram Reddy Ramasahayam, Kuldeep Agarwal and Naim Islam, Department of Automotive and Manufacturing Engineering Technology, Minnesota State University, Mankato, MN 56001, United States

Simulation Competition

First Place

ID 273 Reliability Issues in Current MOSFET and Beyond Silicon Technology

S M Shakil and Muhammad S. Ullah, Dept. of Electrical and Computer Engineering, Florida Polytechnic University, Lakeland, Florida, USA

Second Place

ID 76 Developing and Validating Mathematical Model for Electricity System Transition Planning

Varun Jyothiprakash, P Balachandra and Abhishek Das, Dept. of Management Studies, Indian Institute of Science, Bengaluru, India
Samridh Sharma, Inter-Disciplinary Centre for Energy Research, Indian Institute of Science, Bengaluru– 560012, India

Third Place

ID 65 Proposal to Improve the Reusable Urban Waste Management System in Santiago De Surco, Lima, Peru to Increase the Utilization of the District's Treatment Plant

Sebastián Alejandro Fernández Villafán, Lorena Alejandra Torres Bravo and Maria Ezilda Cabrera Grados, Industrial Engineering, Faculty of Engineering and Architecture, University of Lima, Lima, Peru

Undergraduate Research Competition sponsored by Daikin Applied

First Place

ID 367 Motion and Time Study for Increasing Efficiency, Productivity, and Safety for an Unloading Facility

Matthew Lovelady, Nickolas Tramel and Tanner Funderburk, Industrial Engineering Technology Graduates, Department of Engineering Technology, Northwestern State University, Natchitoches, LA 71497, USA
Md. Shahriar J. Hossain, Interim Department Head and Assistant Professor, Department of Engineering Technology, Northwestern State University, Natchitoches, LA 71497, USA
Nabin Sapkota, Associate Professor, Department of Engineering Technology, Northwestern State University, Natchitoches, LA, USA

Second Place

ID 322 Exam Scheduling Conflict Optimization

Ali Almaslami, Industrial Engineering Department, King Fahd University of Petroleum and Minerals, Saudi Arabia
Mohammad Alsaad, Industrial Engineering Department, King Fahd University of Petroleum and Minerals, Saudi Arabia
Abdullah Alqarne, Industrial Engineering Department, King Fahd University of Petroleum and Minerals, Saudi Arabia

Third Place

ID 83 Injector Hat Redesign and Manufacturing, Optimizing the Design of a Supercharger Injector Hat

Nicholas T. White, Nicholas DuPont, Michael Walter, Johannis Brown, Edwin Diaz, Soesoe Aye, Mohammed Huda and Daris Monroy Castillo, Department of Mechanical Engineering Technology, Buffalo State University, Buffalo, NY, USA
Joshua Van Lew, Department of Electrical Engineering Technology, Smart Grid, Buffalo State University, Buffalo, NY, USA
Sterling J. Jones and Steven Phengsomphane, Dept. of Industrial Engineering Technology, Buffalo State University, Buffalo, NY, USA

Poster Competition

First Place Winner

ID 156 Evaluating the Efficiency and Learning Outcomes of a Technical Kardex Format in Industrial Training

Azucena Minerva García-León, Iván Guillermo González-Palomo and Carolina Solís-Peña, Professor, School of Chemical Science, Universidad Autónoma de Nuevo León, San Nicolás de los Garza, Nuevo León, México

Second Place Winner

ID 80 Analysis of the Technological Maturity Level of Industrial Engineering Students

Daniela del Carmen Bacre-Guzmán, María de los Ángeles Martínez-Mercado, Azucena Minerva García-León and Nury Margarita Leal-Rendón, Professor, School of Chemical Science, Universidad Autónoma de Nuevo León, San Nicolás de los Garza, Nuevo León, México

Third Place Winner

ID 78 Study of the Overall Equipment Effectiveness of a Cutting Process through a Digital Format

María de los Ángeles Martínez-Mercado, Azucena Minerva García-León, Daniela del Carmen Bacre-Guzmán and Elva Patricia Puente-Aguilar, Professor, School of Chemical Science, Universidad Autónoma de Nuevo León, San Nicolás de los Garza, Nuevo León, México