



IEOM Society

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2024 IEOM Awards
5th African International Conference on Industrial Engineering and Operations Management
Pretoria, South Africa, April 23-25, 2024

Distinguished Academic Leadership Award

Professor Puleng LenkaBula
Principal and Vice-Chancellor
University of South Africa

Distinguished Industry Leadership Award

Portia Nkuna
Managing Director
Fazi Rail
Pretoria, South Africa

Outstanding Academic Award

Prof. Daniel Mashao
Executive Dean
Faculty of Engineering and the Built Environment
University of Johannesburg
Johannesburg, Gauteng, South Africa

Distinguished Educator Award

Prof Ayodejii Emmanuel Oluleye
Former Dean, Faculty of Technology
University of Ibadan
Nigeria

Dr. Fidelis Abam
Full Professor
Department of Mechanical Engineering
University of Calabar
Calabar, Cross River, Nigeria

Outstanding Researcher Award

Prof Jan Harm Christiaan Pretorius
Professor, Postgraduate School of Engineering Management
Engineering and the Built Environment, FEBE
University of Johannesburg

Bunting Road Campus, South Africa

Distinguished Professor Award

Distinguished Professor Award in Nanotechnology for Water Treatment

Professor Bhekie Mamba
Executive Dean
College of Science, Engineering and Technology
University of South Africa

Distinguished Professor Award in Climate Change Adaptation

Dr. Obert Jiri
Professor, University of Zimbabwe
Permanent Secretary, Ministry of Lands, Agriculture, Fisheries, Water and Rural Development
Harare, Zimbabwe

Distinguished Educator Award in Knowledge Management Systems

Dr Tafadzwa Mudondo
Principal
Harare Polytechnic
Zimbabwe

Distinguished Professor Award in Manufacturing Engineering

Professor Akii Ibhádode
Vice Chancellor and Shell Professor of Lightweight Automobile Engine Development
Federal University of Petroleum Resources
Effurun, Delta State, Nigeria

Outstanding Conference Leadership Award

Dr Anthea Amadi-Echendu
Senior Lecturer of Operations Management
University of South Africa

Outstanding Professor in Supply Chain and Logistics

Dr. Ertunga C. Ozelkan
Professor of Industrial and Systems Engineering
Department of Systems Engineering & Engineering Management
Associate Director of the Center for Lean Logistics and Engineered Systems
University of North Carolina at Charlotte
USA

Innovation Award

Professor Marcia Mkansi
College Head: Research, Post-graduate Studies, Innovation and Commercialisation
Professor Operations and Supply Chain Management
University of South Africa
South Africa

Talifhani Banks
Founder of Spaza Eats
City of Cape Town
Western Cape, South Africa

Outstanding Education Award

Dr. Nelson Madonsela
Head of Department
Quality and Operations Management
University of Johannesburg
South Africa

Keynote Contributor Award

Dr. James J. Cochran
Professor of Applied Statistics and the Mike and Kathy Mouron Chair
Culverhouse College of Business
The University of Alabama
Tuscaloosa, AL, USA

Dr. Ahmed Deif
Associate Professor of Operation and Supply Chain Management
Orfalea College of Business
California Polytechnic State University
San Luis Obispo, CA 93407, USA

Outstanding Teaching Award

Prof Lagouge Tartibu
Professor in Mechanical Engineering
Department of Mechanical and Industrial Engineering Technology, FEBE
University of Johannesburg
South Africa

Emerging Researcher Award

Prof. Sugandren Naidoo
Associate Professor
Department of Development Studies
University of South Africa
South Africa

Outstanding Conference Contributor Award

Prof Olufemi Adetunji
Professor and Head
Department of Industrial and Systems Engineering
Engineering, Built Environment and Information Technology
University of Pretoria, South Africa

Prof Pule Kholopane
Vaal University of Technology
South Africa

Prof Nita Sukdeo
Associate Professor
Department of Quality and Operations Management
Engineering and the Built Environment

University of Johannesburg
South Africa

Dr. Kemlall Ramdass
Director (Acting)
School of Engineering and Built Environment
University of South Africa
South Africa

Dr. Oludolapo Akanni Olanrewaju
Head and Associate Professor
Department of Industrial Engineering
Durban University of Technology (DUT)
Durban, South Africa

Prof Manduth Ramchander
Head of Department & Associate Professor:
Department of Operations and Quality Management
Durban University of Technology
Durban, South Africa

Outstanding Society Regional Chapter Growth Leadership Award

Ms. Sebonkile Thaba
Lecturer, Transport and Supply Chain Management
University of Johannesburg
Johannesburg, Gauteng, South Africa
Director of IEOM SADC-Regional Operations

IEOM Appreciation Award

Dr. Benhur Satir
Department of Industrial Engineering
Çankaya University
Turkey

Prof. Joe Amadi-Echendu
Professor (Retired)
Graduate School of Engineering and Technology Management
University of Pretoria
South-Africa

E Shirl Donaldson
Assistant Professor of Engineering
College of Innovation and Technology
The University of Michigan-Flint
USA

Dr. Tamer Adel Mohamed
Professor of Industrial Engineering
The British University in Egypt
Cairo, Egypt

Outstanding Student Leadership Award

Tabitha Lavonne Pillay
Bachelor's Degree, Marketing
University of South Africa

Outstanding Student Award

University of Johannesburg

- Siphosakhe Dladla
- Thato Lelaka
- Gugu Morape
- Romeo Matshipa
- Lerato Mooketsi
- Tlangelani Mongwe
- Rinah Kgoale

Competition Awards

Doctoral Dissertation Competition sponsored by Airbus

First Place

ID 232 Experts' Consensus on Critical Success Factors for Contract Manufacturing Companies

Trust Taziva Mahove and Stephen Matope, Industrial Engineering Department, Stellenbosch University, Stellenbosch, South Africa

Second Place

ID 181 Implications of Informality on Acquisition of 4IR Technological Innovations in the Metal Fabrication Industry: A Literature Review

Onias Sanangura, Ph.D. Student, Graduate School of Business University of Zambia, Zambia
Bupe Getrude Mwanza, Graduate School of Business, University of Zambia, Zambia

Third Place

ID 017 Understanding Value Creation in the Public Sector Through the Application of Lean

Unathi Thango, Department of Operations Management, College of Economic and Management Sciences, University of South Africa, South Africa

Anthea Amadi-Echendu, Senior lecturer, Department of Operations Management, College of Economic and Management Sciences, University of South Africa, South Africa

Marcia Mkansi, Professor of Operations Management, College of Economic and Management Sciences, University of South Africa, South Africa

Undergraduate Student Paper Competition sponsored by Siemens

First Place

ID 212 Analysis of Filipino Consumer Perception on Shopping Using Credit Cards in the Philippines: A Multi Regression Approach

Yoshiki B. Kurata, Department of Industrial Engineering, Research for Social Sciences and Education, University of Santo Tomas (UST), Espana Blvd., Manila, 1015 Metro Manila, Philippines

Trisha Maye C. Almendares, Ma. Camille Beatrice M. Concepcion, Andrea Marie A. Nolido, and Wayne Nicole T. Salvador, Department of Industrial Engineering, University of Santo Tomas (UST), Espana Blvd., Manila, 1015 Metro Manila, Philippines

Second Place

ID 203 Lean Warehousing, 7S and SLP tools to improve productivity in the inspection and storage process in a Spare Parts Warehouse of an Automotive Retail Company

Ysrael Arturo Añazco-Alavedra, Facultad de Ingeniería y Arquitectura, Universidad de Lima, Perú

Juan Carlos Quiroz-Flores, Research Professor, Facultad de Ingeniería y Arquitectura, Universidad de Lima, Perú

ID 189 Improvement in a Flexible Packaging Company Through Standardization and Preventive Maintenance

Arenas Mayerli and Murillo Esthefani, Department of Industrial Engineering, University of Lima, Lima, Surco, Peru

Third Place

ID 256 A Brewing Solution: Utilizing Spent Coffee Grounds as an Alternative Biomass Fuel

Gerald M. Araco, Francis Miguel C. Flores, Andre Louis C. Ollica, Ralph Daniel C. Paglinawan, and Damirson A. Co, MSIE, PIE, Department of Industrial Engineering, University of Santo Tomas, España Blvd., Sampaloc, Manila, Philippines

Undergraduate Research Competition sponsored by Daikin Applied

First Place

ID167 Willingness to pay for second generation bioethanol: a contingent valuation approach

Vanessa Fiorella Alvarado Núñez, Facultad de Ingeniería y Arquitectura, Universidad de Lima, Perú

Juan Andrés Santa Cruz Mogollón, Facultad de Ingeniería y Arquitectura, Universidad de Lima, Perú

Jose Antonio Taquíá Gutiérrez, Facultad de Ingeniería y Arquitectura, Universidad de Lima, Perú

Juan Manuel Machuca De Pina, Facultad de Ingeniería y Arquitectura, Universidad de Lima, Perú

Second Place

ID 257 Determining Environmental Factors Affecting Academic Performance of 4th Year Industrial Engineering Students: An Experimental Student

Lloyd D. Atienza, Scheneil Mae A. Belmonte, Carl Joaquin Campos, and Jose Jhudiel M. Canlas, Department of Industrial Engineering, University of Santo Tomas, España Boulevard, Sampaloc, Manila, 1008, Philippines

Jesselyn B. Alcain, MS, Faculty, Industrial Engineering Department, University of Santo Tomas, Sampaloc, Manila, 1008, Philippines

Third Place

ID 44 Talent acquisition – A lean recruitment process design

Njabulo NkosiS'phile Mhlungu, School of Industrial Engineering, North-west University, Potchefstroom, South Africa

Rojanette Coetzee, School of Industrial Engineering, North-west University, Potchefstroom, South Africa

Supply Chain and Logistics Competition

First Place

ID 234 Supply Chain Resilience Strategies for Managing Disruptions in the Food Supply Chains: A Literature Review Approach

Chisungo Chisungo, Lecturer, Department of Supply Chain Management, School of Entrepreneurship and Business Sciences, Chinhoyi University of Technology (CUT), Chinhoyi, Zimbabwe

Bupe Getrude Mwanza, Senior Lecturer, Graduate Business School, University of Zambia (UNZA), Lusaka, Zambia

Second Place

ID 240 Autonomous Transportation Systems in Manufacturing Enterprises: A Comprehensive Analysis of the State of the Art in Driverless Transport Systems

Franz Ferdinand Anders, Alexander Mewes, Serkan Özmen, Julia Teppan and Manuel Woschank, Research Group SAFdL, Chair of Industrial Logistics, Montanuniversität Leoben, Leoben, Austria

Third Place

ID 112 Assembling to Order and Customer Satisfaction Correlation in The South African Automobile Supply Chain Industry

Dr. Polycarpe Feussi and Prof Charles Mbowha, Faculty Regulations for Engineering and the Built Environment, University of Johannesburg, South Africa, Kingsway Rd and, University Rd, Auckland Park, Johannesburg, South Africa

Graduate Student Paper Competition Sponsored by EATON Corporation

First Place

ID 222 Enhancement Study on Lumen Depreciation & Thermal Management System in Commercial LEDs Bulb from a Product Lifecycle Perspective

Fakir Sheik Zihad, Graduate Student, Master's in Industrial Engineering, Lamar University, Beaumont, Texas, USA
Mrinmoy Sen, Engineer, BSc. In Mechanical Engineering, Rajshahi University of Engineering and Technology, Rajshahi, Bangladesh
Fardin Sabahat Khan, Engineer, Master's in Business Analytics and Information Management, University of Delaware, Newark, Delaware, USA
Md Siam Taluckder, Engineer, Master's in Electrical Engineering, Lamar University, Beaumont, Texas, USA
Fozlur Rayhan, Engineer, Master's in Electrical Engineering, Lamar University, Beaumont, Texas, USA
Sohel Rana, Engineer, Master's in Electrical Engineering, Lamar University, Beaumont, Texas, USA
Nur Mohammad Ali, Graduate Student, Master's in Industrial Engineering, Lamar University, Beaumont, Texas, USA

Second Place

ID 101 The Impact of Failed Infrastructure Projects in Municipalities

Owen Molaudzi, Bheki Makhanya and Jan Harm C Pretorius, Postgraduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg, Johannesburg, South Africa

Third Place

ID 019 A Decision Support Tool for The Improved Processing of Yellowfin Sole Fillets At A Namibian Seafood Production Company

Marthinus Marais, Industrial Engineer Graduate, School of Industrial Engineering, Faculty of Engineering, North-West University (NWU), Potchefstroom Campus, South Africa
Maria van Zyl-Cillie, Lecturer, School of Industrial Engineering, Faculty of Engineering, North-West University (NWU), Potchefstroom Campus, South Africa

Fourth Place

ID 158 Assessing Drill Rig Availability Through Maintenance and Mean Time to Repair

Kemlall Ramdass and Simon Phuluwa, College of Science, Engineering and Technology, Department of Industrial Engineering, University of South Africa, Johannesburg, Florida, South Africa

Master Thesis Competition

First Place

ID 099 Assessing strategies to mitigate cable theft in the South African Railway Sector

Muhle Mthombeni, Bheki Makhanya and Jan Harm C Pretorius, Postgraduate School of Engineering Management, University of Johannesburg, Johannesburg, South Africa

Second Place

ID 063 Performance management at Air Force Base Ysterplaat

Bronwyn Swartz and Clint Lester Ah Shene, Faculty of Engineering and the Built Environment, Cape Peninsula University of Technology, Cape Town, South Africa

Third Place

ID 032 Review of Risks Associated with Six Sigma Deployment in South Africa: A Laboratory Perspective

T. Mbita, Department of Engineering and the Built Environment, Cape Peninsula University of Technology, South Africa
Dr. B. Swartz, Department of Engineering and the Built Environment, Cape Peninsula University of Technology, South Africa

Fourth Place

ID 150 Design of a Machine to Convert Municipal Solid Waste to Gas

Reabetswe.K.L Seisho, Department of Mechanical and Industrial Engineering Technology, Faculty of Engineering and The Built Environment, University of Johannesburg (UJ), Johannesburg, South Africa
Daramy Vandri Von Kallon, Department of Mechanical and Industrial Engineering Technology, Faculty of Engineering and The Built Environment, University of Johannesburg (UJ), Johannesburg, South Africa
Kepia Boima Conteh, Department of Mechanical Engineering, Faculty of Engineering and Architecture, University of Sierra Leone (USL), Freetown, Sierra Leone
Kelleh Gbawuru Mansaray, Department of Mechanical Engineering, Faculty of Engineering and Architecture, University of Sierra Leone (USL), Freetown, Sierra Leone

Senior Capstone Design Project Competition sponsored by Tooling Tech Group

First Place

ID 248 'Techno-economic assessment of hydrogen production from waste plastics in the context of Japan'
Bishwash Paneru, Department of Applied Sciences and Chemical Engineering, Institute of Engineering, Pulchowk Campus, Tribhuvan University, Lalitpur, Nepal

Human Factors and Ergonomics Competition sponsored CINTAS

First Place

ID 266 Perceived Adoption Behavior of Filipinos to the Utilization of Online Banking and E-Wallet Payment Transactions
Jesselyn B. Alcaín, Department of Industrial Engineering, University of Santo Tomas (UST), Manila, Philippines
Mary Angela P. Aquino, Gillian Hailey E. Dave, Eloiza Jane C. Fadri and Avienne A. Halabaso, 4th Year Industrial Engineering Students, Department of Industrial Engineering, University of Santo Tomas (UST), Manila, Philippines

Second Place

ID 131 Effects of Exposure to Vibration on the Worker
Abdulelah Ali, Department of Industrial Engineering, Jazan University, Jazan 45142, Saudi Arabia

Third Place

ID 278 The Transformative Role of Non-Governmental Organizations (NGOs) in Enhancing Youth Technical Skill Development in Alexandra, Johannesburg
George O Nkere, Jeffery Mhachi & George O Onatu, University of Johannesburg, South Africa

Lean Six Sigma Competition sponsored by Tooling Tech Group

First Place

ID 010 Applying Lean to The Supply Chain in The Railway Industry
Kemlall Ramdass, Ndivhuho Ndou and Simon Phuluwa, College of Science, Engineering and Technology, Department of Industrial Engineering, University of South Africa, Johannesburg, Florida, South Africa

Second Place

ID 176 Achieving Excellence in SMEs: A Deep Dive into Six Sigma Methodologies for Process Improvement
Hossein Soltani, Department of Manufacturing Engineering Technology, Minnesota State University, Mankato, MN 56001, USA
Kuldeep Agarwal, Department of Manufacturing Engineering Technology, Minnesota State University, Mankato, MN 56001, USA

Third Place

ID 106 The Use of Innovative Mechanical Solutions to Implement Lean Methodologies in a Meat Manufacturing Factory in Egypt
Eng. Mustafa Oday, SAP PP Consultant, TechnoVal Information Systems, Cairo, Egypt
Prof. Tamer A. Mohamed, Prof. of Industrial Engineering and Management, Mechanical Engineering Department, Faculty of Engineering, The British University in Egypt, Cairo, Egypt

Simulation Competition

First Place

ID 216 Techno-economic Analysis of Methanol and Power Generation from Waste Tyres
Athi-enkosi Mavukwana, Senior Lecturer, Department of Chemical Engineering, School of Engineering, College of Science, Engineering, and Technology, University of South Africa (UNISA), Roodepoort, South Africa

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Nhlanhla Nkosi, NGap Lecturer, Department of Chemical Engineering, Faculty of Engineering and Built Environment, Durban University of Technology (DUT), Durban, South Africa
Celestin Sempuga, Associate Professor, Institute for Catalysis and Energy Solutions, College of Science, Engineering, and Technology, University of South Africa (UNISA), Roodepoort, South Africa

Second Place

ID 087 A Sensor-Aided Pneumatic Bumper Activation System to Reduce the Impact Force During a Vehicle Crash

Boitumelo Gloria Khuthama, Department of Industrial Engineering, Operations Management and Mechanical Engineering, Vaal University of Technology, Vanderbijl park, South Africa
Taiwo Lolade Ladipo, Department of Industrial Engineering, Operations Management and Mechanical Engineering, Vaal University of Technology, Vanderbijl park South Africa
Gbeminiyi John Oyewole, School of Mechanical, Industrial, and Aeronautical Engineering, University of the Witwatersrand, Johannesburg, South Africa

Third Place

ID 130 Experimental Modeling and Simulation of Zero-Surface Temperature of Controlled Water Jet Impingement Cooling System for Hot-Rolled Steel Plates

Thomas Okechukwu Onah, Associate Professor, Department of Mechanical and Production Engineering, Enugu State University of Science and Technology Enugu, Enugu Nigeria
Onyekachi Marcel Egwuagu, Senior lecturer, Department of Mechanical and Production Engineering, Enugu State University of Science and Technology Enugu, Enugu Nigeria

Fourth Place

ID 030 A Literature Review on Process Modelling Tools That are Usable Within A Tertiary Educational Setting

Matthew Baldwin and Marne de Vries, Department of Industrial and Systems Engineering, University of Pretoria, Pretoria 0001, South Africa