



# IEOM Society

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## **2024 IEOM Awards – 5<sup>th</sup> South American Conference on Industrial Engineering and Operations Management Bogota, Colombia, May 7-9, 2024**

### **Distinguished Academic Leadership Award**

Dra. Flor Nancy Díaz Piraquive  
Rectora  
Fundación Universitaria Internacional de La Rioja (UNIR)  
Bogota, Colombia

### **Distinguished Industry Leadership Award**

Arvey Alfonso Granada Calderon  
Operations Manager  
La Unión Coffee Farm  
Pereira, Risaralda, Colombia

Rafael Forero Vargas  
Food Safety & Quality Manager Colombia  
Rich's Product Corporation  
Bogotá D.C., Colombia

### **Distinguished Educator Award**

Professor Jaime Díaz Ortiz  
Dean, Faculty of Engineering  
Universidad Católica de Colombia  
Bogota, Colombia

Dr. Javier Arturo Moreno Carvajal  
Dean, School of Engineering  
Institución Universitaria Colegios de Colombia – UNICOC  
Bogota, D.C., Capital District, Colombia

Jazmith Adriana Rojas Martínez  
Dean, Facultad de Ciencias Económicas y Administrativa  
Universidad Cooperativa de Colombia  
Bogota, Colombia

### **Distinguished Professor Award**

Dr. Catalina Ramírez  
Professor and Head, Industrial Engineering Department  
Universidad de los Andes  
Bogota, Colombia

Ivanhoe Roza Rojas  
Head/Director of Industrial Engineering  
Universidad Católica de Colombia  
Bogota, Colombia

Juan S. Sánchez-Gómez  
Professor, Industrial Engineering Program  
Universidad Católica de Colombia  
Bogota, Colombia

Juan Felipe Aragon Mendoza  
Head, Industrial Engineering Program  
Universidad Cooperativa de Colombia  
Bogota, Colombia

**Outstanding Operations Management Research Award**

Dr. Nubia Milena Velasco Rodríguez  
Director of Doctorate in Administration  
Master of Research in Administration  
Universidad de los Andes  
Bogotá, Colombia

**Outstanding Researcher Award**

Prof. Hernando Alexander Gutiérrez Sánchez  
Department of Industrial Engineering  
Universidad Santo Tomas  
Bogota, Colombia

Andrés Felipe Santos Hernández  
Industrial Engineering Department  
Escuela Colombiana de Ingeniería Julio Garavito  
Bogota, Colombia

Dr. Fáber D. Giraldo  
Vice-chancellor of Research  
Universidad del Quindío  
Armenia, Quindío, Colombia

**Outstanding Engineering Education Award**

Diego Alexis Romero Rincón  
Extension Facultad de Ingeniería  
Universidad Católica de Colombia  
Bogota, Colombia

**Outstanding Professor Award**

Dr. Mónica Suárez  
Mónica Suárez  
Docente del Departamento de Ingeniería Industrial  
Directora del Grupo de Investigación CINDE  
Universidad de América  
Bogota, Colombia

Dr. Paloma Maria Teresa Martinez Sanchez  
Professor of Industrial Engineering  
Universidad Militar Nueva Granada  
Bogota, Colombia

Dr. Ing. Adriana Esguerra Arce, Dr. Ing.  
Docente  
Directora del Centro de Estudios en Gestión de Tecnología e Innovación  
Directora del Grupo de Investigación CIMSER  
Decanatura de Ingeniería Industrial  
Escuela Colombiana de Ingeniería Julio Garavito  
Bogotá, D.C., Colombia

**Global Lean Six Sigma Award**

Alberto Poveda Caputo  
Innovation & Operational Excellence Senior Master  
General Motors  
Bogota, Colombia

**Six Sigma Award**

German Torres Hernández  
MSc Ing. Industrial – MSc en Analytics & AI  
Lean Six Sigma Black Belt – Certified RFID Supply Chain Manager  
Auditor Líder ISO 9001  
Gerente de Transformación Digital – Consultor Senior Digital Supply Chain

**AI Award**

Jesús María Velásquez-Bermúdez  
Founder and Chief Scientific Officer, CSO  
Hypothalamus Artificial Intelligence Inc. (HAI Ai)  
Tabio, Cundinamarca, Colombia

**Global AI and Machine Learning Award**

Mohammad Islam  
Associate Director  
Optum – United Healthcare Inc.  
New Jersey, USA

**Woman in Industry and Academia Award**

Valeria Mendoza Cortés  
MSc. Logística y Transporte – Administradora Logística  
Certified Internacional Forwarder  
Sourcing Specialist  
Baker Hughes  
Bogota, Colombia

**Outstanding Professor in Supply Chain and Logistics**

Prof. William Eduardo Mosquera  
Prof. Oscar Alejandro Vasquez Bernal  
Universidad Cooperativa de Colombia  
Bogota, Colombia

**Outstanding Professor Award**

Oscar Alejandro Vásquez Bernal, Ph.D.  
Associate Professor  
Escuela de Ciencias Básicas Tecnología e Ingeniería ECBTI  
Universidad Nacional Abierta y a Distancia UNAD.  
Bogotá, Colombia

Sonia Jaimes Suárez  
Professor  
Escuela Colombiana de Ingeniería Julio Garavito  
Bogota, Colombia

**Global Supply Chain and Logistics Award**

Dr. William J. Guerrero  
Associate Professor  
Head of the Research Group on Logistic Systems  
Head of the IT and Process Optimization Department  
Universidad de la Sabana  
Bogota, D.C., Capital District, Colombia

**Outstanding Teaching Award**

Prof. Jaime Roldan  
Department of Industrial Engineering  
Universidad America, Bogota

Dr. Jorge Andrés Vivares Vergara  
Research Professor  
Universidad Nacional Abierta y a Distancia (UNAD)  
Bogotá, Colombia

**Sustainability Award**

Mauricio Becerra Fernandez, PhD  
Director of the Industrial Engineering Program  
Director of the Master in Smart and Sustainable Cities  
Escuela de Ingeniería, Ciencia y Tecnología  
Universidad del Rosario  
Bogota, Colombia

**Innovation Award**

Dr. Hernando Garzón Sáenz  
Research Professor  
Industrial Engineering, Technology in Industrial Production  
Fundación Universitaria Tecnológico Comfenalco  
Cartagena, Bolívar, Colombia

Professor Camilo Alarcon Nieto  
Assistant Professor  
Fundacion UNIR Colombia  
PhD Candidate in Management  
Researcher leader in entrepreneurship and technology adoption

**Emerging Researcher Award**

Luis Enrique Tarazona Torres  
Asistente Doctoral de Docencia  
Control de Producción, Ingeniería Industrial  
Universidad de Los Andes  
Bogota, Colombia

**Outstanding Conference Leadership Award**

Dr. Johanna Trujillo Díaz  
Investigador en Estancia Post Doctoral - Proyecto Orquídeas  
Facultad de Ciencias Económicas y Administrativa  
Universidad Cooperativa de Colombia  
Bogota, Colombia

**Outstanding Conference Contributor Award**

Miryam Liliana Chaves Acero  
Doctora en Ingeniería Mecánica y Fabricación  
Experta en Inteligencia Artificial aplicada a procesos y neurociencias  
Fundación Universitaria Internacional de La Rioja (UNIR)  
Bogota, Colombia

Johanna Caranton Diaz  
Professor of Industrial Engineering  
Fundación Universitaria Internacional de La Rioja (UNIR)  
Bogota, Colombia

Diana Patricia Diaz Velandia  
Coordinateur de projection sociale et extension  
Fundación Universitaria Internacional de La Rioja (UNIR)  
Bogota, Colombia

**Outstanding Society Service Award**

Julián Ignacio López Arcos  
Mestre em Engenharia de Produção  
Universidade Federal de Itajubá Instituição  
Universidad Cooperativa de Colombia Endereço:  
Cali, Colombia

Dr. Tony Prensa, PhD  
Chief Executive Officer & Founder  
TP Global Business Consulting, LLC  
Orlando, Florida, USA

Dr. Luis Rabelo  
Professor  
Department of Industrial Engineering & Management Systems  
University of Central Florida  
Orlando, Florida, USA

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## **Competition Winners**

### **Undergraduate Student Paper Competition sponsored by Siemens (Onsite)**

First Place

**ID 42 Simulation-Optimization of a Coffee Shop in Business District: A case study of Starbucks in Mexico City**  
Dylan Buzali, Santiago Muñiz, Santiago Elizondo and Oroselvia Sánchez. Students, Industrial Engineering Department, Engineering School  
Universidad Iberoamericana, Mexico City, Mexico City, Mexico  
Oroselvia Sánchez, Professor, Industrial Engineering Department, Engineering School, Universidad Iberoamericana, Mexico City, Mexico

**ID 73 Implementación de herramientas Lean Manufacturing para la mitigación y aumento de la productividad en las MiPymes de la ciudad de Popayán**  
Nora Fernanda Arciniegas Sánchez, Professor, Industrial Engineering Program, Fundación Universitaria de Popayán, Popayán – Cauca, Colombia  
Jean Michael Sampayo Reyes, Student, Industrial Engineering Program, Fundación Universitaria de Popayán, Popayán – Cauca, Colombia

Second Place

**ID 61 Optimizing Streamer Success: Streaming Schedule Through Operations Research**  
Jeronimo Warnholtz and Sebastián Ruiz, Undergraduate Student, Industrial Engineering, Department of Chemical, Industrial and Food Engineering, Universidad Iberoamericana, Mexico City, CDMX 01376, MX  
Isidro Soria, Professor, Industrial Engineering, Department of Chemical, Industrial and Food Engineering, Universidad Iberoamericana, Mexico City, Mexico

Third Place

**ID 47 Most effective pitches against Ronald Acuña Jr.**  
Luis Ornelas and Guillermo San Román, Industrial Engineering Study Program, Universidad Iberoamericana, Mexico City, Mexico  
Isidro Soria, Professor, Industrial Engineering, Department of Chemical, Industrial and Food Engineering, Universidad Iberoamericana, Mexico City, Mexico

Fourth Place

**ID 41 Optimizing Canine Nutrition: A Linear Programming Approach for Military Dogs' Diet**  
Oliver J. Saadia Harvy, Student, Industrial Engineering, Department of Chemical, Industrial and Food Engineering, Universidad Iberoamericana  
Mexico City, Mexico  
Arturo Obregón Hochstrasser, Student, Finance, Department of Business Studies, Universidad Iberoamericana, Mexico City, Mexico  
Oroselvia Sánchez, Professor, Industrial Engineering, Department of Chemical, Industrial and Food Engineering, Universidad Iberoamericana  
Mexico City, Mexico

**ID 247 Optimization of Wood Log Cutting for Pallet Assembly Using Linear Programming Model**  
Bruna Meire Kuhl Gomes and Rodrigo Luiz Gigante, Facens University, Sorocaba, São Paulo, Brazil

## Undergraduate Student Paper Competition sponsored by Siemens (Online)

First Place

**ID 45 Forecasting Models Used in the Tourism Sector: A Systematic Review of Literature**  
Guillermo Huapaya and Aiko Makino, Facultad de Ingeniería, Universidad de Lima, Lima, Peru  
Juan Manuel Machuca De Pina, Professor, Facultad de Ingeniería, Universidad de Lima, Lima, Peru

Second Place

**ID 27 Waste reduction through the use of Single Minute Exchange of Die in the cutting area in Small and Medium-sized Enterprises of the textile sector**  
Alejandra Alvarado Saenz and Carlos Urbina Jibaja, Students, Industrial Engineering, University of Lima, Lima, Peru  
Miguel Shinno Huamani, Professor, Industrial Engineering Department, Engineering School, University of Lima

Third Place

**ID 240 Optimization of Time Efficiency in the CAPEX Purchasing Chain: A Simulation Study in the Mining Industry Using the Just-Time Method**  
Marcelo Adrian Arteaga-Solano, Bachelor in Industrial Engineering, Facultad de Ingeniería, Universidad de Lima, Perú  
Johan Anibal Cajachagua-Sauñi, Bachelor in Industrial Engineering, Facultad de Ingeniería, Universidad de Lima, Perú  
Juan Carlos Quiroz-Flores, Research Professor, Facultad de Ingeniería, Universidad de Lima, Perú

Fourth Place

**ID 118 Analysis of the Determining Factors Toward the Adoption of Near-Field Communication (NFC) Tag-Based Fare Collection System in the Marikina Heights UV Express Terminal**  
Jayvee V. Acosta, Alexandra Ysabel M. Briones, Aira Joy M. dela Rosa, Josiah Vince D. Evangelista and Nestor R. Ong, Department of Industrial Engineering, Faculty of Engineering, University of Santo Tomas, Manila, Philippines

## Undergraduate Research Competition sponsored by Daikin Applied

First Place

**ID 196 Enhancing Productivity and Sustainability in the Peruvian Textile Industry: A Lean Green Approach for Small and Medium Enterprises**  
Sebastian Delgado-Angeles, Bachelor in Industrial Engineering, Facultad de Ingeniería, Universidad de Lima, Perú  
Alessandra Da-Silva-Huayta, Bachelor in Industrial Engineering, Facultad de Ingeniería, Universidad de Lima, Perú  
Juan Carlos Quiroz-Flores, Research Professor, Facultad de Ingeniería, Universidad de Lima, Perú

Second Place

**ID 244 Assessment Of Ride-Hailing Apps Using Customer Satisfaction Framework For University Of Santo Tomas Engineering Students**  
Justin Mark S. Agno, Alexandrei Matthew O. Castillo Josemaria Franco, and Nestor R. Ong, Department of Industrial Engineering, Faculty of Engineering, University of Santo Tomas, Espana Blvd., 1008, Manila, Philippines

Third Place

**ID 200 Optimizing Productivity in the Animal Feed Industry: A Lean Approach for Enhanced Efficiency and Quality Assurance**  
Jenny Elizabeth Jaico-Carranza, Bachelor in Industrial Engineering, Facultad de Ingeniería, Universidad de Lima, Perú  
Eduardo Manuel Olivos-Valdivia, Bachelor in Industrial Engineering, Facultad de Ingeniería, Universidad de Lima, Perú  
Martin Fidel Collao-Diaz, Research Professor, Facultad de Ingeniería, Universidad de Lima, Perú

## Graduate Student Paper Competition sponsored by Eaton Corporation

First Place

**ID 86 Steelpan Sinking Quality Approach Employing Dynamic Nonlinear Finite Element Method**  
Peter Poon Chong, Department of Mechanical and Manufacturing Engineering, Faculty of Engineering, St. Augustine, Trinidad and Tobago, West Indies  
Terrence R.M. Lalla, Department of Mechanical and Manufacturing Engineering, Faculty of Engineering, University of the West Indies, St. Augustine, Trinidad and Tobago, West Indies

Second Place

**ID 37 Factors Considered by Holiday Makers in Selecting a Guesthouse in the Post-Covid-19 Pandemic Era**  
Bheki B.S Makhanya, Postgraduate School of Engineering Management, Faculty of Engineering and the Build Environment, University of Johannesburg, PO Box 524, Auckland Park 2006, South Africa

Third Place

**ID 83 Comprehensive indicators in wine filtration: Adoption in the Chilean industry, challenges, and development of a predictive model for operational decision-making**

Luis Francisco Lillo Otárola, Hanns de la Fuente Mella and Jose Ceroni Diaz, Escuela de ingeniería Industrial, Pontificia Universidad Católica de Valparaíso, Valparaíso, Chile

## **Doctoral Dissertation Competition sponsored by Airbus**

First Place

**ID 223 How can Self-Development Improve the Relationship between Human Error and Service Effectiveness in the Public Sector?**

Achmad Mirza, Student in the Management Doctoral Program, Faculty of Economics, Universitas Sriwijaya, Palembang, INDONESIA  
Isnurhadi and Muhammad Ichsan Hadjri, Professor at the Faculty of Economics, Universitas Sriwijaya, Palembang, INDONESIA

Second Place

**ID 203 Smart Sustainable Supply Chain Management: How Smart Supply Chain Enables the Sustainable development of Supply Chains**

Laura Visintainer Lerman, Industrial Engineering Department, Engineering School, Federal University of Rio Grande do Sul, Porto Alegre, Brazil

Third Place

**ID 70 Midiendo la capacidad de innovación en fincas productoras de café especial en Colombia**

Eyder James Ramirez Zuñiga, Hugo Castro Fernando Castro Silva and Ehidy Karime Garcia Cruz, Universidad EAN, Universidad Pedagógica y Tecnológica de Colombia, Universidad Nacional de Colombia, Colombia

## **Masters Thesis Competition**

First Place

**ID 30 Performance Innovation Measurement at the Territorial Level: It's Determinants in Developed Countries**

Erika Julieth Serrano Rodríguez and Luis Eduardo Becerra Ardila, School of Industrial and Business Studies, Physicomechanical Engineering Faculty, Industrial University of Santander, Bucaramanga, Colombia

Second Place

**ID 149 Strategic Aeronautical Procurement: Case Study of Supplier Selection in the Colombian Air Force**

Bayron Steve Ruiz Niño, Captain, Mechanical Engineer, Aeronautical Logistics Directorate, Colombian Air Force, Bogotá D.C., Colombia  
William Javier Guerrero Rueda, Professor, IT and Process Optimization Department, Engineering School, Universidad de la Sabana, Bogotá, Colombia

Third Place

**ID 194 AI-based Drought Forecasting for Parametric Insurance**

Malcolm Tanyaradzwa Mathende, Belinda Ndlovu and Sibusisiwe Dube, National University of Science and Technology, Bulawayo, Zimbabwe

Fourth Place

**ID 195 Optimizing Antiretroviral Therapy (ART) Adherence Through Predictive Analytics Using Machine Learning Techniques**

Nyasha Winnet Chiramba, Belinda Ndlovu and Sibusisiwe Dube, Department of Data Analytics and Informatics, Faculty of Applied Sciences National University of Science and Technology, Bulawayo, Zimbabwe

## **Senior Design Project Competition sponsored by Tooling Tech Group**

First Place

**ID 34 BreezeGuard DualFan Hanger**

Christian Chamoun, Justin Lee, Karim Omar, Sankalp Pala, Ali Pacaci and Sepideh Abolghasem, California State University, Northridge, USA

Second Place

**ID 29 AUTOBVM**

Alexander Garcia, Daniel Cuara, Tatsuro Kajioaka, Kevin Hernandez, Jeffrey Liu and Sepideh Abolghasem, California State University, Northridge, USA

## **High School STEM Competition**

First Place

**ID 24 Can LLMs Have a Fever? Investigating the Effects of Temperature on LLM Security**  
Chan Xing Yu, James, Chan Si Yu, David and Chow Ban Hoe, River Valley High School, Singapore  
Poh Hui-Li Phyllis, Member of Technical Staff, DSO National Laboratories, Singapore

Second Place

**ID 68 Upgrading legacy systems for Industry 4.0 with Node-RED and OPC-UA**  
Daniel Ribeiro de Sousa and Eduardo Paciência Godoy, Scientific Initiation Program PIBIC Junior CNPQ/Reitoria UNESP, São Paulo State University (UNESP) – Sorocaba Campus, Sorocaba, Sao Paulo, Brazil  
Vitor Mendes Caldana, Professor, Industry Department, Federal Institute of Sao Paulo (IFSP) – Sorocaba Campus, Sorocaba, Sao Paulo, Brazil

## **Human Factors and Ergonomics Competition sponsored by CINTAS**

First Place

**ID 129 Lab-Tested: How Laboratory Design Affects The Performance of UST Chemical Engineering Students**  
Renzo Miguel M. Lanip, Therese Adrienne M. Macawile, Czarina Danielle B. Mendoza, and Damirson A. Co, PIE, Department of Industrial Engineering, University of Santo Tomas, España Boulevard, Sampaloc, Manila, 1008, Philippines

Second Place

**ID 119 Meditation Leads to Integrity and Acceptance**  
Som R. Soni and Gita D. Soni, AdTech Systems Research Inc., 1342 North Fairfield Road, Beaver creek, Ohio 45432 USA

Third Place

**ID 5 Improvement in the cutting area to increase labor productivity in the company Airin S.A. using work design and 5s tools**  
Naylea Maybet Perez Medina, Faculty of Engineering and Architecture, University of Lima, Lima, 1501, Perú  
Gabriela Zuñiga Valdivia, Faculty of Engineering and Architecture, University of Lima, Lima, 1501, Perú

## **Lean Six Sigma Competition sponsored by BrassCraft Manufacturing Company**

First Place

**ID 116 Street Lighting Quality using Lean Six Sigma**  
Alejandro Gallegos Chocce, Professor, Industrial Engineering Department, University of Engineering and Technology – UTEC, Lima, Perú  
Blanca Harumi Palacios B. and Angela Milagros Tenorio B., Department of Industrial Engineering, University of Engineering and Technology – UTEC, Lima, Perú

Second Place

**ID 210 Implementation of Lean Manufacturing Methodology to Increase Productivity in A Bakery Company**  
Jimmy André Cárdenas Peña and Jhoel Oswaldo Veliz Veliz, Universidad de Lima, Industrial Engineering, Lima, Peru

Third Place

**ID 226 Lean Six Sigma Logistics Model Aimed at Increasing Productivity Levels in ALMACAFE Processes**  
Sandra Patricia Zapata Calambas, Industrial Engineer, MBA, Cali, Colombia  
Claudia Cecilia Peña Montoya, Faculty of Engineering and Basic Sciences, Autonomous University of the West, Cali, Colombia

## **Simulation Competition**

First Place

**ID 67 Improving Manufacturing Layout: A Bolivian Food Company's Experience with Factory Physics and Simulation**  
Boris Christian Herbas-Torrico, Tecnológico de Monterrey, Guadalajara, México  
Oscar Roberto Luján Sainz, Universidad Católica Boliviana "San Pablo", Cochabamba, Bolivia

Second Place

**ID 111 Stiffness Analysis of Hemp Stem Reinforced Concrete Composite Laminates**  
Som R. Soni, AdTech Systems Research Inc., 1342 North Fairfield Road, Beaver creek, Ohio 45432, USA  
Craig Schluttenhofer and Subramania I. Sriharan, Agricultural Research and Development Program (ARDP), Central State University, 1400 Brush Row Road, Wilberforce, OH 45384, USA



Third Place

**ID 79 Analysis of Simulation Platforms in System Dynamics for Decision Making**

Laura Herrera Giraldo, Laura Milena Cárdenas Ardila, Department of Industrial Engineering, University of Antioquia, Medellín, Colombia

## **Supply Chain and Logistics Competition - Onsite**

First Place

**ID 16 Reducing Carbon Emissions in Supply Chains**

Melvin Drent, School of Industrial Engineering, Eindhoven University of Technology, Eindhoven, The Netherlands

Second Place

**ID 204 Optimization Analysis of Cold Chain Intermodal Transport Scheme for Agricultural Products Based on Carbon Emissions**

Ahmed Mehrem, Duisburg Essen University, Germany

Third Place

**ID 197 Cadena de Fabricación y de Suministro Sostenible y Resiliente**

Mario Fernando Ardila, Agroindustrial, Colombia

## **Supply Chain and Logistics Competition - Online**

First Place

**ID 69 Supply Chain Digital Twins: A Comprehensive Review and Case Studies**

Jacob Odisho, Mahek Karamchandani, Emma Swadley and Mohamed Awwad, Industrial and Manufacturing Engineering Department, California Polytechnic State University, San Luis Obispo, CA 93407, USA

Maximilian Püttner, Department of Engineering and Management, University of Applied Sciences Munich, Lothstraße 34, 80335 Munich, Germany

Second Place

**ID 85 Enhancing Supply Chain Sustainability in Modern Manufacturing**

Silvia Carpitella, Sepideh Abolghasem and Krithik Reddy Kunta, Department of Manufacturing Systems Engineering and Management, California State University, Northridge, United States

Third Place

**ID 77 Improvement Proposal Based on Machine Learning, Big Data and DDMRP to Improve Forecasting Compliance in a Consumer Goods Company**

Mariscal Cruzado Diana Micaela and Gonzáles Jáuregui Bruni Piero, Carrera de Ingeniería Industrial, Universidad de Lima, Lima, Peru  
José Antonio Taquíá Gutiérrez, Instituto de Investigación Científica, Universidad de Lima, Lima, Peru