Presentations

October 25, 2017 (Wednesday)

October 25 (Wednesday)
7:00 – 8:00 Registro asistentes, ponentes e invitados

8:00 – 8:20 Welcome Address - Salón Esmeralda

Welcome speech in charge of President of Universidad del Rosario Mr. José Manuel Restrepo
Universidad Rosario Bogota, Colombia.

Welcome speech in charge of Dean School of Business Dr. José Alejandro Cheyne.
Universidad Rosario Bogota, Colombia.

8:20 - 8:50 KEYNOTE - Salón Esmeralda

Mr. Pedro José Fernandez Ayala
Vice President of Innovation and Intelligence PROCOLOMBIA

"Why believe in Colombia”.

9:00 – 10:00, October 25 (Wednesday)

9:00 - 10:00 Keynote: - Salón Esmeralda I

Jorge Enrique Rojas Rodriguez
Asistent Professor of Industrial Engineering
Universidad del Bosque.

“Application of Operations Investigation to a Model of Assignment Towards Typical Processes in a Supply Chain”

Keynote: - Salón Esmeralda II
Fabián Escudero Jessurum
Commercial Manager. CELPA
ZONA FRANCA PERMANENTE S.

"Buenaventura, regional logistics power”

9:00 – 10:00, October 25 (Wednesday) Global Engineering Education Salón Diamante

Session Chair: Dr. Federico Felipe Durán, Instituto Politécnico Nacional México

9:00 - 9:30 (WEDNESDAY)

Dr. Francisco I. Giocondo César
Professor
Department of Industrial Engineering
Federal Institute of Education, Science and Technology of São Paulo (IFSP - Campus Piracicaba)
Professor & Researcher Collaborator
Production Engineering Graduate Program
Campinas State University (FCA – UNICAMP – Campus Limeira)
Brazil
9:30 - 10:00 (WEDNESDAY)

**Dr. Federico Felipe Durán**
Profesor de Tiempo Completo
Instituto Politécnico Nacional México
Escuela Superior de Ingeniería Mecánica y Eléctrica Unidad Zacatenco
Mexico

*Engineering Accreditation*

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**9:00 – 10:00, October 25 (Wednesday)  Undergraduate Student Paper Competition  Salón Turquesa**

**Session Chair: Prof. Don Reimer, Lawrence Tech, Michigan, USA**

**ID 3**  The Implementation Model of Smart Logistic Transport: Engineering Economic Analysis of Internet of Things (IoT)
Muhammad and Rahmat Nurcahyo, Industrial Engineering (IE) Department, University of Indonesia, Depok, West Java, Indonesia

**ID 70**  Technical Assistance In Documentation And Updating Of Instructive Supported In The “S.M.E.D”. System for the Format Change in the Packaging Line of the Industria Licofera Del Cauca
Nora Fernanda Arciniegas Sánchez and Diego Espinosa, Faculty of Engineering, Fundación Universitaria de Popayán, Popayán, Colombia
Juan Manuel Segura Mosquera, Industria Licofera del Cauca, Popayán, Colombia
Jaime Humberto Mendoza Chacón, Faculty of Engineering, Fundación Universitaria de Popayán, Popayán, Colombia

**ID 84**  Success Factors Comparison in the Logistics Clusters Located in East Asia-Pacific, North America, and Western Europe. A Systematic Literature Review
Rubén Rendón Benavides, Bachelor’s Student in Industrial and Systems Engineering, Universidad de Monterrey, San Pedro Garza García, NL, 66238, Mexico
Teresa Verduzco-Garza, Division of Engineering & Technologies, Department of Engineering, Universidad de Monterrey, San Pedro Garza García, NL, 66238, Mexico

**ID 282**  Optimization of times to improve the perception of the attention to the user in the HUM (Méderi)
Valeria Mendoza Cotes and Lina Maria Garcia, Logistic and Production Management, Universidad del Rosario, Bogota, Colombia

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**9:00 – 10:00, October 25 (Wednesday)  Supply Chain Management  Salón Amatista**

**Session Chair: Oscar Fabián Velásquez Rodríguez, Universidad Nacional de Colombia, Bogotá, Colombia**

**ID 78**  Stochastic inventory control and distribution of blood products
Andrea Pirabán Ramírez, Université de Technologie de Troyes, Troyes, France
Nacima Labadie, ICD-LOS1 (UMR-STM CNRS 6279), Université de Technologie de Troyes, Troyes, France

**ID 103**  Optimization design of Closed-Loop supply chain based on stochastic analysis and SMART
Carlos A. Marino, CENTRUM Graduate Business School, Pontificia Universidad Católica, Lima, Peru
ID 55  Trade-offs between environmental and economic objectives in Closed-Loop Supply Chains
Oscar Fabián Velásquez Rodríguez, Universidad Nacional de Colombia, Bogotá, Colombia
Carlos Eduardo Moreno Mantilla, Systems and Industrial Engineering Dept., Universidad Nacional de Colombia,
Bogotá, Colombia

9:00 – 10:00, October 25 (Wednesday)  Lean and Six Sigma
Salón Hade
Session Chair: Diego Martínez, University of Monterrey, México

ID 44  Enhancing Competitiveness of Ethiopian Metal and Steel Industries through Lean Manufacturing
Shimelis Tilahun and Daniel Kitaw, Addis Ababa Institute of Technology, Ethiopia

ID 77  An exploratory research about lean manufacturing implementation and behaviors of multi-level leadership
Guilherme Luz Tortorella, Diego de Castro Fettermann and Carlos Ernani Fries, Department of Production and
Systems Engineering, Federal University of Santa Catarina, Campus Trindade, C.P. 476, Florianópolis, SC 88040-900, Brazil

ID 98  Lean Six Sigma for the Improvement of Services in Higher Education Institutions
David Rodrigo Guerrero Moreno and Claudia Cristina Bocanegra Herrera, Facultad de Ingeniería, Universidad
Santiago de Cali, Calle 5 # 62-00 Barrio Pampalinda, Colombia

9:00 – 10:00, October 25 (Wednesday)  Operations Research and Management
Salón Rubi
Session Chair: Hiroyuki Goto, University of California at Santa Barbara, USA

ID 2  Game of Patterns: an approach for solving mixed integer nonlinear optimization problems
Ebert Brea, Department of Electronic, Computing and Control, School of Electrical Engineering, Faculty of
Engineering, Central University of Venezuela, Caracas 1053, Venezuela

ID 26  The Stochastic Location-Inventory Replenishment Problem at a Supermarket Chain
Kizito Mubiru, Makerere University, Uganda

ID 64  Exact Optimal Solution of a Critical Chain Project Management Problem
Hiroyuki Goto and Alan Murray, Department of Geography, University of California at Santa Barbara, UC Santa
Barbara, Santa Barbara, CA 93106, USA

ID 108  Wind farm maintenance scheduling model and solution approach
Andres Felipe Gutierrez, Facultad de Administración, Universidad de los Andes, Bogotá DC, Colombia, Laboratoire
der’Optimisation des Systèmes Industriels (LOSI), Université de Technologie de Troyes, Troyes, France
Laurence Dieulle, Laboratoire de Modélisation et de Sûreté des Systèmes, Université de Technologie de Troyes,
Troyes, France
Nacima Labadie, Laboratoire d’Optimisation des Systèmes Industriels (LOSI), Université de Technologie de Troyes,
Troyes, France
Nubia Velasco, Facultad de Administración, Universidad de los Andes, Bogotá DC, Colombia

ID 105  Queuing Network Analysis and Optimal Bed Determination: An Evaluation of Nigerian University
Teaching Hospital Emergency Department
Obamiro John Kolade, Department of Business Administration, Lagos State University, Ojo, Nigeria

9:00 – 10:00, October 25 (Wednesday)  Modeling and Simulation
Salón Topacio
Session Chair: Iván Santelices Malfanti, Universidad del Bío-Bío, Concepción, Chile
ID 31  Improve the product design process, with CFD and DOE approach
Julián Ignacio López Arcos, Department of Industrial Engineering, Universidad de San Buenaventura, Cali, Valle, Colombia
Ramiro Gustavo Camacho, Institute of Mechanical Engineering, Federal University of Itajubá, Itajubá, MG, Brazil
Paulo Henrique Da Silva Campos, Carlos Eduardo Sanches Da Silva and Anderson Paulo de Paiva, Institute of Production Engineering and Management, Federal University of Itajubá, Itajubá, MG, Brazil

ID 56  Optimal Layout Design by Line Balancing using Simulation Modeling
Aregawi Yemane and Serajul Haque, Bahir dar institute of technology, industrial engineering, Bahir Dar, Ethiopia
Iván Santelices Malfanti, Universidad del Bío-Bío, Departamento Ingeniería Industrial, Concepción, Chile

ID 68 Bottleneck Identification Using Time Study and Simulation Modeling Of Apparel Industries
Aregawi Yemane and Serajul Haque, Bahir Dar institute of technology, industrial engineering, Bahir Dar, Ethiopia
Iván Santelices Malfanti, Universidad del Bío-Bío, Departamento Ingeniería Industrial, Concepción, Chile

ID 220 Implementation of a metaheuristic in a simulation model for programming in a port system
Daniel Mendoza, Jairo Rangel and Zulay Sarmiento, Industrial Engineering Department, Universidad del Atlántico, Km 7 antigua vía a Puerto Colombia, Barranquilla, Colombia

10:15- 11:15  KEYNOTE – Salón Esmeralda

Dr. Edgar Higuera Gomez
Logistics Manager, Transport and Infrastructure of ANDI

“Challenges and Opportunities in Transportation and Logistics”

11:15 – 12:30  SIEMENS KEYNOTE - Salón Esmeralda

Leonardo E. Wilinski
VP South America Channel
Siemens Industry Software
Digital Factory Division
Product Lifecycle Management
Sao Paulo, SP, Brazil

12:30 – 2:00  Lunch

2:00 – 3:30 pm, October 25 (Wednesday)

2:00 – 3:00 pm, Wednesday  KEYNOTE - Salón Esmeralda I

Dr. Lope Hugo Barrero
Associate Professor and Chair
Department of Industrial Engineering
Pontificia Universidad Javeriana
Bogota, Colombia

"Health and productivity: One option strategic to sustainability"

2:00 – 3:00 pm, Wednesday  KEYNOTE - Salón Esmeralda II
Prof. Charles Mbohwa
Professor
Faculty of Engineering and the Built Environment (FEBE).
University of Johannesburg (UJ)
Johannesburg, South Africa

2:00 – 3:30 pm, October 25 (Wednesday) Global Engineering Education Salón Diamante
Session Chair: Dr. Augusto Loureiro da Costa, UFBA - Federal University of Bahia, Brazil

Dr. Augusto Loureiro da Costa
Associate Professor
Department of Electrical Engineering
Programa de Post-graduate Engenhria Eletrica
UFBA - Federal University of Bahia
Ondina, Salvador - State of Bahia, Brazil
Visiting Scholar - University of Pennsylvania, USA

2:00 – 2:30 pm (WEDNESDAY)

Mariana Tafur, PhD
Assistant Professor
School of Education - CIFE
Los Andes University
Bogotá, Colombia

2:30 – 3:00 pm (WEDNESDAY)

Dr. Alberto Un Jan
Dean
Faculty of Engineering
Universidad Wiener in Lima
Peru

2:00 – 3:30 pm, October 25 (Wednesday) Undergraduate Student Paper Competition Salón Turquesa
Session Chair: Prof. Don Reimer, Lawrence Tech, Michigan, USA

ID 87 WEEE Management: Approach of Reverse Logistics at Higher Education Institutions
Luis Augusto Valencia Rivera and Claudia Cecilia Peña Montoya, Engineering Faculty, Universidad Santiago de Cali, Colombia

ID 90 Propuesta De Un Modelo Multicriterio Para Seleccionar Estrategias De Logística Inversa De Residuos Hospitalarios Aprovechables
Paola Andrea Caicedo Jiménez and Vivian Lorena Chud Pantoja, Ingeniería industrial, Universidad Santiago de Cali, Santiago de Cali, Valle del Cauca

ID 92 Increase of the number of internal trips in a steel company: A case of study.
Ricardo Adrián Cisneros-Hernández, Diana Paola Morales Mata, Érick Humberto Garza – Espinosa and Jenny Díaz-Ramírez, Engineering Department, Universidad de Monterrey, San Pedro Garza García, 66238, N.L., Mexoco

ID 95 Inventory supply model for perishable products. The Calicarnes case
Increment in on-time deliveries of mouldings to improve customer service of Fabricacion de Maquinas S.A. De C.V.
Diego Martínez, Sergio Cabello y Donaldo Hernández, Graduates of Industrial Engineering, University of Monterrey, México

ID 212  Modelo de gestión de riesgos logísticos. Aplicación Ingenio Azucarero
Angela María Caicedo Acosta y Federico Pereira Sousa and Gloria Mercedes López Orozco, Facultad de Ingeniería - Departamento de Operaciones y Sistemas, Universidad Autónoma de Occidente, Cali – Jamundí, 760030, Cali-COLOMBIA

ID 230  Sustainability challenges in the food supply chains of developing countries: a systematic review of literature
Lilian Adriana Borges, Pro-vice-chancellor’s Office for Research, UNIDAVI, Rio do Sul, Brazil
Usha Ramanathan, College of Business Law & Social Sciences, Nottingham Business School, Nottingham Trent University, Nottingham, United Kingdom

ID 244  Plastic Solid Waste Recycling and the Significance of Reverse Logistics in Developing Economies
Bupe G Mwanza and Charles Mbohwa, School of Engineering Management, University of Johannesburg, South Africa

ID 252  The impact of risk management process on supply chain performance: An exploratory case study in a beverage manufacturing organization
N. Sukdeo, Department of Quality and Operations Management, University of Johannesburg, Gauteng, South Africa

ID 115  Multi-Criteria Analysis of Advanced Planning System Implementation
Claudemir L. Tramarico, Valério A. P. Salomon and Fernando A. S. Martins, São Paulo State University (UNESP), Engineering School, Campus Guaratinguetá, Guaratinguetá, SP, 12516-410, Brazil

ID 226  Modelo Conceptual Para El Desarrollo De Estudio Del Trabajo Bajo Enfoque Lean En Sistemas De Servuccion
Hernando Garzon Saenz, Jose Manuel Solana Garzon, Gustavo Adolfo Ortiz Piedrahita and Jorge Andres Cogollo Sepulveda, Grupo de investigación CIPTEC- Facultad de Ingenierías – Programa de Ingeniería Industrial - Fundación Universitaria, Tecnológico Comfenalco Cartagena, Cartagena de Indias –Colombia
ID 256  Implementation of Lean Manufacturing System to Eliminate Wastes on the Production Process of Line Assembling Electronic Car Components with WRM (Waste Relationship Matrix) and VSM (Value Stream Mapping) Method
Muhammad and Yadrifil, Department of Industrial Engineering (IE UI), Faculty of Engineering, Industrial Engineering Department, Fakultas Teknik - Universitas Indonesia

ID 284  Strengthening operations management in Zimbabwean film industry
Anup Pradhan and Fortunate Tatenda Mauyakufa, Department of Operations and Quality Management Engineering, University Of Johannesburg, South Africa

**2:00 – 3:30 pm, October 25 (Wednesday) Operations Research and Management**

**Salón Rubi**

Session Chair: Nita Sukdeo, University of Johannesburg, Gauteng, South Africa

ID 213  Solución al problema de envasado en pesadoras multicablezales mediante la optimización matemática
Alexander Pulido-Rojano, Departamento de Ingeniería Industrial, Universidad Simón Bolívar, Barranquilla, Colombia
J. Carlos García-Díaz, Departamento de Estadística e Investigación Operativa Aplicadas y Calidad, Universitat Politècnica de València, Camino de Vera, s/n. Valencia, Spain

ID 264  An Investigation on the Causes of Derailments in the Locomotive Industry
Magano Molefe, M. Molefe Department of Quality and Operations Management, University of Johannesburg, Bunting Road, Auckland park PO Box 2006, RSA

ID 43  Seru Production System in Japan
Ikou Kaku, Department of Environmental Management, Tokyo City University, Yokohama, Japan

ID 253  The effect of the working environment on employee satisfaction and productivity: a case study in a clothing manufacturing factory
Nita Sukdeo, Department of Quality and Operations Management, University of Johannesburg, Gauteng, South Africa

ID 262  Future center for energy sector of Ostrobothnia! A smart choice towards organizational and societal innovative improvement through proactive leadership
Syeda Asiya Zenab Kazmi, Univeristy Vaasa, Finland

**2:00 – 3:30 pm, October 25 (Wednesday) Project Management**

**Salón Topacio**

Session Chair: Ghazi Moh’d Al-Abbadi, Coventry University, UK

ID 101  Will Agile Project Management Become The Future Of Non-It Sectors?
Arya S. and Mridula Sahay, Amrita School of Business, Amrita Vishwa Vidyapeetham University, Coimbatore, T.N., India

ID 221  Implementing a Digital Training
Gibran Lamas, Freelance (Project Manager Jr.), Mexico

ID 239  Project critical path assessment in production environments by a new interval-valued fuzzy decision method
Y. Dorfeshan and S.M. Mousavi, Department of Industrial Engineering, Faculty of Engineering, Shahed University, Tehran, Iran
A. Siadat, LCFC, Arts et Métier Paris Tech, Centre de Metz, Metz, France

ID 260  Priority Rules Performance Analysis as a GA Initial Population for RCMPSP
Germán Eduardo Giraldo González, César Miguel Ordóñez Calderón, Diego Camilo Aristizabal González and Jonathan Xavier Castellanos Trujillo, Unidad de Proyectos, Escuela Colombiana de Ingeniería Julio Garavito, Bogotá, AK.45 No.205-59 (Autopista Norte), Colombia

ID 215 An Examination of the Motivational Factors Affecting Workers Productivity in the Jordanian Construction Industry
Ghazi Moh’d Al-Abbadi and George Agyekum-Mensah, School of Energy, Construction and Environment, Coventry University, Coventry, CV1 5FB, UK

3:30 – 4:00 Break

4:00 – 5:30, October 25 (Wednesday)

KEYNOTE: Salón Esmeralda

Dr. Juan G. Villegas
Associate Professor
Department of Industrial Engineering
Universidad de Antioquia
Medellín, Colombia

"An overview of vehicle routing problems arising in the service industry"

4:00 – 5:30, October 25 (Wednesday) Global Engineering Education Salón Diamante
Session Chair: Professor Juan José Encina Cabrera, National University of Asuncion of Paraguay

4:00 – 4:30 (WEDNESDAY)

Dr. Julio Santisteban
Associate Researcher
School of Computer Science
San Pablo Catholic University (UCSP)
Arequipa – Peru

4:30 – 5:00 (WEDNESDAY)

Professor Juan José Encina Cabrera
Director of the Department of Electricity
Faculty of Engineering
National University of Asuncion of Paraguay
San Lorenzo – Paraguay

Use of application software vs. Traditional teaching of Engineering

5:00 – 5:30 (WEDNESDAY)

Dr. Fáber D. Giraldo
Assistant Professor
Faculty of Engineering
University of Quindío
Armenia, Circasia, Quindío, Colombia
4:00 – 5:30, October 25 (Wednesday)  Graduate Student Paper Competition  Salón Turquesa  
Session Chair: Prof. Don Reimer, Lawrence Tech, Michigan, USA

ID 91  Operation Management in Hospitals: A Literature Review  
Riccardo Maccaferri Gonzalez, Fernando Gonzalez Aleu, Luz Maria Valdez and Jenny Diaz  
Department of Engineering, Universidad de Monterrey, San Pedro Garza García, NL 66238, México

ID 117  Competencies to adopt Industry 4.0 for operations management personnel at automotive parts suppliers in Nuevo Leon  
Milagros Díaz Bermúdez, Academic Coordinator of Engineering Management Program, Univ. of Monterrey, Nuevo Leon, Mexico  
Benito Flores Juárez, Dean of the School of Engineering, University of Monterrey, Nuevo Leon, Mexico

4:00 – 5:30, October 25 (Wednesday)  Supply Chain Management  Salón Amatista  
Session Chair: Petri Helo, University of Vaasa, Finland

ID 261  A linear programming model for integrated baked production and distribution planning with Raw material and routing consideration  
Magano Molefe, Department of Quality and Operations Management, University of Johannesburg, Auckland Park, RSA

ID 265  Supply Chain Quality Management SCQM: Understanding how it integrates into the service and manufacturing sectors. Case studies in a construction and a food companies  
Andres Lopez Astudillo, Department of Industrial Engineering, Icesi University, Cali, Valle del cauca, COL  
Melenys Hinestroza Moreno, Department of Quality Management, LATCO, Cali, Valle del cauca, COL  
Edilma Liliana Chacon Tabares, Department of Quality Management, Harinera del Valle, Cali, Valle del cauca, COL  
Francisco Balbastre Benavent, Juan José Renau Piqueras Dept. of Management, Valencia University, Valencia, Valencia, ESP  
Ana Redondo Cano, Juan José Renau Piqueras Department of Management, Valencia University, Valencia, Valencia, ESP

ID 275  Cloud-based Manufacturing Ecosystem – Application Development  
Petri Helo, Valeria Boldosova and Rayko Toshev, Networked Value Systems, University of Vaasa, Vaasa, Finland

ID 246  Drivers of Reverse Logistics in the Plastic Industry: Producer’s Perspective  
Bupe G Mwanza and Charles Mbohwa, School of Engineering Management, University of Johannesburg, South Africa

4:00 – 5:30, October 25 (Wednesday)  Quality Control and Management  Salón Hade  
Session Chair: Gerardo Avendano, EAN University, Bogota, Colombia

ID 53  Minimización de tiempos y costos en los procesos de creación de una empresa a través de herramientas de calidad con un enfoque de teoría de redes  
Luisa Fernanda Campos Bohórquez, Mariana Bernal Rivera, Andrés Felipe Guzmán Cárdenas and Jeimy Andrea Quiroga Ardila, Ingeniería Industrial, Universidad de la Sabana, Facultad de Ingeniería, Chía-Cundinamarca

ID 228  Mejoramiento de procesos bajo el enfoque Control Estadístico de Procesos y modelos A.R.I.M.A. Un caso de estudio.  
Juan Carlos Herrera Vega, Germán Herrera Vidal and Bruno De Jesús Rahmer, Ingeniero Industrial, Cartagena de Indias, Colombia

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ID 114  A Multi-fractal Spectrum Analysis for online Structural Health Monitoring
Mahmoud Z. Mistarihi, Dept. of Industrial Engineering, Hijjawi faculty of Engineering Technology, Yarmouk University, Irbid, Jordan
Zhenyu (James) Kong, Grado Department of Industrial and Systems Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA
Satish T. S. Bukkapatnam, Department of Industrial and Systems Engineering, Texas A&M University, College Station, TX, USA

ID 285  Strengthening quality management in Zimbabwean film industry
Anup Pradhan and Fortunate Tatenda Mauyakufa, Department of Operations and Quality Management Engineering, University of Johannesburg, South Africa

ID 60  Application of a neural network to classify the out-of-control signal given by the multivariate Generalized Variance $|S|$ control chart using real industry data
Gerardo Avendano. Faculty of Business Administration, EAN University, Bogota, Colombia
Gustavo Andrés Campos-Avendano, Faculty of Mathematics and Engineering, Fundación Universitaria Konrad Lorenz, Bogotá, Colombia

4:00 – 5:30, October 25 (Wednesday)  Healthcare Systems  Salón Rubí
Session Chair: Victor Jaime García Urdaneta, Docente Universidad del Rosario, Bogotá, Colombia

ID 51  Designing the Emergency Medical Operations System Structure: A Case Study
Bernardo Villarreal, Edgar Granda, Andrea Montalvo, Samantha Lankenau & Ana Cristina Bastidas, Universidad de Monterrey, San Pedro Garza García, N.L., México

ID 81  Inventory Management Model for an Emergency Medical Service
Viviana Carvajal and Pablo A. Maya, Industrial Engineering Department, Universidad de Antioquia, Medellín, Colombia
Gloria M. Osorno, Industrial Engineering Department, Unidad Central del Valle del Cauca, Cali, Colombia

ID 85  Mejoramiento de la adherencia a un programa de diabetes en una IPS, a través de Chronic Care Model (CCM), Clinical Decision Support Systems (CDSS) y Lean Six Sigma
Helena María Cancelado C. and Ana María Pachón S., Departamento de Ingeniería Industrial, Universidad Icesi, Cali – Colombia

ID 94  Effects of ambulance dispatching and relocation decisions on EMS quality
Jenny Díaz-Ramírez, Engineering Department, Universidad de Monterrey, San Pedro Garza García, 66238, N.L. Mexico
María Gulnara Baldoquín De la Peña, Mathematical Sciences Department, Universidad EAFIT, Medellín, Colombia

ID 109  Estudio del estado de implementación de tendencias logísticas en los hospitales de la ciudad de Medellín
Sara Melguizo Melguizo and Juan Gregorio Arrieta Posada, Universidad EAFIT, Medellín, Antioquia, Colombia

ID 272  Enhancement for an adherence process on a Diabetes program at a IPS, through Chronic Care Model (CCM), Clinical Decision Support Systems (CDSS) and Lean Six Sigma
Helena Maria Cancelado C. and Ana Maria Pachón S., Department of Industrial Engineering, Universidad Icesi, Cali – Colombia

ID 277  Implementación de un modelo de líneas de espera dentro de una Farmacia de salas de cirugía
(Implementation of a waiting line model within a surgery room Pharmacy
Victor Jaime García Urdaneta, Docente Universidad del Rosario, Bogotá, Colombia
Nelson Sierra Forero, Sub Director Hospitalario, Hospital Universitario Mayor (MEDERI), Bogota, Colombia
4:00 – 5:30, October 25 (Wednesday)  
**Sustainability and Green Systems**  
**Salón Topacio**  
Session Chair: Fortunate Tatenda Mauyakufa, University of Johannesburg, South Africa

**ID 104**  
Design of a management tool for strategic business alliances in the Energetic Sector  
Jorge Agustín Martínez Villafuerte, Verónica Garza Elizondo, Jesús Vázquez Hernández and Juán Acosta Aradillas, Department of Engineering and Technologies, Dpt of Engineering Management, Universidad de Monterrey, San Pedro Garza García, NL, México

**ID 247**  
Environmental change in sustainable management approach in Brazilian public education: multiple case study  
Aline Monteiro Trigo, Institutional Strategic Environmental Sustainability Sector, CEFET/RJ, Rio de Janeiro, Brazil  
Carine Nunes, Strategic Planning Coordination, IFTO, Tocantins, Brazil  
Úrsula Maruyama, Strategic Management Officer/Business Administration School, CEFET/RJ, Rio de Janeiro, Brazil  
Iván Andrés Ramírez Pinzón, Escuela de Economia, Universidad Sergio Arboleda, Bogotá, Colômbia

**ID 250**  
Environmental Sustainability: Abatement of Co2 Emissions from a Calcination Plant in Zimbabwe  
L K Gudukeya and C Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

**ID 283**  
Creating a Sustainable Zimbabwean Film and Television industry  
Fortunate Tatenda Mauyakufa and Anup Pradhan, Department of Operations and Quality Management Engineering, University Of Johannesburg, South Africa

5:30 – 7:00, Wednesday, October 25  
**Poster Session**

**ID 7**  
Blood Fractionation Chromatography  
Mason Chen, Stanford Online High School, Palo Alto, CA, USA

**ID 8**  
Triathlon Road Closure Control  
Zonghuan (Jason) Li, San Mateo High School in San Mateo, CA, USA  
Mason Chen, Stanford Online High School, Palo Alto, CA, USA

**ID 9**  
Predictive Model of Most Valuable Player  
Mason Chen, Stanford Online High School, Palo Alto, CA, USA

**ID 16**  
Compromise programming approach to welding Flux performance optimization  
Adeyeye A. D. and Allu A. J., Department of Industrial and Production Engineering, University of Ibadan, Oyo state, Nigeria.

**ID 22**  
Surface profile of objects for 3D printers by fringe pattern  
Javier Cruz Salgado, Research and Technological Development Department, Universidad Politécnica del Bicentenario (UPB), Silao, Guanajuato 36283, México

**ID 23**  
Could occupational role stress be suppressed to the extent of been dissolved?  
Junior Mabiza, Joyce Conduah and Charles Mbohwa, University of Johannesburg, South Africa

**ID 30**  
Analyzing Issues affecting food security in South African rural areas: case study of Limpopo province
Noko Mokoele and Yves Mulongo, Faculty of Economics and Financial Science, University of Johannesburg, South Africa

ID 38  Detect Multiple Choice Exam Cheating Pattern
Mason Chen, Stanford Online High School, Palo Alto, CA, USA

ID 202  Delivery Service through an Integrated Inventory Management Model Using a System Dynamics Model
P. Raghuram¹, Mridula Sahay² and P.G. Saleeshya³
¹, ²Dept. of Mechanical Engineering, Amrita School of Engineering, Amrita Vishwa Vidyapeetham University, Coimbatore, T.N., India
²Amrita School of Business, Amrita Vishwa Vidyapeetham University, Coimbatore, T.N., India

ID 223  Diseño De Una Metodología De Medición De Agotados Del Canal Tienda A Tienda De La Ciudad De Barranquilla
Lina Fernanda Fuentes Amaya and Karilyn Urruchurto Gonzalez, Facultad de Ingenieria, Ingenieria industrial, Universidad Del Atlántico, Atlántico, Barranquilla

ID 229  Metodología para la caracterización y elaboración del inventario de servicios logísticos del sector transporte terrestre de carga. Caso: Sector 3 en la Troncal de Occidente y su zona de influencia
Luis Gustavo Posada Valencia and Johanna Quintero Carpintero and Gloria Mercedes López Orozco, Facultad de Ingeniería - Departamento de Operaciones y Sistemas, Universidad Autónoma de Occidente, Cali – Jamundí, 760030, Cali-COLOMBIA

ID 242  Online Platform for Measuring the Lean/Green Maturity Level Based on the Slg Method
Lucas Reis, Brazil
Fáber Giraldo, Universidad del Quindío, Colombia
Liane Kipper, Universidade de Santa Cruz do Sul – UNISC, Brazil

ID 249  Environmental management of sustainable university campuses
Aline Monteiro Trigo, Institutional Strategic Environmental Sustainability Sector, CEFET/RJ, Rio de Janeiro, Brazil
José Aires Trigo, Management and Engineering Department, UNESA, Rio de Janeiro, Brazil
Úrsula Maruyama, Strategic Management Officer/Business Administration School, CEFET/RJ, Rio de Janeiro, Brazil
Iván Andrés Ramírez Pinzón, Escuela de Economía, Universidad Sergio Arboleda, Bogotá, Colômbia

ID 257  Maintenance Performance Measurement Gaps in Manufacturing Enterprises: Translation to Management System
Peter Muganyi and Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 258  Equipment Reliability curtailment due to brinelling of rotating equipment
Peter Muganyi and Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 259  Six Sigma: A Product Differentiator in the market for Manufacturing Industries
Peter Muganyi and Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 263  Removal of Methylene Blue Using Mango Seed Derived Carbon
Emily Chen and Alicia Chen, Dublin High School, Dublin, CA 94568, USA

ID 266  Comparative Aspects between TPM and World Class Maintenance – Literature Review
Peter Muganyi and Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 267  A Demonstration of the Central Limit Theorem Using Java Program

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Lakshmi Varshini Damodaran, Lynbrook High School, San Jose, CA, 95129, USA

ID 268 Diseño De Una Metodología De Medición De Agotados Del Canal Tienda A Tienda De La Ciudad De Barranquilla
Lina Fernanda Fuentes Amaya and Karlyn Urruchurto Gonzalez, Facultad de Ingenieria, Ingenieria industrial, Universidad Del Atlántico, Barranquilla

ID 269 Simple Poker Game Design, Simulation, and Probability
Nanxiang Wang, Foothill High School, Pleasanton, CA 94588
Mason Chen, Stanford Online High School, Stanford, CA, 94301, USA

ID 273 Leaf Growth Pattern
Raymond Yap, Casa di Mir Montessori School, Campbell, CA 95008, USA

ID 278 Statistical Pi Simulation by Java
Katherine Lim, Eleanor Murray Fallon Middle School, 3601 Kohnen Way, Dublin, CA 94568

October 26 (Thursday)
7:00 – 8:00 Registration / Registro asistentes, ponentes e invitados

8:00 - 9:00, October 26 (Thursday)

8:00 - 9:00 KEYNOTE - Salón Esmeralda

Mr. Gil Lugo
President, Lean ISO Experts, Inc.
President, Green and Sustainable Solutions, Inc.
Hollywood, Florida, USA

8:00 - 9:00, October 26 (Thursday) Global Engineering Education
Salón Amatista
Session Chair: Dr. Hernán Nina Hanco, National University of San Antonio Abad, Cusco, Perú

8:00 – 8:20 (THURSDAY)

Dr. Hernán Nina Hanco
Professor
Department of Computer Engineering
Master in Administration and Systems and Computer Engineering
National University of San Antonio Abad
Cusco, Peru

8:20 – 8:40 (THURSDAY) Ignacio Laiton Poveda
Licenciado en Física Universidad Pedagógica Nacional, Bogotá, Colombia
Especialista en Ciencias, Física, Universidad Nacional de Colombia. Magister en Educación, Universidad de la Salle, Bogotá, Colombia
Doctor en Educación, tesis Cum Laude, Universidad de Granada, España

8:40 – 9:00 (THURSDAY)

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Dr. Lilian Adriana Borges  
Senior Lecturer and Research Coordinator  
Pro-vice-chancellor’s Office for Research  
UNIDAVI - Universidade para o Desenvolvimento do Alto Vale do Itajaí  
Rio do Sui, Brazil

8:00 - 9:00, October 26 (Thursday)  
Sustainability and Green Systems  
Salón Turquesa  
Session Chair: Victoria Willson, Buenos Aires University, Argentina

ID 251  Improving the Efficiencies of Pelton Wheel in Micro-Hydro Power Plants  
Loice Gudukeya and Charles Mbohwa, University of Johannesburg, South Africa

ID 62  The closed cycle process as an eco-efficiency strategy to improve industrial productivity  
Gerardo Avendaño Prieto, Business administration Program, Department of administration, EAN University, Colombia  
William Eduardo Mosquera Laverde, MGA, Universidad Cooperativa de Colombia, Colombia

ID 255  The Role of Total Quality Management (TQM) Practices on Improving Organisational Performance in Manufacturing and Service Organisations  
Nita Sukdeo, University of Johannesburg, South Africa  
Jan Harm Christiaan Pretorius, University of Johannesburg, South Africa  
Andre Vermeulen, University of Johannesburg, South Africa

ID 97  Accuracy and precision of the drag and rolling resistance coefficients obtained by on road coast down tests  
José Ignacio Huertas, Department of Mechanical Engineering, Tecnológico de Monterrey, Eugenio Garza Sada, Monterrey, México  
Gustavo Andrés Álvarez Coello, Department of Mechanical Engineering, Universidad del Azuay, Cuenca, Ecuador

ID 274  Organic solid waste treatment and its deposition through sewage net. Technical and financial analysis for domiciliary treatment systems  
Victoria Willson, Susana Boeykens, Néstor Caracciolo and Facundo Calcagno, Buenos Aires University, Argentina

8:00 - 9:00, October 26 (Thursday)  
Logistics Management  
Salón Topacio  
Session Chair: Teresa Verduzco-Garza, Universidad de Monterrey, México

ID 5  Challenges and Opportunities in Computing Logistics Cost in E-commerce Supply Chain  
Pramod Ghadge and Swadesh Srivastava, Flipkart Internet Private Ltd., Bangalore, Karnataka 560034, India

ID 28  Reducing Outbound Transportation Costs: A Case Study  
Edgar Granda and Bernardo Villarreal, Universidad de Monterrey, San Pedro Garza Garcia, N.L., México

ID 93  Reverse logistics system for WEEE: exploration of economic and environmental benefits  
Claudia Cecilia Pena Montoya, Universidad Santiago de Cali, Colombia

ID 74  Increasing competitiveness through a logistics and transportation cluster: A literature review  
Teresa Verduzco-Garza and Fernando Gonzalez Aleu, Universidad de Monterrey, Mexico

8:00 - 9:00, October 26 (Thursday)  
Production Planning and Management  
Salón Rubí  
Session Chair: Alvaro De Jesus Guarin Grisales, Universidad EAFIT, Medellín, Colombia
ID 29  A Review of Planning Production and Energy Efficiency Models  
Bonnel Mejía-Maya\textsuperscript{a}, Vanessa Sierra-Zuluaga\textsuperscript{b} & Javier Fernández-Ledesma\textsuperscript{c}  
\textsuperscript{a} Facultad de Ingeniería, Universidad Pontificia Bolivariana, Medellín, Colombia  
\textsuperscript{b} Facultad de Ingeniería, Universidad Pontificia Bolivariana, Medellín, Colombia  
\textsuperscript{c} Facultad de Ingeniería, Universidad Pontificia Bolivariana, Medellín, Colombia

ID 45  Production Planning and control systems for competitiveness of Basic Metal and Steel industries  
Shimelis Tilahun and Daniel Kitaw, Addis Ababa Institute of Technology, Ethiopia

ID 99  The Application of Fuzzy Programming Models in Solving Multi-Objective Problems of Production and Distribution in Supply Chains with Respect to Fuzzy Delivery Date  
Mostafa Gholamrezaii, Middle East Mines & Mineral Industries Development Holding Company (MIDHCO), Kerman, Iran  
Amin Lakzadeh, Middle East Mines & Mineral Industries Development Holding Company (MIDHCO), Kerman, Iran

ID 204  Appraising the significance of new product development team climate and idea support.  
S. Asiya Zenab Kazmi, Industrial Mgt., Production Dept, University of Vaasa, Finland

ID 217  Fábrica de Aprendizaje: Nuevo modelo de enseñanza productiva  
Alvaro De Jesus Guarin Grisales, Felipe Baena Restrepo and Julian Mora Orozco, Universidad EAFIT, Medellín, Colombia

8:00 - 9:00, October 26 (Thursday)  
Manufacturing and Design  
Salón Hade  
Session Chair: Lina Nataly Alvarado Riaño, National University of Colombia at Bogotá, Colombia

ID 59  Improved Wire Rope Lubricator Design for a Mine  
Ignatio Madanhire and Tawanda Mushiri, Dept. of Mechanical Engineering, University of Zimbabwe, Mt Pleasant, Harare, Zimbabwe  
Charles Mbohwa, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

ID 65  Design and Calculations of Kinetic Energy Harvesting System for a Decelerating Train  
Tawanda Mushiri, Bhekisipho Mpofu and Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, Johannesburg, South Africa

ID 72  Design and Fabrication of a Pedal Powered Washing Machine  
Tawanda Mushiri, Tererai J. Mugova and Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, Johannesburg, South Africa

ID 54  Design of an Architecture for the Evaluation of Traceability in the Supply Chain of Fresh Produce  
Lina Nataly Alvarado Riaño and Delio Alexander Balcázar Camacho, Department of Industrial Engineering and Systems, National University of Colombia at Bogotá, Bogotá D.C., Colombia

8:00 - 9:00, October 26 (Thursday)  
Inventory Management  
Salón Zafiro  
Session Chair: Narges Shahraki, Michael Foods Inc., MN, USA

ID 50  Variant of the EOQ Model for Electronic Products with Short Life Cycle  
Andrés Velásquez Contreras, Profesor Universidad Autónoma de Colombia, Doctorado en Logística y Dirección de la Cadena de Suministro, Universidad Popular Autónoma del Estado de Puebla, 21 Sur 1103, Puebla, Puebla 72410, México
Diana Sánchez-Partida, Profesora investigadora en el posgrado de Logística y Dirección de la Cadena de Suministro, Universidad Popular Autónoma del Estado de Puebla, 21 Sur 1103, Puebla, Puebla 72410, México
José Luis Martínez-Flores, En Ingeniería de sistemas. Consultor Master de Empresas, Director del Posgrado en Logística y Dirección de la Cadena de Suministro, Universidad Popular Autónoma del Estado de Puebla, Puebla, Puebla 72410, México

ID 61 Storage Location Allocation Model for a Just in Sequence (JIS) production System
Edmundo Salazar and José Luis Martínez, Logistics and Supply Chain Management, Universidad Popular Autónoma del Estado de Puebla, Barrio de Santiago #17 sur 901 C.P. 72410

ID 110 A Control Policy for a Multi-Stage Remanufacturing System
Narges Shahraki, Michael Foods Inc., MN 55305, USA

9:00 – 10:00, October 26 (Thursday) Session

9:00 – 10:00 KEYNOTE - Salón Esmeralda

Professor Donald M. Reimer
President, The Small Business Strategy Group
Detroit, Michigan, USA
Adjunct Faculty – A. Leon Linton Department of Mechanical Engineering
Lawrence Technological University
Southfield, Michigan, USA

9:00 – 10:00, October 26 (Thursday) Global Engineering Education - Salón Amatista
Session Chair: Prof. Eduardo Cardoso Moraes, Federal University of Bahia, Brazil

9:00 – 9:30 (THURSDAY)

Prof. Eduardo Cardoso Moraes
Federal Institute of Alagoas
Federal University of Bahia, Salvador, Brazil

Engineering education challenges with advances of Industrial Revolution - Industry 4.0

9:30 – 10:00 (THURSDAY)

Ing./MFN Gabriel Suarez
Aguascalientes, Ags. México
IEEE Aguascalientes Section Chair

9:00 – 10:00, October 26 (Thursday) Sustainability and Green Systems - Salón Turquesa

ID 69 Carbon Footprint Analysis of Electric Taxis in Istanbul
Nuri Cihat Onat, Murat Kucukvar, Parinaz Toufani and Muhammad Ali Haider, Department of Industrial Engineering, Istanbul Sehir University, Istanbul, Turkey
ID 75  Investigation of Optimal Charging Locations for Electric Vehicles in Istanbul
Bedriye Atılgan, Yılmaz Muhammed Uşaklı, Ekrem Melih Baraçlı, Nuri Cihat Onat and Murat Kucukvar,
Department of Industrial Engineering, Istanbul Sehir University, Istanbul, Turkey

ID 79  A Global Multiregional Life Cycle Sustainability Assessment of National Energy Production Scenarios until 2050
Murat Kucukvar, Nuri Cihat Onat, Muhammad Ali Haider and Mohammad Abdullah Shaikh, Department of
Industrial Engineering, Istanbul Sehir University, Istanbul, Turkey

9:00 – 10:00, October 26 (Thursday)  Logistics Management  Salón Topacio
Session Chair: Gloria Mercedes López Orozco, Universidad Autónoma de Occidente, Cali, Colombia

ID 96  The Reverse Logistic As Supporting Municipal Solid Waste Management
Vivian Lorena Chud Pantoja, Claudia Cecilia Peña Montoya and Claudia Cristina Bocanegra Herrera, Facultad de
Ingeniería, Universidad Santiago de Cali, Cali, Colombia

ID 211  Modelo de costos logisticos en un sistema de producciôn MIPYME. Caso Empresa de Calzado
Yira Janneth Avila Ortiz y Margot Cajigas and Gloria Mercedes López Orozco, Facultad de Ingeniería -
Departamento de Operaciones y Sistemas, Universidad Autónoma de Occidente, Cali – Jamundí, 760030, Cali-
Colombia

ID 218  Modelo de distribución urbana de mercancías en empresa dedicada al transporte de carga
Javier Arias-Osorio and Chabeli Suarez, Escuela de estudios industriales y empresariales, Universidad Industrial de
Santander, Bucaramanga, Colombia

ID 231  Metodología De Clasificación De Necesidades Aplicada Al Contexto Logístico, Transporte Intermodal Y
Portuario
Gloria Mercedes López Orozco, Ana Isabel Meneses Franco y Katherine Becerra López, Facultad de Ingeniería -
Departamento de Operaciones y Sistemas, Universidad Autónoma de Occidente, Cali, Colombia

9:00 – 10:00, October 26 (Thursday)  Decision Sciences  Salón Rubí
Session Chair: Fernando Juárez, Universidad del Rosario, Bogotá, Colombia

ID 276  Just in Time Strategy and Profitability Analysis in Financial Statements
Fernando Juárez, Carlos Hernan Pérez and Alejandro Useche, School of Business, Universidad del Rosario, Bogotá,
Colombia

ID 280  Measuring Service Quality of Aviation Industry in Turkey Using Mixed Multi Criteria Decision Making
Techniques
Mehmet Salih Goceri, Management Information System, Santa Clara University, Santa Clara, CA, 95051, USA
Tugba Goceri, Santa Clara, CA, 95051, USA

ID 281  Measuring the Service Quality of Fast-food Restaurants in Turkey Using a Hybrid Multi Criteria Decision
Making
Mehmet Salih Goceri, Management Information System, Santa Clara University, Santa Clara, CA, 95051, USA
Tugba Goceri, Santa Clara, CA, 95051, USA

ID 254  Blending transformational leadership with strategic thinking to strengthen organizational NPD innovation
process
S. Asiya Zenab Kazmi, Industrial Mgt., Production Dept., University of Vaasa, Finland
9:00 – 10:00, October 26 (Thursday)  sustainability and green systems  Salón Hade
Session Chair: Abrahams Mwasha, The University of the West Indies St Augustine Campus, West Indies

ID 86  Modelo de Responsabilidad Social para Empresas Refresqueras y su manejo de residuos PET
Claudia Baza-Alvarez, Unidad Profesional Interdisciplinaria de Ingeniería y, Ciencias Sociales y Administrativas, Instituto Politécnico Nacional, Ciudad de México
Luis Rocha-Lona, Rosa Amalia Gómez Ortiz y Fernando Lambarry Vilchis, Escuela Superior de Comercio y Administración, Unidad Santo Tomás, Instituto Politécnico Nacional, Ciudad de México

ID 17  Recycled Aggregates for Green Concrete
Abrahams Mwasha and Rakesh Ramnath, The University of the West Indies St Augustine Campus, West Indies

9:00 – 10:00, October 26 (Thursday)  automation and control  Salón Zafiro
Session Chair: Tawanda Mushiri, University of Johannesburg, South Africa

ID 116  Industry 4.0 and its impacts on society
Eduardo Cardoso Moraes, Federal Institute of Alagoas – IFAL, Brazil
Herman Augusto Lepikson, Federal University of Bahia, Brazil

ID 102  Renewable Energy Growth Pattern and Correlation with CO2 Emissions in BRICS Nations
Abhijit T, Mridula Sahay and Kewal Gupta, Amrita School of Business, Amrita Vishwa Vidyapeetham University, Coimbatore, India

ID 15  Biomechanical Based Athletic Potential Assessment System
Catherine Cleetus, Sahrdaya College of Engineering & Technology, India

ID 71  Redesign of an automatic crown cap punch press machine and implementation of a pro-active maintenance strategy: A Case study for ZXY, Zimbabwe
Tawanda Mushiri, Romana E Mundondi and Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, Johannesburg, South Africa

10:00- 10:30  Break

10:30- 11:30  Salón Esmeralda

Enrique Sandoval
Vice President and COO OCENSA Bogota, Colombia

“Broccol Effect, Building Operations Capacity”

11:30 – 12:30 - Salón Esmeralda

Dr. Juan Diego Alzate
Fundador de Transprojects (Paris)
Smart Crop Asia (China)
“Acredited Trainer” en Paris para International Chamber of Commerce (ICC) en Incoterms®”

"The Future of Distribution based on n 10 Mega-Trends of Supply Chain”

12:30 – 1:30pm - Salón Esmeralda
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<td>1:30 – 2:15 pm</td>
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| 2:15 – 3:00 pm | **Dr. Gian Paolo Gandini**                            
|               | Corporative Purchases Director of Belcorp                     |
|               | General Manager Andina Charer Paner Apics.                   |
|               | “Collaboration as a Key Factor in the Development of the Supply Chain” |
| 3:00 – 3:30   | Conference Awards and Recognitions - Salón Esmeralda            |
| 3:30 – 4:30   | **PANEL** - Salón Esmeralda                                       |
|               | **Mario Alejandro Rodríguez Díaz** Logistics Coordinator of **Don Jediondo**  |
|               | **Sebastian Puerta Mantilla** Chief of Operations Carga Internacional **Latam**  |
|               | **Daniel Villa Camacho** Chief operating official of Colombia, Perú and Ecuador of **Domicilios.com**  |
| 4:30 – 5:00   | Break                                                              |
| 5:00 – 5:45   | **Keynote** International - Salón Esmeralda I                    |
|               | **Dr. Fernando Cámara** Logistics Director Jerónimo Martins ARA  |
|               | “Logistica -Supermercados Ara Colombia”                          |
| 5:00 – 6:00, October 26 (Thursday) | **Global Engineering Education**  
|               | **Salón Amatista**                                                |
|               | **Session Chair: Dr. Vitor M. Caldana, IFSP - Instituto Federal de São Paulo - Campus Sorocaba, Brazil**  |
|               | 5:00 – 5:30 pm (THURSDAY)                                         |
|               | **Dr. Vitor M. Caldana** Professor                              |
|               | Depto. de Eletroeletrônica                                        |
|               | IFSP - Instituto Federal de São Paulo - Campus Sorocaba          |
|               | Santana de Parnaíba, SP, Brazil                                  |
|               | 5:30 – 6:00 pm (THURSDAY) – INDUSTRY SOLUTIONS                    |
|               | **Antonio J. Jara** Adjoint Scientifique                        |
|               | University of Applied Sciences Western Switzerland (HES-SO)      |
|               | Vice-Chair of the IEEE Communications Society Internet of Things Technical Committee  |
|               | **Digitalization of Cyber Physical Processes with FIWARE**      |

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5:00 – 6:00, October 26 (Thursday)  Facilities Planning & Human Factors  Salón Esmeralda II  
Session Chair: Mehmet Salih Goceri, Santa Clara University, Santa Clara, CA, USA

ID 83  Modelo de Weber sobre Zonas Específicas
Lucía Cazabal Valencia, Universidad Popular Autónoma Del Estado de Puebla, Mexico
Santiago-Omar Caballero-Mora, Universidad Popular Autónoma Del Estado de Puebla A.C., Mexico

ID 4  Analysis the Factors of Cognitive Ergonomics Phenomena on Electronic Book (eBook) Readers
Muhammad and Rahmat Nurcahyo, Industrial Engineering (IE) Department, University of Indonesia, Depok, West Java, Indonesia

ID 67  Relevant Risk Factors Linked to Musculoskeletal Discomfort in Workers of Meat Processing Industry
Mervyn Márquez y Miguel Márquez, Departamento de Ingeniería Industrial, Universidad Nacional Experimental del Táchira, San Cristóbal, Venezuela

ID 107  Operational Risk Management Applied to Ergonomics
Lawrence J. H. Schulze, Department of Industrial Engineering, University Houston, Houston, TX, USA

ID 233  Web Site Usability Measurement: A Case of Fatih University
Mehmet Salih Goceri, Management Information System, Santa Clara University, Santa Clara, CA, 95051, USA
Tugba Goceri, Santa Clara, CA, 95051, USA

5:00 – 5:45, October 26 (Thursday)  Engineering Education  Salón Turquesa  
Session Chair: Víctor Molina-Dueñas, Universidad Técnica de Ambato, Ambato, Ecuador

ID 113  Software as a Service Google Apps in the Internal Communication of the National University of San Antonio Abad del Cusco
Hernán Nina, Lauro Enciso and William A. Chavez, Computer Engineering and Systems, National University of San Antonio Abad, Cusco, Perú

ID 222  An Analysis of Engineering Education impact on Brazil’s Micro Regions
Vítor Mendes Caldana, IFSP - Instituto Federal de São Paulo - Campus Sorocaba, Santana de Parnaíba, SP, Brazil
Márcia Terra da Silva, Post-Graduation Program for Industrial Engineering – PPGEP, UNIP - University Paulista, São Paulo, SP, Brazil

ID 248  Brazilian case study on Strategic, Quality and People Management applied to SAE Baja and Aero teams
Emanuel Sandro de Brito, Sidney Teylor de Oliveira and Úrsula Maruyama, Strategic Management Officer/Business Administration School, CEFET/RJ, Rio de Janeiro, Brazil
Paloma Martínez, Production Management and Engineering MBA Department, Universidad El Bosque, Bogotá, Colombia

ID 73  The Effects of Innovation on Manufacturing Competitiveness of the Leading Countries in the Automotive Industry
Rolando Rodríguez Alanis, Industrial and Systems Engineering Program, University of Monterrey, Nuevo Leon, Mexico
Luz María Valdez de la Rosa, Engineering Management Program, University of Monterrey, Nuevo Leon, Mexico
Fernando González-Aleu González, Engineering Department, University of Monterrey, Nuevo Leon, Mexico
María Teresa Verduzco Garza, Engineering Department, University of Monterrey, Nuevo Leon, Mexico

ID 82  Global manufacturing and maquiladora industry in California-Baja transborder metropolitan region
Oral  Entrepreneurship and Innovation
Víctor Molina-Dueñas, Decision and Innovation Group, Department of Innovation and Entrepreneurship, Universidad Técnica de Ambato, Ambato, Ecuador
Juan Carlos Ruiz-Carrera, Decision and Innovation Group, School of Food Science and Engineering, Universidad Técnica de Ambato, Ambato, Ecuador
José M. Lavín, Decision and Innovation Group, School of Law and Social Sciences, Universidad Técnica de Ambato, Ambato, Ecuador

ID 203  A New Way to Identify and Enhance Entrepreneur Qualities
Mouad El Omari, Mohammad Erramdani and Saida Filali, Department of Management and Entrepreneurship, Mohamed First University, Morocco

5:00 – 6:00, October 26 (Thursday)  Logistics Management
Salón Topacio
Session Chair: Cristian José Solano Payares, Universidad del Atlántico, Colombia

ID 232  Modelo de medida de rendimiento de las operaciones logísticas: Aplicación servicios de maquila en productos de consumo masivo en Cali
Gloria Mercedes López Orozco, Facultad de ingeniería – Departamento de operaciones y sistemas, Universidad Autónoma de Occidente, Cali, Colombia
Carolina Ruano Estrada y Guillermo Peñaranda Sánchez, Facultad de ingeniería – Departamento de operaciones y sistemas
Universidad Autónoma de Occidente, Calle 25#115-85 Km 2 Vía Cali-Jamundí, Código Postal: 760030, Cali, Colombia

ID 236  Modelo Logístico Para Acopio Y Distribución De Alimentos Críticos. Caso Valle Del Cauca
Valentina Restrepo Peláez y Nelson Ricardo Becerra Escobar, Facultad de Ingeniería - Departamento de Operaciones y Sistemas
Universidad Autónoma de Occidente, Calle 25#115-85 Km 2 Vía Cali-Jamundí Código Postal: 760030 Cali, Colombia
Gloria Mercedes López Orozco, Facultad de Ingeniería - Departamento de Operaciones y Sistemas, Universidad Autónoma de Occidente, Calle 25#115-85 Km 2 Vía Cali-Jamundí Código Postal: 760030 Cali, Colombia

ID 237  Estudio diagnóstico de las prácticas de logística inversa en el manejo de canastillas en Alimentos Cárnicos S.A.S en la ciudad Barranquilla
María Gari, Lina Woo and Cristian Solano, Universidad del Atlántico, Barranquilla, Colombia

ID 238  Diseño De Layout Del Almacen De Productos De La Distribuidora Barranquilla S.A.S. Para Mejorar Sus Operaciones Logísticas
Cristian José Solano Payares, Elvira Patiño Velez and Bleiner Castro, Universidad del Atlántico, Barranquilla, Colombia

ID 245  Desarrollo De Un Algoritmo Genético Para La Solución De Un Problema De Asignación De Cargas
Natalia Alejandra Gelves Tello and Mónica Patricia Acosta Rodríguez, Candidate for the Master's Degree in Industrial Engineering, Pontificia Universidad Javeriana, Carrera 7 No. 40 – 62, Bogotá-Colombia
Juan Pablo Caballero Villalobos, PhD in Engineering, Universidad de los Andes, Director of the Master's Degree in Industrial Engineering, Pontificia Universidad Javeriana, Bogotá-Colombia

5:00 – 6:00, October 26 (Thursday)  Case Studies
Salón Rubi
Session Chair: Juan Jesús Arenas, Pontificia Universidad Católica del Perú, San Miguel, Lima, Perú

ID 58  Comparison of EMS in Project Phase and a Fully Implemented One: Case Study
Thierry Ngoundou Boulamatari and Charles Mbohwa, Department of Quality and Operations Management, University of Johannesburg, P O Box 524, Auckland Park 2016, Johannesburg, South Africa
Ignatio Madanhire, Department of Mechanical Engineering, University of Zimbabwe, Mt Pleasant, Harare, Zimbabwe
ID 100  Temporary Clusters: A New Approach for Manufacturing SME Management
Ahmed Mohib, Department of Industrial Engineering, Fayoum University, Fayoum, Egypt
Ahmed Deif, Industrial Technology and Packaging Department, California Polytechnic State University, SLO, USA

ID 214  MicroErp, a computer solution for small and medium-sized enterprises: Case study of collaboration between university and industry
Juan Jesús Arenas and Freddy Paz, Pontificia Universidad Católica del Perú, Engineering Department, San Miguel, Lima 32, Perú

ID 271  CVRPTW model applied to the collection of food donations

ID 20  Development of an effective maintenance concept for enhancement of competitive advantage: a case study of East African Portland Cement Company
Japheth Ombogo, East African Portland Cement Company

5:00 – 6:00, October 26 (Thursday)  Engineering Management
Salón Hade
Session Chair: Bupe G Mwanza, University of Johannesburg, South Africa

ID 57  Impact of EMS (ISO 14001) on a Manganese Mine Operations in Gabon: Case Study
Thierry Ngoundou Boulamatari and Charles Mbohwa, Department of Quality and Operations Management, University of Johannesburg, P O Box 524, Auckland Park 2016, Johannesburg, South Africa
Ignatius Madanhire, Department of Mechanical Engineering, University of Zimbabwe, Mt Pleasant, Harare, Zimbabwe

ID 270  El impacto de la implementación de sistemas de gestión. Aspectos a considerar para la toma de decisiones en las organizaciones. Caso de las pequeñas y medianas empresas en Bogotá D.C. Colombia
Oscar Alejandro Vásquez-Bernal, Escuela de Ciencias Básicas Tecnología e Ingeniería, Universidad Nacional Abierta y a Distancia UNAD, Bogotá D.C. - Colombia
William Eduardo Mosquera-Laverde, Facultad de Ciencias Administrativas, Económicas y Afines, Universidad Cooperativa de Colombia, Bogotá D.C - Colombia

ID 240  Diseño de una estructura organizacional empresarial integral nodal basada en el fomento del uso de fuentes de energía limpia como solución a las necesidades energéticas del municipio de Acandi en el departamento del Chocó
Efrain Mancipe Contreras, Universidad Distrital Francisco Jose De Caldas, Facultad De Ingeniería, Maestria En Ingeniería Industrial, Bogotá D.C

Bupe G Mwanza and Charles Mbohwa, School of Engineering Management, University of Johannesburg, South Africa

5:00 – 6:00,, October 26 (Thursday)  Information Technology / E-Business and E-Commerce  Salón Zafiro
Session Chair: Johanna Trujillo Diaz, Fundación Universitaria Cafam, Bogota, Colombia

ID 27  ICT as driver for the development in Small Business segment
Sanita Meijere and Tatjana Tambovceva, Faculty of Engineering Economics and Management, Riga Technical University, Latvia
ID 106 Industry 4.0: Conceptualization, Backgrounds, Developments and its applicability in Regional Context
Javier Darío Fernández-Ledesma, Dep. of Industrial Eng., Universidad Autónoma Latinoamericana, Medellín, Antioquia, Colombia

ID 225 Factores asociados a la aceptación del comercio electrónico en los municipios del Altiplano del Oriente Antioqueño
Sebastian Franco Castaño, Instituto Tecnológico Metropolitano, Colombia
Luz Alexandra Montoya Restrepo, Universidad Nacional de Colombia, Colombia
Jonathan Bermudez Hernández, Instituto Tecnológico Metropolitano, Colombia

ID 234 Incidencia De Actividades De Innovación En Variables De Producción En Empresas Del Sector Metalmecánico De Cartagena De Indias
Yunellis del Carmen Burgos Pereira, Ingeniera Industrial, Magíster en Gestión de la Innovación, Estudiante de Doctorado en Ingeniería con mención en Ingeniería Industrial, Fundación Universitaria Tecnológico Comfenalco, Grupo de investigación CIPTEC- Facultad de Ingenierías - Fundación Universitaria Tecnológico Comfenalco Cartagena, Cartagena de Indias -Colombia

ID 6 Sorting methodology using PROMETHEE method to consolidate, load and transport goods
Johanna Trujillo-Díaz, Facultad de Ingeniería Industrial, Fundación Universitaria Cafam, Av. Cra. 68 No. 90-88, Bogota, Colombia

ID 111 Sorting methodology to select carriers in a Colombian Green Coffee Supply Chain using PROMETHEE method
Johanna Trujillo Díaz, Industrial Engineering Faculty, Fundación Universitaria Cafam, Av. Cra. 68 No. 90-88, Bogota, Colombia
Rafael Guillermo García Cáceres, Industrial Engineering Faculty, Universidad Pedagógica y Tecnológica de Colombia – UPTC, Sede Central Tunja–Boyacá–Colombia

6:00 – 6:30 Conference closing and certificate delivery