



**Marriot Hotel Bogota, October 26, 2017**

## **Undergraduate Student Paper Competition Awards** Sponsored by **SIEMENS**

### **1<sup>st</sup> Place**

#### **ID 95 Inventory supply model for perishable products. The Calicarnes case**

Ivan Daniel Mesias and Fernando Alberto Osorio, Civil and Industrial Engineering Department, Pontificia Universidad Javeriana – Cali, Cali, Colombia

Jenny Díaz-Ramírez, Engineering Department, Universidad de Monterrey, San Pedro Garza García, 66238, N.L. Mexico

### **2<sup>nd</sup> Place**

#### **ID 88 Increment in on-time deliveries of mouldings to improve customer service of Fabricacion de Maquinas S.A. De C.V.**

Diego Martínez, Sergio Cabello and Donaldo Hernández University of Monterrey, México

### **3<sup>rd</sup> Place**

#### **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

## **Graduate Student Paper Competition Awards** sponsored by **EATON Corporation**

### **1<sup>st</sup> Place**

**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 and Teresa Verduzco-Garza

Department of Engineering

Universidad de Monterrey

San Pedro Garza García, Mexico

### **2<sup>nd</sup> Place**

**ID 117 Competencies to adopt Industry 4.0 for operations management personnel at automotive parts suppliers in Nuevo Leon**

Milagros Díaz Bermúdez and Benito Flores Juárez

School of Engineering

University of Monterrey, Nuevo Leon, Mexico

### **3<sup>rd</sup> Place**

**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, México

## **Best Track Papers Awards**

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 17

**Recycled Aggregates for Green Concrete**

Abrahams Mwashu and Rakesh Ramnath  
Department of Civil and Environmental Engineering  
University of the West Indies  
St Augustine Campus Trinidad and Tobago

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  
Institute of Production Engineering and Management  
Federal University of Itajubá, Itajubá, MG, Brazil

Carlos Eduardo Sanches Da Silva  
Institute of Production Engineering and Management  
Federal University of Itajubá, Itajubá, MG, Brazil

Anderson Paulo de Paiva  
Institute of Production Engineering and Management  
Federal University of Itajubá, Itajubá, MG, Brazil

ID 51

**Designing the Emergency Medical Operations System Structure: A Case Study**

Bernardo Villarreal, Edgar Granda, Andrea Montalvo, Samantha Lanckenau & Ana Cristina Bastidas  
Universidad de Monterrey  
San Pedro Garza García, N.L., México 66238

ID 55

**Trade-offs between Environmental and Economic Objectives in Closed-Loop Supply Chains**

Oscar Fabián Velásquez Rodríguez, PhD (C)  
Universidad Nacional de Colombia  
Bogotá, Colombia

Carlos Eduardo Moreno Mantilla, PhD  
Systems and Industrial Engineering Department  
Universidad Nacional de Colombia  
Bogotá, Colombia

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

Ignatio Madanhire  
Department of Mechanical Engineering  
University of Zimbabwe  
P.O Box MP167, Mt Pleasant  
Harare, Zimbabwe

ID 69

### **Carbon Footprint Analysis of Electric Taxis in Istanbul**

Nuri Cihat Onat<sup>1</sup>, Murat Kucukvar<sup>1</sup>, Parinaz Toufani<sup>2</sup>, Muhammad Ali Haider<sup>2</sup>

<sup>1</sup>Department of Mechanical and Industrial Engineering, Qatar University, Qatar

<sup>2</sup>Department of Industrial Engineering, Istanbul Sehir University, Istanbul, Turkey

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 78

### **Stochastic inventory control and distribution of blood products**

Andrea Pirabán Ramírez

Université de Technologie de Troyes

Troyes, France

Nacima Labadie

ICD-LOSI (UMR-STMR CNRS 6279)

Université de Technologie de Troyes

Troyes, France

ID 92

### **Increase of the number of internal trips in a steel company: A case of study**

Ricardo Adrián Cisneros Hernández

Engineering Department

Universidad de Monterrey

San Pedro Garza García, 66238, N.L.

Diana Paola Morales Mata

Engineering Department

Universidad de Monterrey

San Pedro Garza García, 66238, N.L.

Erick Humberto Garza-Espinosa

Engineering Department

Universidad de Monterrey

San Pedro Garza García, 66238, N.L.

Jenny Díaz-Ramírez

Engineering Department

Universidad de Monterrey, San Pedro Garza García, 66238, N.L.

ID 108

**Wind farm maintenance scheduling model and solution approach**

Andres Felipe Gutierrez

Facultad de Administración

Universidad de los Andes, Bogotá DC, Colombia

Laboratoire d'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 110

**A Control Policy for a Multi-Stage Remanufacturing System**

Narges Shahraki

Michael Foods Inc.

MN 55305, USA

ID 111

**Sorting methodology to select carriers in a Colombian Green Coffee Supply Chain using PROMETHEE method**

Johanna Trujillo Diaz

- 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

Avenida Central del Norte 39-115

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

Computer Engineering Department

National University of San Antonio Abad

Cusco, Perú

William A. Chavez

Graduated from the computer engineering and systems

National University of San Antonio Abad

Cusco, Perú

ID 213

**Solución al problema de envasado en pesadoras multicabezales mediante la optimización matemática**

Alexander Pulido-Rojano

Departamento de Ingeniería Industrial

Universidad Simón Bolívar

Av. 59 No. 59-92. A.A. 5059, Barranquilla, Colombia

J. Carlos García-Díaz  
Departamento de Estadística e Investigación Operativa Aplicadas y Calidad  
Universitat Politècnica de València,  
Camino de Vera, s/n. 46022, Valencia, Spain

ID 222

### **An Analysis of Engineering Education impact on Brazil's Micro Regions**

Vitor 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 - PPGEPI  
UNIP - University Paulista  
São Paulo, SP, Brazil

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

ID 235

### **A cost- effective collaborative inventory management strategy between non-competitor companies; a case study**

Carlos Oteroa and René Amayaa  
Department of Industrial Engineering  
Universidad del Norte, A.A. 1569,  
Barranquilla, Colombia

ID 236

### **Logistics model for collection and distribution of critical foods. Valle del Cauca case.**

Valentina Restrepo Peláez and Nelson Ricardo Becerra Escobar  
Faculty of Engineering – Operations and Systems department  
Universidad Autónoma de Occidente  
Calle 25#115-85 Km 2 Vía Cali-Jamundí Postal code: 760030 Cali, Colombia

Gloria Mercedes López Orozco  
Faculty of Engineering – Operations and Systems department  
Universidad Autónoma de Occidente  
Calle 25#115-85 Km 2 Vía Cali-Jamundí Postal code: 760030 Cali, Colombia

ID 260

### **Priority Rules Performance Analysis as a GA Initial Population for RCMPSP**

Germán Eduardo Giraldo González  
Full Time Professor  
Unidad de Proyectos  
Escuela Colombiana de Ingeniería Julio Garavito  
Bogotá, AK.45 No.205-59 (Autopista Norte), Colombia

César Miguel Ordóñez Calderón  
Project Manager – Integrarq SAS  
Graduate Student – Unidad de Proyectos  
Escuela Colombiana de Ingeniería Julio Garavito  
Bogotá, AK.45 No.205-59 (Autopista Norte), Colombia

Diego Camilo Aristizabal González  
Project Management Consultant for Construction Companies – Freelance  
Graduate Student – Unidad de Proyectos  
Escuela Colombiana de Ingeniería Julio Garavito  
Bogotá, AK.45 No.205-59 (Autopista Norte), Colombia

Jonathan Xavier Castellanos Trujillo  
IT Director – Technosoft Solutions SAS  
Graduate Student – Unidad de Proyectos  
Escuela Colombiana de Ingeniería Julio Garavito  
Bogotá, AK.45 No.205-59 (Autopista Norte), Colombia

ID 271

**CVRPTW model applied to the collection of food donations**

Iván Guillermo Peña Arenas, Alexander Gutiérrez Sánchez, Carlos Armando, López Solano and Linda Bibiana Rocha Medina  
Facultad de Ingeniería  
Corporación Universitaria Minuto de Dios - UNIMINUTO  
Bogotá – Colombia

ID 274

**Organic solid waste treatment and its deposition through sewage net. Technical and financial analysis for domiciliary treatment systems.**

Willson, Victoria; Calcagno, Facundo Martín; Boeykens, Susana P.; Caracciolo, Néstor  
Universidad de Buenos Aires, Facultad de Ingeniería,  
Chemistry Laboratory of Heterogeneous Systems (LaQuíSiHe),  
Buenos Aires, Argentina

**ID 276 Just in Time Strategy and Profitability Analysis in Financial Statements**

Fernando Juárez  
School of Business  
Universidad del Rosario  
Bogotá, Colombia

Carlos Hernan Pérez  
School of Business  
Universidad del Rosario  
Bogotá, Colombia

Alejandro Useche  
School of Business  
Universidad del Rosario  
Bogotá, Colombia