# 2019 IEOM Awards – Pilsen, Czech Republic
## July 23-25, 2019 (Park Hotel)

## IEOM Leadership Award

- Dr. Miroslav Holeček, Rector, The University of West Bohemia, Pilsen, Czech Republic

## IEOM Distinguished Educator Awards

- Prof. Josef Basl, Department of Industrial Engineering and Management, Faculty of Mechanical Engineering, University of West Bohemia, Pilsen, Czech Republic
- Prof. Felicita Chromjakova, Professor, Department of Industrial Engineering and Information Systems, Tomas Bata University, Zlin, Czech Republic

## IEOM Distinguished Industry Achievement Awards

- Dipl. Ing. Wolfgang Weissler, CEO Digital Factory & Process Industries and Drives, SIEMENS Czech Republic
- Petr Nekolný, VALEO, Nymburk, Czech Republic
- Roman Žák, Chairman of the Board, Aimtec, Pilsen, Czech Republic
- Tomáš Vondrák, Plant Manager, Continental, Czech Republic
- Christof Spiegel, Senior Vice President & General Manager at Eaton, Bonn, North Rhine-Westphalia, Germany
- Grant Liversage, Managing Director , Pilsen Urquell Brewery, Prague, Czech Republic

## IEOM Outstanding Researcher Awards

- Dr. Jrjung Lyu, Professor, Department of Industrial Management Science, National Cheng Kung University, Tainan, Taiwan
- Dr. Sascha Gierlings, Leitender Wissenschaftler bei Fraunhofer-Institut für Produktionstechnologie IPT, Aachen, North Rhine-Westphalia, Germany
- Taesu Cheong, Korea University, Associate Professor, Seoul, South Korea

## IEOM Young Researcher Awards

- Dr. Antonio Sartal, Researcher (Operations Research and Management), University of Vigo, Spain

## IEOM Woman in Industry and Academia Award

- Ing. Denisa Hrušecká, Ph.D., Head of Department, Department of Industrial Engineering and Information Systems, Faculty of Management and Economics, Tomas Bata University in Zlín, 760 01 Zlín, Czech Republic

## IEOM Teaching Excellence Awards

- Dr. Josep Llach, Professor, Department of Business Adminstration and Product Design, University of Girona, Campus Montilivi, Girona, Spain
- Victor Gomez Frias, Profesor de Administración de Empresas and Director of International Master in Business and Public Policy (MIEPP), Universidad Politécnica de Madrid, Madrid, Spain
- Prof. Mauro Mancini, Associate Professor, Department of Management, Economics and Industrial Engineering, Politecnico di Milano, Italy

## IEOM Global Engineering Education Awards

- Assoc. Prof. Milan Edl, Dean, Faculty of Mechanical Engineering, University of West Bohemia, Pilsen, Czech Republic
- Dr. António Grilo, Associate Professor with Habilitation, Head of the Department of Mechanical and Industrial Engineering at FCT NOVA, Director of UNIDEMI and Director of the PhD Program in Industrial Engineering, UNIDEMI- Research Centre hosted by the Department of Mechanical and Industrial Engineering (DEMI), of NOVA School of Science and Technology of Lisbon Nova University, Campus da Caparica, Portugal

## IEOM Distinguished Service Awards

1. Dr. Jiří Tupa, Vice Dean for Strategy and Development, Faculty of Electrical Engineering, University of West Bohemia, Pilsen, Czech Republic
2. Professor Jose Arturo Garza-Reyes, Ph.D., Professor of Operations Management, Head of the Centre for Supply Chain Improvement, College of Business, Law and Social Sciences, University of Derby, UK
3. Dr. Vikas Kumar, Professor of Operations and Supply Chain Management, Director of Research and Scholarship, Bristol Business School, University of the West of England (UWE), Bristol, UK

## IEOM Outstanding Service Awards

- Ing. Tomas RERICHA Ph.D., University of West Bohemia, Pilsen, Czech Republic

## IEOM Outstanding Student Leadership Awards

- Andrea Benesova
- David Fremr
- David Kalas
- Iveta Pangracova
- Jaroslav Hornak
- Jiri Hlina
- Jiri Navratil
- Karel Krupicka
- Martin Hirman
- Michal Svehla
- Pavel Stahl
- Tomas Rericha

### Undergraduate Student Paper Competition Award

**1st Place**
ID 004    Improving Forecasting Accuracy to reduce Variability of Customer Service Level
Bernardo Villarreal, Mónica Balderas, Andrea Araiza and Mariana Pena, Universidad de Monterrey, San Pedro Garza García, México.

**2nd Place**
ID 007    Increase Plant Productivity Using an OEE Approach: An Application
Mariana Molina-Barrientos, Teresa Verduzco & Bernardo Villarreal, Departamento de Ingeniería Universidad de Monterrey, San Pedro Garza García, Nuevo León, México

### Undergraduate Research Competition Award

**1st Place**
ID 508    Design, Fabrication and Testing of a 3D Printer
Mohamad Hasan Bin Tasneem and Gamal Talal, Mechanical and Industrial Engineering Department, College of Engineering, Sultan Qaboos University, Sultanate of Oman

**2nd Place**

ID 131    A Scalable Approach for Vehicle Routing Problem with Reinforcement Learning
C.Y. Lo and C.K. M. Lee, Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University Hong Kong, China

**3rd Place**

ID 127    Assessment of Wind Farm Allocation Criteria
Mawadda M. Samkari and Abdulaziz T. Almaktoom, Department of Operations and Information Management, Effat University, Kingdom of Saudi Arabia

## Graduate Student Paper Competition Award

**1st Place**
ID 531    Tools and Leadership Qualities for Change Implementation
Lukas Vaclavik, CPD & Strategic Management, College of Engineering and Technology, University of Derby, UK

**2nd Place**
ID 486    Enhance the Thermal Properties of Poly-Propylene Polymer
Nawaf Almohamdi, Department of Mechanical Engineering Yanbu, Industrial College, Yanbu, Zip 46429, KSA
Ashraf M. Alghanmi, Mechanical and Industrial Engineering Department, Yanbu Industrial College, Yanbu, Saudi Arabia

## Master Thesis Competition Award

ID 303    A Study of Workforce Assignment Problem in Lean Factory on Machine Tool Industry
JrJung Lyu, Ching-Hsiang Tung and Chia-Wen Chen, Department of Industrial and Information Management, National Cheng Kung University, Tainan, Taiwan

## Simulation Competition Award

ID 211    Making the Profitability Paradox of Bad Banks: A System Dynamics Approach
Mahdi Bastan, Sareh Akbarpour and Alimohammad Ahmadvand, Department of Industrial Engineering, University of Eyvanekey, Garmsar, Iran
Hamed Shakouri G., School of Industrial Engineering, College of Engineering, University of Tehran, Tehran, Iran

## Undergraduate Poster Competition Award

**1st  place**
ID 421    Compressed Air Driven Car
Mohammed Saleh Alrashedi, Mohammad Tarahib Alharbi and Fahad Alhujaili, Department of Mechanical Engineering Technology, Yanbu Industrial College, Yanbu Al-Sinaiyah, Saudi Arabia

**2nd place**
ID 508    Design, Fabrication and Testing of a 3D Printer
Mohamad Hasan Bin Tasneem and Gamal Talal, Mechanical and Industrial Engineering Department, College of Engineering, Sultan Qaboos University, Sultanate of Oman

**3rd place**
ID 155 Balancing the Workmanship of a Production Line in the Manufacturing Industry of a Personal Care Product
Jackson Generoso, Milton Alexandre Ziehlsdorff and Paulo Henrique Gamba, Department of Production and Systems Engineering, Federal University of Santa Catarina, Brazil

## Graduate and Professional Poster Competition Award
1st Place
ID 231    A New Climate Indicator to Be Used In Prediction of Cooling Energy in Hot and Humid Regions
Mauricio Nath Lopes and Roberto Lamberts, Department of Refrigeration and Air Conditioning, Federal Institute of Santa Catarina (IFSC), São José, SC, Brazil

2nd Place
ID 230 Adoption of Product-Service System and the Potential as a Sustainable Solution: A Literature View in the Fashion Industry
Pedro Seolin dos Santos, Lucila M. S. Campos and Paulo Augusto Cauchick Miguel, Department of Production Engineering and Systems, Federal University of Santa Catarina – UFSC, Florianopolis – SC, Brazil

2nd Place
ID 120    A Review Paper on Algorithms Used For Simple Assembly Line Balancing Problems in the Automotive Industry
Salah Eddine Ayoub El Ahmadi, Laila El Abbadi and Moulay Taib Belghiti, National School of Applied Sciences, Ibn Tofail University, Kenitra, Morocco

3rd Place
ID 304  Process View on E-Health with Risk Analysis
Michal Švehla and Jiří Tupa, Department of Technologies and Measurement, Regional Innovation Centre for Electrical Engineering (RICE), Faculty of Electrical Engineering, University of West Bohemia

ID 359  Determination of Changes Between Lean Management and Lean 4.0
Andrea Benesova and Jiri Tupa, Department of Technologies and Measurement, Faculty of Electrical Engineering, University of West Bohemia, Univerzitní 2732/8, 301 00 Pilsen, Czech Republic

## Best Track Papers Awards

### Big Data
**ID 329 Analysis of Accidental Deaths during Songkran Festival Using Data Mining**
Pornpimol Chaiwuttisak,Statistics Department, King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand

**ID 332 Classifying Colon Cancer Tissues Using Probabilistic Principle Components Analysis with the Consistent Information Complexity (CICOMP) in Logistic Regression**
Abdulaziz Saud Alkabaa, Department of Industrial Engineering, King Abdulaziz University, Jeddah, Saudi Arabia

### Business Management
**ID 334 A Method to Measure Logistic Interoperability using Structural Equation Modelling**
Sandro Breval Santiago, Department of Administration and Management, Federal University of Amazonas, Manaus, Amazonas, Brazil
Fabiana Lucena de Oliveira, Department of Economics, State University of Amazonas, Manaus, Amazonas, Brazil
Carlos Manoel Taboada Rodriguez, Department of Production and Systems Engineering, Federal of University of Santa Catarina, Florianópolis, Santa Catarina, Brazil
Ileana G. Pérez Vergara , Group Director of New Technologies Research Labor and Management, Universidad San Buenaventura Cali, Cali, Colombia

### Decision Science
**ID 84 Modelling Interdependencies of Electrical Power Infrastructure by Using ISM-MICMAC Analysis**
Hassan Al-Zarooni, and Hamdi Bashir, University of Sharjah, United Arab Emirates

**ID 470 Comparison of Double Exponential Smoothing Holt and Fuzzy Time Series Methods in Forecasting Stock Prices (Case Study: PT Bank Central Asia Tbk)**
Eman Lesmana, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Jl. Raya Bandung-Sumedang KM 21, Jatinangor 45363, Sumedang, West Java, Indonesia
Nursanti Anggriani, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Jl. Raya Bandung-Sumedang KM 21, Jatinangor 45363, Sumedang, West Java, Indonesia
Sukono, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Jl. Raya Bandung-Sumedang KM 21, Jatinangor 45363, Sumedang, West Java, Indonesia
Fatimah, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Jl. Raya Bandung-Sumedang KM 21, Jatinangor 45363, Sumedang, West Java, Indonesia
Abdul Talib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Malaysia

### Lean
**ID 487 Assessing Critical Failure Factors for Implementing Lean Six Sigma Framework in Indian Manufacturing Organizations**
Vikas Swarnakar, Department of Mechanical Engineering, National Institute of Technology, Raipur, Chhattisgarh, India
Shailesh Vaidya, Department of Mechanical Engineering, National Institute of Technology, Raipur, Chhattisgarh, India
Anil Kr. Tiwari, Department of Mechanical Engineering, National Institute of Technology, Raipur 492010, Chhattisgarh, India
A. R. Singh, Department of Mechanical Engineering, National Institute of Technology, Raipur 492010, Chhattisgarh, India

**ID 459 Transport Operations Optimisation through Lean Implementation – A Case Study**
Nicha Deesrisak, Warwick Manufacturing Group, University of Warwick, Coventry, U.K.
Jose Arturo Garza-Reyes, Centre for Supply Chain Improvement, University of Derby, Derby, U. K.
Simon Peter Nadeem, Centre for Supply Chain Improvement, University of Derby, Derby, U. K.
Anil Kumar, Centre for Supply Chain Improvement, University of Derby, Derby, U. K.
Vikas Kumar, Bristol Business School, University of the West of England, Bristol, U.K.
Fernando González-Aleu, Universidad De Monterrey, San Pedro Garza García, N.L. México
Bernardo Villarreal, Universidad De Monterrey, San Pedro Garza García, N.L. México

### Operations Management
**ID 501 The Impact of Learning Orientation on Innovation Performance: Mediating Role of Operations Strategy and Moderating Role of Environmental Uncertainty**
Paria Jeihoony, Faculty of Economics and Management, University of Tabriz, Tabriz, Iran
Younis Jabarzadeh, Faculty of Economics and Management, University of Tabriz, Tabriz, Iran
Vikas Kumar, Faculty of Business and Law (FBL), University of the west of England Bristol, Bristol, UK
Jose Arturo Garza-Reyes, Derby Management School, University of DERBY, Derby, England

**Product Design**
**ID 247 A Portable Workstation: Implementing Techniques of Product Design Process**
Nadia Tanzeem, Nafisa Ali Anika, Zareen Tasnim Safa, Ibrahim Hossain and Maliha Huq
Dept. of Industrial and Production Engineering, Military Institute of Science and Technology, Mirpur Cantonment, Dhaka-1216, Bangladesh

**Project Management**
**ID 204 A Fuzzy-Network Analysis Approach for Modeling and Analyzing the Critical Success Factors for the ERP Implementation Projects**
Shaikha Binkhatim, Sustainable Engineering Asset Management (SEAM) Research Group, University of Sharjah, Sharjah, UAE
Hamdi Bashir, Sustainable Engineering Asset Management (SEAM) Research Group, University of Sharjah, Sharjah, UAE

**Production Planning**
**ID 217 An Approach of Designing Robust Plant Layout Using Genetic Algorithm**
Rahul Sakharwade, Department of Mechanical Engineering, National Institute of Technology, Raipur, Chhattisgarh, India
Udit Narayan Sahu, Department of Mechanical Engineering, National Institute of Technology, Raipur, Chhattisgarh, India
Harendra Kumar Narang, Department of Mechanical Engineering, National Institute of Technology, Raipur, Chhattisgarh, India
Mridul Singh Rajput, Department of Mechanical Engineering, National Institute of Technology, Raipur, Chhattisgarh, India

**ID 328 Optimizing Production Overtime Period and Backorder Quantity in Joint Production and Maintenance Scheduling**
Chelliah Aruun Vijayanathan, Department of Mechanical and Industrial Engineering, Louisiana State University, Baton Rouge, LA 70803, USA
Bhaba R Sarker, Department of Mechanical and Industrial Engineering, Louisiana State University, Baton Rouge, LA, USA
Md. Shahriar J. Hossain, Department of Engineering Technology, Northwestern State University, Natchitoches, LA, USA

**Energy and Resource Efficiency**
**ID 68 Application of Multilayer Perceptron Neural Network Model for Predicting Industrial Sector's Energy Consumption**
Oludolapo Olanrewaju, Durban University of Technology, Durban  NA, South Africa.

**ID 456 Greenhouse Gas (GHG) Emissions from Land Transports in Malaysia: Modelling and Policy Analysis**
Shibli Azlan, Department of Thermo Fluids, School of Mechanical Engineering, Universiti Teknologi Malaysia
Md. Mizanur Rahman, Department of Thermo Fluids, School of Mechanical Engineering, Universiti Teknologi Malaysia
Hasan Mohd Faizal, Department of Thermo Fluids, School of Mechanical Engineering, Universiti Teknologi Malaysia
Aminuddin Saat, Department of Thermo Fluids, School of Mechanical Engineering, Universiti Teknologi Malaysia
Mazlan Abdul Wahid, Department of Thermo Fluids, School of Mechanical Engineering, Universiti Teknologi Malaysia

**Engineering Education**
**ID 343 Development of Industry 4.0 Virtual Lab for Manufacturing Engineering Education**
Kapil Gupta, Department of Mechanical and Industrial Engineering Technology, University of Johannesburg, South Africa
M Mukhawana, Department of Mechanical and Industrial Engineering Technology, University of Johannesburg, South Africa
Madindwa Mashinini, Department of Mechanical and Industrial Engineering Technology, University of Johannesburg, South Africa
Arno Louw, Centre for Academic Technologies, University of Johannesburg, Johannesburg, South Africa

**ID 455 Efficiency analysis of public primary schools: the case of a medium-sized Brazilian city**
Carlos Ernani Fries, Department of Production and Systems Engineering, Federal University of Santa Catarina, Campus Trindade, C.P. 476, Florianópolis, SC 88040-900, Brazil
Lucas Bonomini de Luna, Department of Production and Systems Engineering, Federal University of Santa Catarina, Campus Trindade, C.P. 476, Florianópolis, SC 88040-900, Brazil
Ricardo Giglio, Department of Production and Systems Engineering, Federal University of Santa Catarina, Campus Trindade, C.P. 476, Florianópolis, SC 88040-900, Brazil

**Facility planning**
**ID 472 Modelling And Mapping University Business Process**
Bachtiar H. Simamora, Leader Performance Excellence Reasearch Group, Bina Nusantara University
Natalia Sonata, Bina Nusantara University

**Information Technologies**

**ID 239 Augmented Reality in Industrial Applications: Technologies and Challenges**

Adriana Carvalho, C-MAST – Center for Mechanical and Aerospace Science and Technologies, University of Beira Interior, UBI, Covilhã, Portugal

Fernando Charrua-Santos, C-MAST – Center for Mechanical and Aerospace Science and Technologies, University of Beira Interior, UBI, Covilhã, Portugal

Tânia M. Lima, C-MAST – Center for Mechanical and Aerospace Science and Technologies, University of Beira Interior, UBI, Covilhã, Portugal

**Inventory Technology**

**ID 345 The Inventory Control Analysis of Head Truck Spare Parts with Continuous Review Policy in Container Terminal Company**

Yugowati Praharsi, Shipbuilding Institute of Polytechnic Surabaya, Jl. Teknik Kimia, Kampus ITS, Sukolilo, Surabaya, Indonesia

Eko Julianto, Shipbuilding Institute of Polytechnic Surabaya, Jl. Teknik Kimia, Kampus ITS, Sukolilo, Surabaya, Indonesia

Hui-Ming Wee, Department of Industrial and System Engineering, Chung Yuan Christian University, Chungli City, Taiwan

**Knowledge Management**

**ID 125 Testing the Effect of Knowledge Management Capabilities on Service Quality**

Ahmed M. Attia, OPIM Department, Effat University, Jeddah, KSA

Alaa M. Zibar, OPIM Department, Effat University, Jeddah, KSA

**ID 235 Digitalization in Industry 4.0, Knowledge Management**

Jiří Mouček, Department of Technologies and Measurement, Faculty of Electrical Engineering, University of West Bohemia, Univerzitní 26, 306 14 Pilsen, Czech Republic

**Logistics Transportation**

**ID 416 A Clustering Algorithm for Location Routing Problem with Outsourced Delivery**

Junko Hosoda, Faculty of Science and Technology, Sophia University, Tokyo, Japan, Center for Technology Innovation – Production Engineering, Hitachi Ltd., Kanagawa, Japan

Takashi Irohara, Faculty of Science and Technology, Sophia University, Tokyo, Japan

**ID 164 Multi-item, Multi-location Transshipment Model for Cross Filling**

Suk-Chul Rim, Department of Industrial Engineering Ajou University Suwon 16499, Republic of Korea

JingJing Jiang, Department of Industrial Engineering Ajou University Suwon 16499, Republic of Korea

**Manufacturing**

**ID 101 Parametric Optimization of WEDM for Inconel 800 using Artificial Neural Network**

Prasenjit Dutta, NIT Agartala, Jirania, Tripura, India

Subhash Chandra Panja, Jadavpur University, Kolkata, India

Pawan Kumar Research Student Department of Production Engineering, NIT Agartala, Jirania, Tripura, India

Debashis Sarkar, Principal Asansol Engineering College, Asansol, India

**ID 221 Taguchi integrated Grey Relation based Multi-Performance Optimization for Productivity and Surface Quality in Dry Machining of SS304**

Neeraj Sharma, Department of Mechanical and Industrial Engineering Technology, University of Johannesburg, South Africa

Kapil Gupta, Department of Mechanical and Industrial Engineering Technology, University of Johannesburg, South Africa

**Modeling and simulation**

**ID 425 Statistical and Kinetic Modeling for Investigating Acetyl Salicylic Acid Stability**

Najwa Alwazni, Chemical Engineering Department, University of Waterloo, Waterloo, Ontario, Canada

Chandra Mouli R Madhuranthakam, Chemical Engineering Department, Abu Dhabi University, Abu Dhabi, UAE

Asmaa Awad, Chemical Engineering Department, University of Waterloo, Waterloo, Ontario, Canada

Ibrahim Mustafa1, Helwan University, Cairo, Egypt

Mohamed Binshams, Bahrain University, Bahrain

Ali Elkamel, Chemical Engineering Department, University of Waterloo, Waterloo, Ontario, Canada, Chemical Engineering Department, Khalifa University of Science and Technology, Abu Dhabi, United Arab Emirates

**Operations Research**

**ID 427  Optimizing a Solid Waste Management Model using Particle Swarm Optimization**

Ferdous Sarwar, Farzana Islam, Md Sadman Sakib and Sampa Halder

Department of Industrial & Production Engineering, Bangladesh University of Engineering & Technology, Dhaka, Bangladesh

**Quality control**

**ID 92 Exponentially Weighted Moving Average Chart Employing Curtailed Inspection for Monitoring Attributes**

Salah Haridy, University of Sharjah, United Arab Emirates, Benha Faculty of Engineering, Benha University, Benha, Egypt

Mohammad Shamsuzzaman, University of Sharjah, United Arab Emirates

Imad Alsyouf, University of Sharjah, United Arab Emirates

Ahmed Maged, Benha Faculty of Engineering, Benha University, Benha, Egypt

**Reliability**

**ID 180 Final version : A Framework to Prolong Interval of Turnaround Maintenance (TAM) of Processing Plants: Pressure Drums Case Study**

Abdelnaser Elwerfalli, College of Mechanical Engineering Technology Benghazi – Libya

**Sustainable Operations and Supply Chain Management**

**ID 228 Integrating Production Assessment with PPAP – A QFD Approach**

Chi-Shuan Liu, Department of Industrial Engineering and Management, Chaoyang University of Technology, Taichung, Taiwan

Horng-Chyi Horng, Department of Industrial Engineering and Management, Chaoyang University of Technology, Taichung, 41349, Taiwan

**Sustainable Manufacturing**

**ID 124 Production of Tailored Reinforcement of Rattan Fiber Composite**

Flora Elvistia Firdaus, Dept. of Chemical Engineering, Jayabaya University, Indonesia

M. Dachyar, Dept. of Industrial Engineering, Universitas Indonesia, Indonesia

**System Dynamics**

**ID 123 The Impact of Payment delays on The Financial resilience of a Multi-echelon Supply Chain: a System Dynamics simulation Approach**

Mohamed Hicham Salah Eddine, Research team AMIPS, Mohammed V University of Rabat, Morocco

Tarik Saikouk, International logistics and supply chain department, International University of Rabat

Abdelaziz Berradou, Research team AMIPS, Mohammed V University of Rabat, Morocco

**ID  388  Usefulness of System Dynamics Models in Systems Engineering: the Systems-Thinking Educational Perspective**

Vladimír Bureš, Faculty of Informatics and Management, University of Hradec Kralove, Hradec Kralove, Czech Republic

Tereza Otčenášková, Faculty of Informatics and Management, University of Hradec Kralove, Hradec Kralove, Czech Republic

Marek Zanker, Faculty of Informatics and Management, University of Hradec Kralove, Hradec Kralove, Czech Republic

**System Engineering**

**ID 279 Mobile Robotic Platform for Simultaneous Localization and Mapping (SLAM) Experiments Based on Range Sensors**

Jeanette del Pilar Ureña-Aguirre, Carrera de Ingeniería Industrial, Facutad de Ingeniería en Ciencias Aplicadas, Universidad Técnica del Norte

Javier Chiza López, Carrera de Ingeniería Industrial, Facutad de Ingeniería en Ciencias Aplicadas, Universidad Técnica del Norte

Mayra Maya Nicolalde, Carrera de Ingeniería Industrial, Facutad de Ingeniería en Ciencias Aplicadas, Universidad Técnica del Norte

Edisson Iván Aldás Serrano, Departamento de Mantenimiento Electromecánico del Poliducto Tres Bocas-Pascuales-Cuenca, Empresa Pública de Hidrocarburos del Ecuador, EP Petroecuador

**Technology Management**

**ID 140 The Triple-Helix sub-revolution and the hype of Industry 4.0**

Rigard Johan Steenkamp, Department of Operations Management, University of South Africa, Pretoria, RSA

**Tools for Sustainable Manufacturing**

**ID 225 Industrial IoT integrated with Simulation – A Digital Twin approach to support real-time decision making**

Romão Santos, Centre for Enterprise Systems Engineering, INESC TEC, Porto, Portugal
João Basto, Centre for Enterprise Systems Engineering, INESC TEC, Porto, Portugal
Symone G. S. Alcalá, Faculty of Sciences and Technology, Federal University of Goiás, Aparecida de Goiânia, Goiás, Brazil
Enzo Frazzon, Industrial and Systems Engineering Department, Federal University of Santa Catarina, Florianópolis, Brazil
Américo Azevedo, Department of Industrial Engineering and Management, Faculty of Engineering of the University of Porto, Porto, Portugal

**Waste management**

**ID 6  Resource Recovery from Paper Mill Sludge through Vermicomposting**

Mercy Manyuchi, University of Johannesburg, Johannesburg, South Africa.

**ID 511 Ranking of Technologies for Energy Recovery from Municipal Solid Waste in Bangladesh Using the Analytic Hierarchical Process (AHP): A Case Study**

Syeda Marzia, Department of Civil Engineering, Bangladesh University of Engineering & Technology Dhaka, Bangladesh
Md Sadman Sakib, Department of Industrial & Production Engineering, Bangladesh University of Engineering & Technology Dhaka, Bangladesh